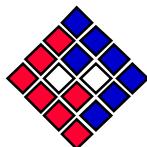
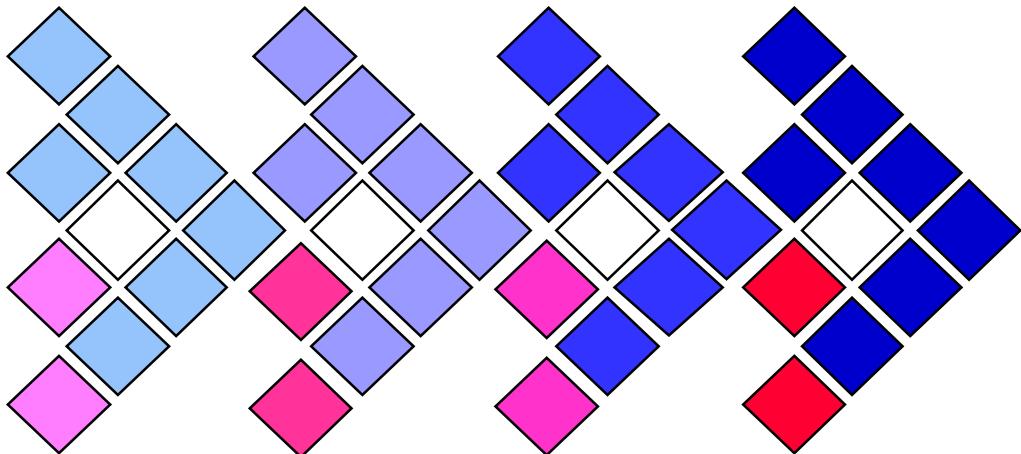


2004  
**FSC0L\_D**

FARADAY CELL LIBRARY

**FSC0L\_D**  
**0.13 μm Standard Cell**



FARADAY TECHNOLOGY CORP.

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## Revision History

Date	Rev.	Author	Reason for rewrite	Original conditions	New conditions	Sections effected
Apr. 2002	0.1	William Lee	Original			
Jul. 2002	0.2	William Lee	Update	Min Tj: 0°C	Min Tj: -40°C	Table 23 and 24
Feb. 2004	1.0	William Lee	Formal release		p.3 Table 4 content modification p.14 add description of ESD Guideline p.14 modify description of 1.3.4.1 p.17 Table 20 content modification p.37 to p.39 modify content of 1.7 Chapter 2 to Chapter 4	

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# *Chapter 1*

*Introduction to*

*FSC0L\_D*

*Standard Cell*

## 1.1. General description

The FSC0L\_D library is a 0.13 $\mu\text{m}$  family standard cell library tailored for UMC's 0.13 $\mu\text{m}$  Low Leakage (LL) process. The process employs copper wiring and FSG dielectric. This library offers five (5) to eight (8) metal layers. It is optimized for applications requiring high speed and ultra high density.

The 8-track (3.2 $\mu\text{m}$ ) cell height has the industry's smallest cell layout area (250K gates/mm<sup>2</sup>). This library's optimized drive strength is based on Faraday's rich experience of over 1,000 successful ASIC projects. It provides an extensive library database that is easy to manage and use. These rich and complex cells allow you to shorten your design time by employing the most up to date synthesis tools to achieve your design goals.

### 1.1.1. Characterization conditions

**Table 1. Characterization conditions**

Operating Condition		Min	Typ	Max	Unit
VCC	Standard cells	1.08	1.2	1.32	V
	3.3V I/O cells	2.97	3.3	3.63	V
T <sub>J</sub>	Junction operating temperature range	-40	25	125	°C

### 1.1.2. Features

#### Core cells:

- Smallest routing grids
- 8-grid cell height
- Maximized row abutment flexibility
- 100% buffered inputs and outputs
- No bent-gate transistors
- All flip-flops have corresponding scan versions
- DRC clean even covered by metal-1 dummy\_block and metal-1 slot\_block
- Clock-gating latch support

#### I/O cells:

- Support multiple metal layer options
- Metal-1 ~ metal-3 used for circuitry layout
- Metal-4 ~ metal-8 used for power ring
- All input pins have built-in antenna diodes
- Programmable I/O cells
- Pad limited and core limited I/O cells
- Programmable output buffer with driving strength from 2mA ~ 4mA and 8mA ~ 16mA
- Built-in level shifter

## 1.1.3. General characteristics

Table 2 below lists the FSC0L\_D library's general characteristics.

**Table 2. General characteristics**

Characteristic	Description
Technology	UMC's 0.13µm logic, 1.2V / 3.3V low leakage, FSG dielectric, CMOS process
Minimum drawn channel length	0.12µm
Supply voltage	<ul style="list-style-type: none"><li>• 1.08V to 1.32V for core cells</li><li>• 2.97V to 3.63V for 3.3V I/O cells</li></ul>
Metal layer option	<ul style="list-style-type: none"><li>• Five (5) to eight (8) layer options</li><li>• Please refer to Table 3 below for more details</li></ul>
Performance	Td = 52 ps / stage (measured from 101 stage 2-input NAND ring in typical process and operated under 1.2V, 25°C)
Gate density	250K gates / mm <sup>2</sup>
Power consumption	6 nW / MHz / gate (measured from 2-input NAND, output load = 2 standard load, in typical process and operated under 1.2V, 25°C)

## 1.1.4. Metal layer options

Table 3 below lists the possible metal layer options.

**Table 3. Metal layer options**

Option <sup>[II]</sup>	Top Metal Layer	Layer Count		Layer Component in Layout Rule
		Thin Metal	Thick Metal	
1	5	4	1	m1+m2+m3+m4+ <b>M5</b>
2	6	6	0	m1+m2+m3+m4+m5+m6
3	6	5	1	m1+m2+m3+m4+m5+ <b>M6</b>
4	6	4	2	m1+m2+m3+m4+ <b>M5+M6</b>
5	7	6	1	m1+m2+m3+m4+m5+m6+ <b>M7</b>
6	7	5	2	m1+m2+m3+m4+m5+ <b>M6+M7</b>
7	8	6	2	m1+m2+m3+m4+m5+m6+ <b>M7+M8</b>

<sup>[II]</sup> The underlined text ("M5, M6," etc.) in options 1 – 7 means "thick metal".

---

### 1.1.5. Library EDA deliverable items

**Table 4. Library EDA deliverable items**

Deliverable item	Description
Symbol	<ul style="list-style-type: none"> <li>• EDIF</li> <li>• SYNOPSYS</li> </ul>
Simulation model (front-end)	<ul style="list-style-type: none"> <li>• VERILOG</li> <li>• VHDL</li> </ul>
Physical layout (back-end)	GDSII
P & R model (back-end)	<ul style="list-style-type: none"> <li>• Frame View</li> <li>• LEF</li> </ul>
P & R timing model (back-end)	<ul style="list-style-type: none"> <li>• TLF</li> <li>• CLF</li> </ul>
Synthesis model	STA (Prime Time) / Synthesis timing model
SPICE netlist	Post layout netlist
LVS netlist	Post layout netlist without capacitance
Power model	Power analysis model (Power Compiler)
Command files	<ul style="list-style-type: none"> <li>• Chip level DRC</li> <li>• LVS command file (Calibre)</li> </ul>
Testing	Fast Scan

### 1.1.6. Design Rule Manual (DRM) versions

Faraday constantly reviews and updates its technologies to concur with UMC's most recent Design Rule Manual (DRM) versions.<sup>[2]</sup> However, we recommend that you check the IPs against the most updated DRM versions from UMC before using any IPs. This is to ensure that the IP you are using are consistent with latest UMC design rules.

---

<sup>[2]</sup> DRM versions are indicated in the “Release Notes”. These “Release Notes” can be found in any IP package downloaded from Faraday’s website.

## 1.2. Core cells

This section describes the FSC0L\_D's core cell features. It introduces the cell types, layout architecture, row abutment rules, naming conventions, driving strength levels, and special cells.

### 1.2.1. Cell types

An extensive family of logical macro cells are supported as listed in the table below.

**Table 5. Cell types**

Cell Group	Function Description
AN	AND gates
AO	AND into OR complex gates
AOI	AND into NOR complex gates
DEL	Delay cells
FA / HA	Half and full adders
MAO / MOA	Complex gates
MUX / MXL	Multiplexers
ND	NAND gates
NR	NOR gates
OA	OR into AND complex gates
OAI	OR into NAND complex gates
OR	OR gates
XNR / XOR	Exclusive NOR and OR gates
BUF / BUFT / BUFB	Buffers / tri-state buffers
INV / INV / INV	Inverters / tri-state inverters
DF / DBF / QDF	D-type flip-flops
DFE / DFZE	Enable flip-flops
DLA / DBA / QDLA / QDBA	Latches
CKLD	Clock load cells
TIE	Tie 0 / Tie 1 cells
GCK / GCB	Gating-clock latches

### 1.2.2. Architecture

The following table indicates the physical specifications of the FSC0L\_D core cells.

**Table 6. Physical layout attributes**

<b>Physical Layout Attribute</b>		<b>Value</b>
Thin metal	Vertical grid	0.4µm
	Horizontal grid	0.4µm
Thick metal	Vertical grid	0.8µm
	Horizontal grid	0.8µm
Cell height		3.2µm (8 vertical grids)
Power / ground rail width		0.56µm
Layout resolution		0.01µm

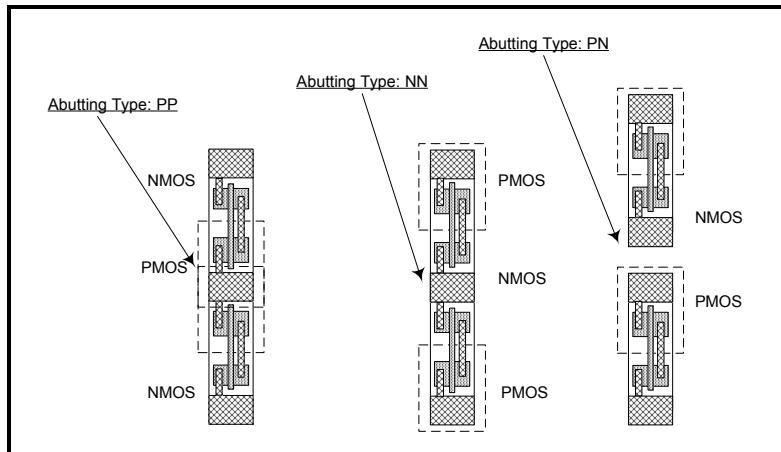
### 1.2.3. Row abutment

With up to 5 to 8 metal layers used, cells can be placed tightly together without routing channels. The FSC0L\_D library provides maximum flexibility for either row separation or row abutment, which facilitates users' ability to minimize chip area or achieve better signal integrity.

In general, there are three (3) abutting types:

1. PP
2. NN
3. PN

Figure 1 below shows different layout types of row abutments.



**Figure 1. Three (3) abutting types**

The following table provides the row-to-row spacing rules.

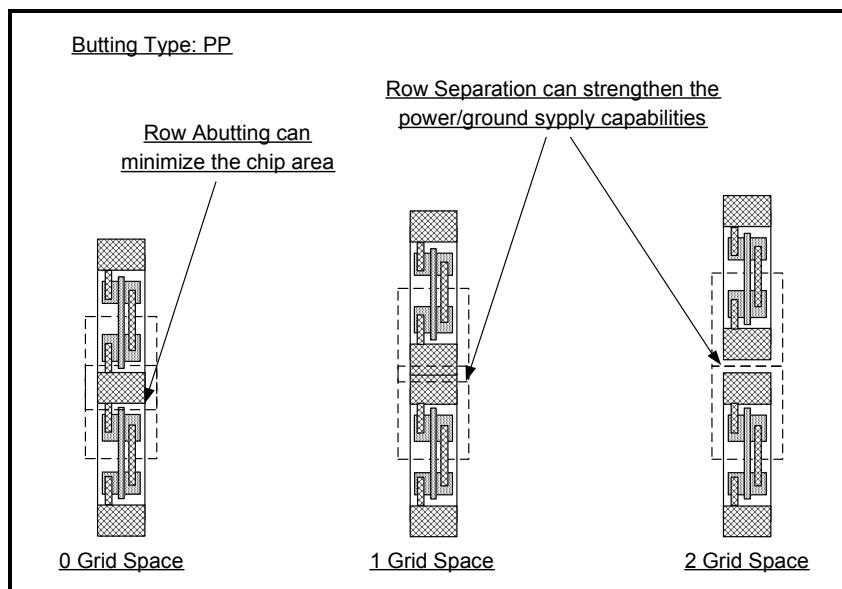
**Table 7. Core cell row abutment**

Abutting Type	Grid Space (grids)						
	0	1	2	3	4	5	>= 6
PP	O	$\triangle^{[3]}$	O	O	O	$\triangle^{[4]}$	O
NN	O	$\triangle^{[5]}$	O	O	O	O	O
PN	X	X	X	O	O	O	O

A row space that equals to 0 means the neighboring rows' boundaries can abut each other and share a common power or ground rail. You can also separate adjacent rows to increase the routing channel or strengthen the power and ground supply capability.

If the core cell's power rail directly abuts "metal-1" power stripe, then DRC violation is possible.<sup>[6]</sup>

Figure 2 below shows how to separate, and/or abut, the power and ground rails.



**Figure 2. Row abutment and row separation**

<sup>[3]</sup> The DRC violation can be easily fixed by drawing an n<sup>+</sup> layer between two (2) rows

<sup>[4]</sup> The DRC violation can be easily fixed by drawing an N well layer between two (2) rows

<sup>[5]</sup> The DRC violation can be easily fixed by drawing a p<sup>+</sup> layer between two (2) rows

<sup>[6]</sup> This is because the abutted metal-1 may introduce metal-to-metal spacing rule violation inside core cells.

### 1.2.4. Naming convention and driving strength levels

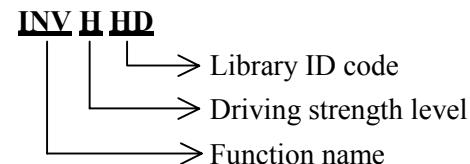
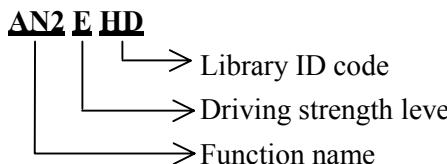
There are three (3) main parts in a cell name, that is:

1. Function name
2. Driving strength level
3. Library ID code

**Table 8. Core cell's naming conventions**

Function Name (Max. 7 characters)	Driving Strength Level (Third last character)	Library ID Code (Last 2 characters)
AN2 / INV / HA1 / MUX2	Please refer to Table 9.	HD: High performance / high density

Example 1 shows two cell names from this data book:



**Example 1. Naming rule convention**

Various driving strengths are provided as defined in Table 9.

**Table 9. Driving strength levels**

Driving Strength Table	Driving Strength Level																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Multiplied by Standard Driving	0.2	0.4	0.6	0.8	1	1.3	1.6	2.0	2.5	3	4	5	6	8	12	16	20	24

### 1.2.5. Special cells

#### 1.2.5.1. Clock load cell

The clock load cell provides additional capacitive loading for the specific net it is attached to. It also increases the propagation delay for the same net. For example, the clock load cell can be used to solve clock skew problems.

## 1.2.5.2. Delay cells

The FSC0L\_D provides four (4) delay cells. These cells can be used to delay a signal when necessary. All of the delay cells have high driving strength (K performance level). There are wide variations between the pre-layout and post-layout timing in the interconnect load. As a result, the actual delay value will have a limited dependence on the interconnect load.

All delay cells have identical metal obstruction, to ease the ECO flow after placement and routing for timing adjustment.

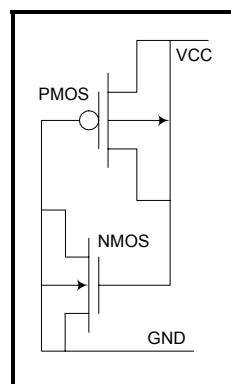
## 1.2.5.3. Filler cells

The FSC0L\_D provides eight (8) filler cells as listed in Table 10 below.

**Table 10. Filler cells**

Cell Name	Width (grid)	Built-in Decoupling Capacitance
FILLER1LD	1	No
FILLER2LD	2	No
FILLER3LD	3	No
FILLER4ELD	4	Yes
FILLER8ELD	8	Yes
FILLER16ELD	16	Yes
FILLER32ELD	32	Yes
FILLER64ELD	64	Yes

The built-in decoupling capacitance is constructed by using one (1) PMOS back-to-back with one (1) NMOS as shown in Figure 3 below.



**Figure 3. Back-to-back connected PMOS/NMOS decoupling capacitance**

#### 1.2.5.4. Bus holder cell

The bus holder cell acts as a latch to prevent the attached net from floating. When used with a tri-state buffer, the bus holder cell may introduce an additional delay time. This is because the bus holder cell is constructed by connecting two (2) inverters to form a memory element as shown in Figure 4 below. Having these two (2) sets of inverters in a series may cause the bus holder cell to conflict with the driving tri-state buffers. Although the inverter element (of bus holder) is weak by design, it still introduces considerable excessive delays ranging from 5% to 10% depending on its loading. To prevent bus holder related timing issues, Faraday recommends that you take note of the following two (2) guidelines:

1. For driving strength levels greater than, or equal to, an “E” performance level tri-state buffer, the bus holder cell may introduce an excessive delay time of 5% ~ 10%.
2. If the driving strength’s levels are less than an “E” performance tri-state buffer, the bus holder cell may cause an additional delay time of 20%.

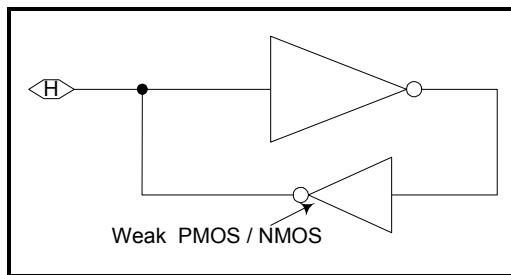


Figure 4. Bus holder cell

#### 1.2.5.5. Antenna fixed cell

The antenna fixed cell provides an N+ diffusion on the P substrate diode. It is designed to fix the antenna rule violation caused by using long routing wires. The antenna fixed cell will introduce an extra capacitive loading (approximately 0.3fF) to the connected net.

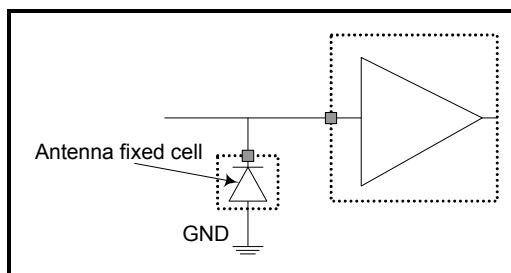


Figure 5. Antenna fixed cell

## 1.2.5.6. Tie 1 and Tie 0 cells

Tie 1 cells provide a DC level of logic 1, whereas Tie 0 cells provide a DC level of logic 0.

Any net connecting to antenna diode should not be wired to power / ground directly with metal connections. Use of Tie 1 / Tie 0 to connect to power / ground is required in this situation in order to keep ESD robustness.<sup>[7]</sup>

The FSC0L\_D provides three (3) driving strength levels for Tie 0 and Tie 1 cells.

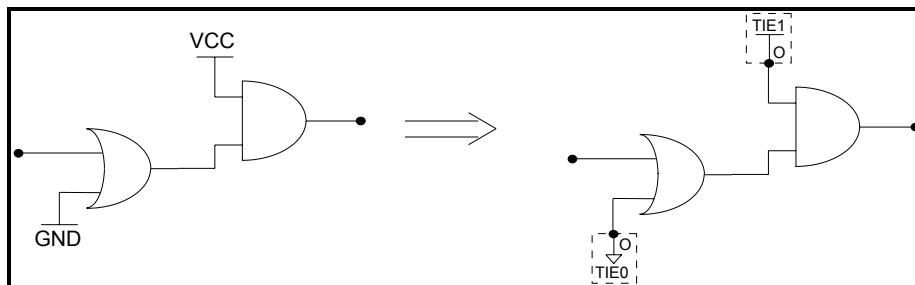


Figure 6. Replacement of input pins tied directly to power or ground rails with tie cells

## 1.2.6. Scan cells

All flip-flops have their corresponding scan cells for test mode. The following table lists the scan cell of each flip-flop.

Table 11. Scan cells of flip-flops

Non-Scan Flip-Flop	Corresponding Scan Cell	Non-Scan Flip-Flop	Corresponding Scan Cell
DBFRB	DBZRB	DFFRB	DFZRB
DBFRSB	DBZRSB	DFFRSB	DFZRSB
DFCLRB	DFZCLRB	DFFSB	DFZSB
DFCRB	DFZCRB	DFTRB	DFZTRB
DFE	DFZE	QDFF	QDFZ
DFERB	DFZERB	QDFFRB	QDFZRB
DFERSB	DFZERSB	QDFFRSB	QDFZRSB
DFF	DFZ		

---

<sup>[7]</sup> This rule doesn't apply to I/O cells because potential ESD hazards are prevented in advance. In other word, I/O's input pins can be hard-wired to power / ground directly by metal wires.

---

## 1.3. I/O cell

### 1.3.1. I/O types

- True 3.3V I/O
- 3.3V I/O with 5V tolerance

### 1.3.2. I/O buffer dimensions

Two (2) types of I/O layout structures are provided, targeted for pad limited and / or core limited applications.

**Table 12. Pad limited and core limited I/O physical size**

Usage	High-Pin-Count Design		Low-Pin-Count Design	
Attributes	Pad Limit (Staggered I/O)		Core Limit (In-line I/O)	
Size	Height (μm)	Width (μm)	Height (μm)	Width (μm)
3.3V I/O	218.4	34.8	152.0	60.0
3.3V with 5V tolerance I/O	218.4	44.0	152.0	79.2
Power and ground pads	218.4	40.8	152.0	62.0
Bonding pad position	Outside I/O cells		Outside I/O cells	

### 1.3.3. Programmable I/O on silicon

#### 1.3.3.1. What is PIOS?

Programmable I/O on Silicon (PIOS) is an I/O strategy that allows users to program I/O functions even after silicon.

PIOS can fit into a variety of systems. This I/O strategy can solve many of the problems that are generated by:

- Variable loading
- Impedance mismatches
- System variations
- Vendor inconsistencies
- System noise

The PIOS's I/O cells offer programmable capabilities that can greatly reduce the number of I/O cells. These include:

- Input pull-up control
- Input pull-down control
- Schmitt trigger control
- Different output driving control
- Output impedance control

### 1.3.3.2. PIOS advantages?

- Change I/O configurations, even after silicon
- Reduce risk of I/O impedance mismatch
- Reduce time to market
- Easy to debug on silicon
- Easy to optimize configuration for a variety of systems
- Output impedance match controls for varying transmission line loading
- Reduce system noise problems

### 1.3.3.3. I/O cell functions

All the FSC0L\_D library's I/O cells are implemented as PIOS. These cells offer the following functions.

**Table 13. I/O cell functions**

I/O Cell Type	Input Function	Output Function
3.3V I/O	<ul style="list-style-type: none"><li>• Pull up</li><li>• Pull down</li><li>• Schmitt trigger</li><li>• Keeper</li></ul>	<ul style="list-style-type: none"><li>• Enable or disable</li><li>• Slew rate control</li><li>• 2mA ~ 8mA and 4mA ~ 16mA driving strength</li></ul>
3.3V with 5V tolerance I/O		

For more details, please refer to section 1.3.6, “Programmable I/O cell application usage”, in this document.

### 1.3.4. Power rings for I/O buffers and core cells

The power rings for I/O buffers and core cells are illustrated below.

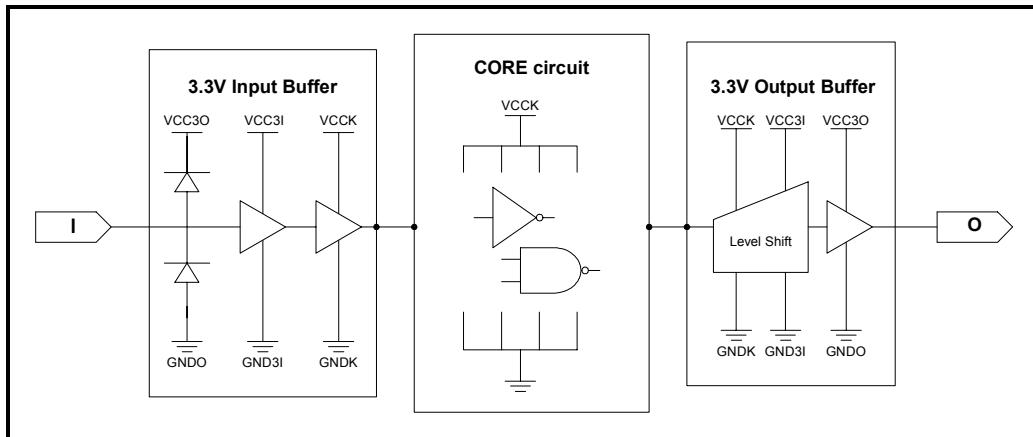


Figure 7. Power rings for I/O buffers and core cells

Table 14. Power rings for I/O buffers and core cells

Power Ring	Function Description
VCKK	Power supply for internal core cells and I/O to core interfaces
VCC3I	Power supply for 3.3V input buffers and output pre-drivers
VCC3O	Power supply for 3.3V output buffers and input ESD protection
GNDK	Ground for internal core cells and I/O to core interfaces
GND3I	Ground for input buffers and output pre-drivers
GND3O	Ground for output buffers and input ESD protection

Table 15 below illustrates the corresponding power pad for each power ring.

Table 15. Power rings and corresponding power pads

Power Ring	Power Pad	
	Pad Limit	Core Limit
VCKK	VCKKLA	VCKKLB
VCC3I	VCC3ILA	VCC3ILB
VCC3O	VCC3OLA	VCC3OLB
GNDK	GNDKLA	GNDKLB
GND3I	GND3ILA	GND3ILB
GND3O	GNDOLA	GNDOLB

## ESD Guidelines

1. VCC3I must be bonded to the pin where VCC3O pad connected at package level
2. GND3I must be bonded to the pin where GND3O pad connected at package level

For more detail, please refer to the document “0.13um (FSC0L\_D) Standard Cell Library ESD Application Notes”

### 1.3.4.1. Power up sequence guidelines

In general, there is no specific power up sequence for all Faraday's I/O cells. However, if users follow the sequence as shown below, the system short current during initial stage can be minimized.

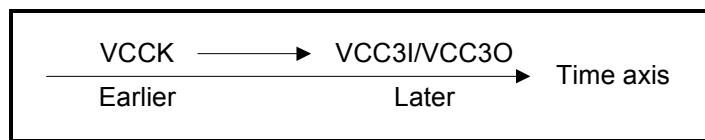


Figure 8. Suggested power up sequence

### 1.3.5. Programmable I/O cell naming convention

#### 1.3.5.1. 3.3V I/O buffer naming convention

Table 16. 3.3V I/O buffer naming convention

Operating Voltage	Input PIOS	Output PIOS	Min. Driving	Max. Driving	Slew Control	Pad Limit or Core Limit
X: 3.3V input	+ M: Programmable input	+ A: Programmable output	+ 2: 2mA 4: 4mA	+ 8: 8mA G: 16mA	+ S: Slew rate programmable	+ HA: Pad limit
Y: 3.3V output						HB: Core limit
Z: 3.3V bi-direct						

Table 17. 3.3V I/O buffer cells

Cell Name	Function Description
XMLA	Programmable 3.3V input buffer, pad limit
XMLB	Programmable 3.3V input buffer, core limit
YA28SLA	2 ~ 8 mA programmable 3.3V output buffer, pad limit
YA28SLB	2 ~ 8 mA programmable 3.3V output buffer, core limit
ZMA4GSLA	4 ~ 16 mA programmable 3.3V bi-directional buffer, pad limit
ZMA4GSLB	4 ~ 16 mA programmable 3.3V bi-directional buffer, core limit

### 1.3.5.2. 3.3V with 5V tolerance I/O buffer naming convention

Table 18. 3.3V with 5V tolerance I/O buffer naming convention

Operating Voltage/Function	Input PIOS	Output PIOS	Min. Driving	Max. Driving	Slew Control	Pad limit or Core Limit
XF: 3.3V input with 5V tolerance	+ M: Programmable input	+ A: Programmable output	+ 2: 2mA 4: 4mA	+ 8: 8mA G: 16mA	+ S: Slew rate programmable	+ HA: Pad limit
YF: 3.3V output with 5V tolerance						HB: Core limit
ZF: 3.3V bi-direct with 5V tolerance						

Table 19. 3.3V with 5V tolerance I/O buffer cells

Cell Name	Function Description
XFMLA	Programmable 3.3V input buffer with 5V tolerance, pad limit
XFMLB	Programmable 3.3V input buffer with 5V tolerance, core limit
YFA28SLA	2 ~ 8 mA programmable 3.3V output buffer with 5V tolerance, pad limit
YFA28SLB	2 ~ 8 mA programmable 3.3V output buffer with 5V tolerance, core limit
ZFMA4GSLA	4 ~ 16 mA programmable 3.3V bi-directional buffer with 5V tolerance, pad limit
ZFMA4GSLB	4 ~ 16 mA programmable 3.3V bi-directional buffer with 5V tolerance, core limit

### 1.3.6. Programmable I/O cell application usage

#### 1.3.6.1. 3.3V I/O cell application usage

Figure 9 below shows an example of an application circuit using 3.3V programmable I/O cells.

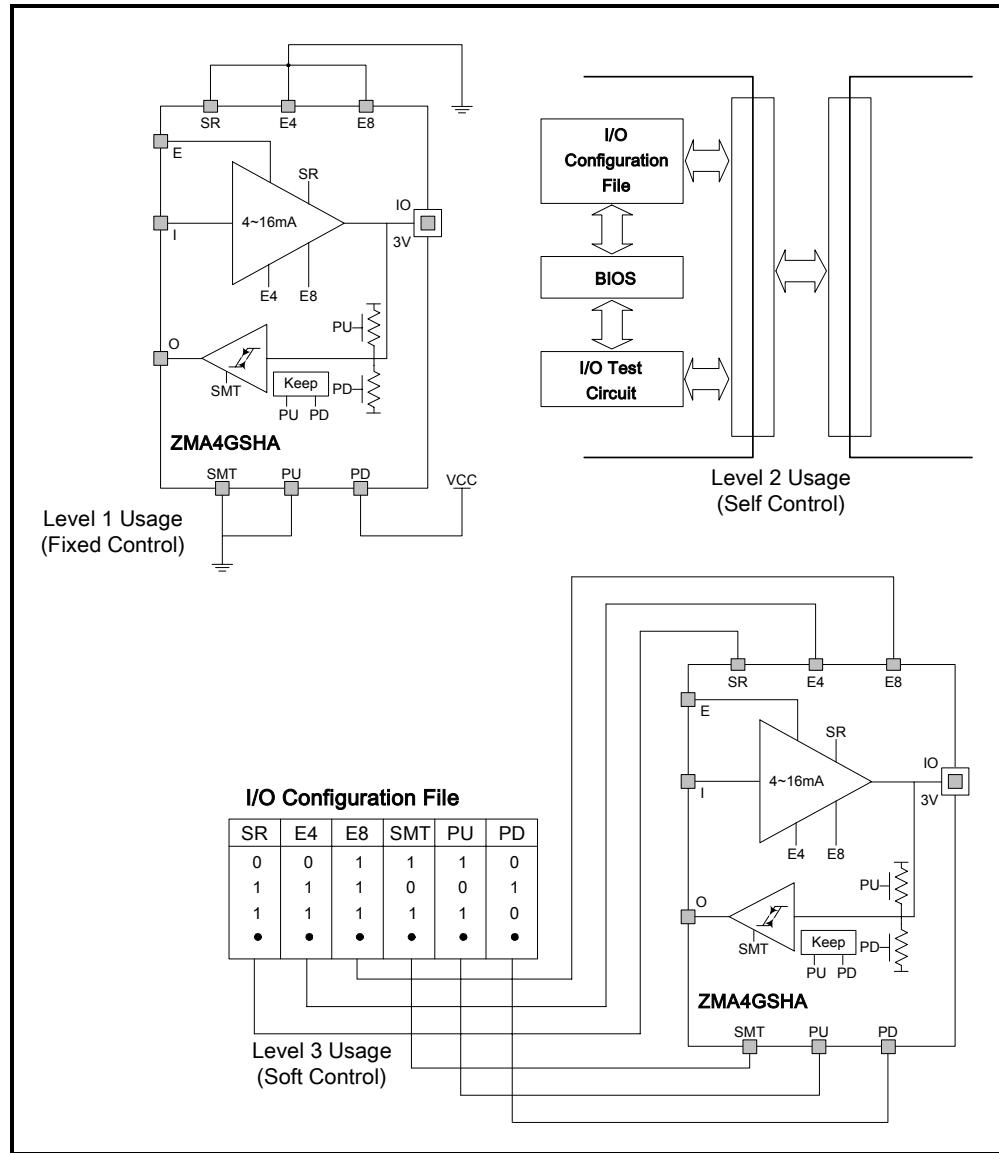


Figure 9. Programmable I/O cell application usage

Note that Level 1 users are supposed to use hard-wire programming pins, and Level 2 users have the flexibility to change the state of input pins after fabrication. The same usage applies to 3.3V with 5V tolerance programmable I/O cells.

## 1.4. DC characteristics

### 1.4.1. Absolute maximum ratings

**Table 20. DC characteristics - Absolute maximum ratings**

Symbol	Description	Rating	Unit
VCCK	Core power supply	-0.3 to 1.44	V
VCC3I/VCC3O	Power supply of 3.3V I/O	-0.3 to 4.0	V
$V_{IN3}$	Input voltage of 3.3V I/O	-0.3 to 4.0	V
	Input voltage of 3.3V I/O with 5V tolerance	-0.3 to 5.8	V
$T_{STG}$	Storage temperature	-40 to 150	°C
$I_{IN}$	DC input current	20	mA
$I_{OUT}$	Output short circuit current	20	mA

#### Warning!

Permanent device damage may occur if the absolute maximum ratings are exceeded. These are stress rating only, and functional operation should be restricted to within the conditions detailed in the section 1.4.2 of this data book. Exposure to absolute maximum rating conditions for extended periods may affect the device's reliability.

### 1.4.2. Recommended operating conditions

**Table 21. DC characteristics - Recommended operating conditions**

Symbol	Description	Min	Typ	Max	Unit
VCCK	Core power supply	1.08	1.2	1.32	V
VCC3I	Power supply of 3.3V I/O	2.97	3.3	3.63	V
VCC3O	Power supply of 3.3V I/O	2.97	3.3	3.63	V
$V_{IN3}$	Input voltage of 3.3V I/O	0	3.3	3.63	V
	Input voltage of 3.3V I/O with 5V tolerance	0	3.3	5.25	V
$T_J$	Junction operating temperature	-40	25	125	°C

### 1.4.3. Leakage current and capacitance

Table 22. DC characteristics - Leakage current and input pin capacitance

<b>Symbol</b>	<b>Description</b>	<b>Condition</b>	<b>Typ.</b>	<b>Unit</b>
I <sub>IN</sub>	Input leakage current	No pull-up or pull-down	±1	µA
I <sub>OZ</sub>	Tri-state leakage current		±1	µA
C <sub>IN</sub> <sup>[8]</sup>	Input capacitance	3.3V I/O	2.0	pF
		3/3V with 5V tolerance I/O	2.3	pF

### 1.4.4. DC characteristics of 3.3V I/O cells

Table 23. DC characteristics of 3.3V I/O cells

<b>Symbol</b>	<b>Description</b>	<b>Condition</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>	<b>Unit</b>
VCCK	Core power supply		1.08	1.2	1.32	V
VCC3I	Power supply	3.3V I/O	2.97	3.3	3.63	V
VCC3O	Power supply		2.97	3.3	3.63	V
T <sub>J</sub>	Junction operating temperature		-40	25	125	°C
V <sub>il</sub>	Input low voltage	LVTTL			0.8	V
V <sub>ih</sub>	Input high voltage		2.0			V
V <sub>t-</sub>	Schmitt trigger negative going threshold voltage	LVTTL	0.8	1.1		V
V <sub>t+</sub>	Schmitt trigger positive going threshold voltage			1.6	2.0	V
V <sub>ol</sub>	Output low voltage	I <sub>ol</sub>   = 2 ~ 16 mA			0.4	V
V <sub>oh</sub>	Output high voltage	I <sub>oh</sub>   = 2 ~ 16 mA	2.4			V
R <sub>pu</sub>	Input pull-up resistance	PU = high, PD = low	40	75	190	KΩ
R <sub>pd</sub>	Input pull-down resistance	PU = low, PD = high	40	75	190	KΩ
I <sub>in</sub>	Input leakage current	V <sub>in</sub> = VCC3I or 0		±1		µA
I <sub>oz</sub>	Tri-state output leakage current			±1		µA

<sup>[8]</sup> “C<sub>IN</sub>” includes only cell layout capacitance.

#### 1.4.5. DC characteristics of 3.3V with 5V Tolerance I/O cells

Table 24. DC characteristics of 3.3V with 5V Tolerance I/O cells

Symbol	Description	Condition	Min	Typ	Max	Unit
VCCK	Core power supply		1.08	1.2	1.32	V
VCC3I	Power supply	3.3V I/O	2.97	3.3	3.63	V
VCC3O	Power supply		2.97	3.3	3.63	V
T <sub>J</sub>	Junction operating temperature		-40	25	125	°C
V <sub>il</sub>	Input low voltage	LVTTL			0.8	V
V <sub>ih</sub>	Input high voltage		2.0			V
V <sub>t-</sub>	Schmitt trigger negative going threshold voltage	LVTTL	0.8	1.1		V
V <sub>t+</sub>	Schmitt trigger positive going threshold voltage			1.6	2.0	V
V <sub>ol</sub>	Output low voltage	I <sub>ol</sub>   = 2 ~ 16 mA			0.4	V
V <sub>oh</sub>	Output high voltage	I <sub>oh</sub>   = 2 ~ 16 mA	2.4			V
R <sub>pu</sub>	Input pull-up resistance	PU = high, PD = low	40	75	190	KΩ
R <sub>pd</sub>	Input pull-down resistance	PU = low, PD = high	40	75	190	KΩ
I <sub>in</sub>	Input leakage current	V <sub>in</sub> = 5.5V or 0		±5		µA
I <sub>oz</sub>	Tri-state output leakage current				±10	µA

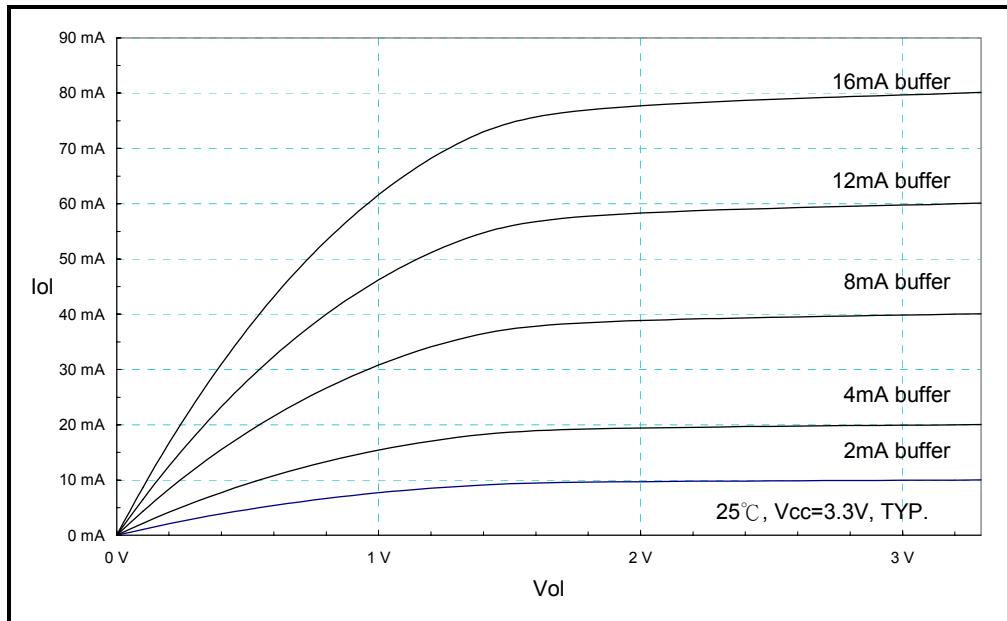


Figure 10.  $I_{OL}$  –  $V_{OL}$  characteristics (3.3V output buffer)

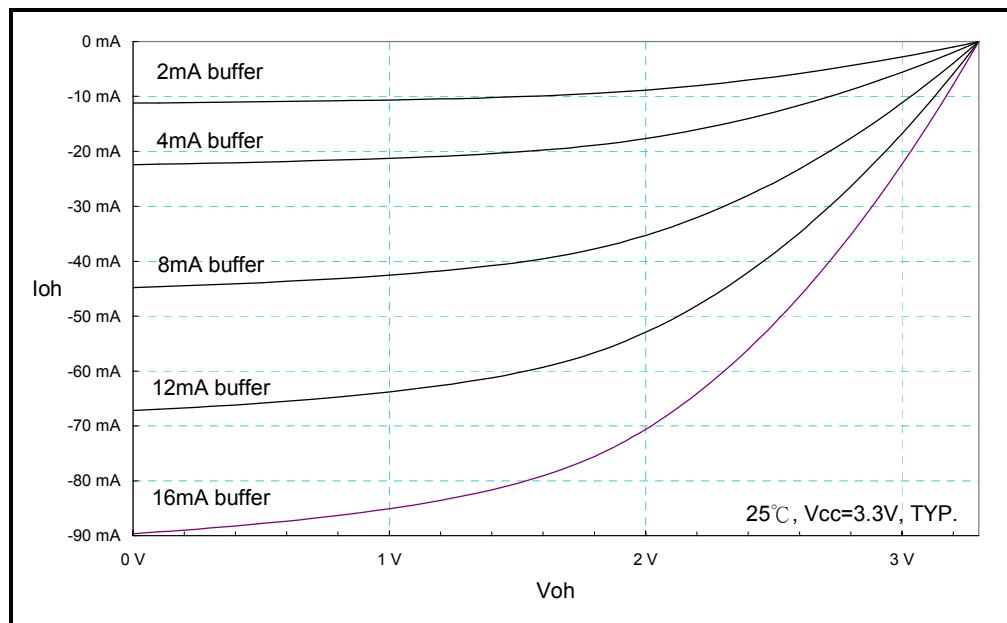


Figure 11.  $I_{OH}$  -  $V_{OH}$  characteristics (3.3V output buffer)

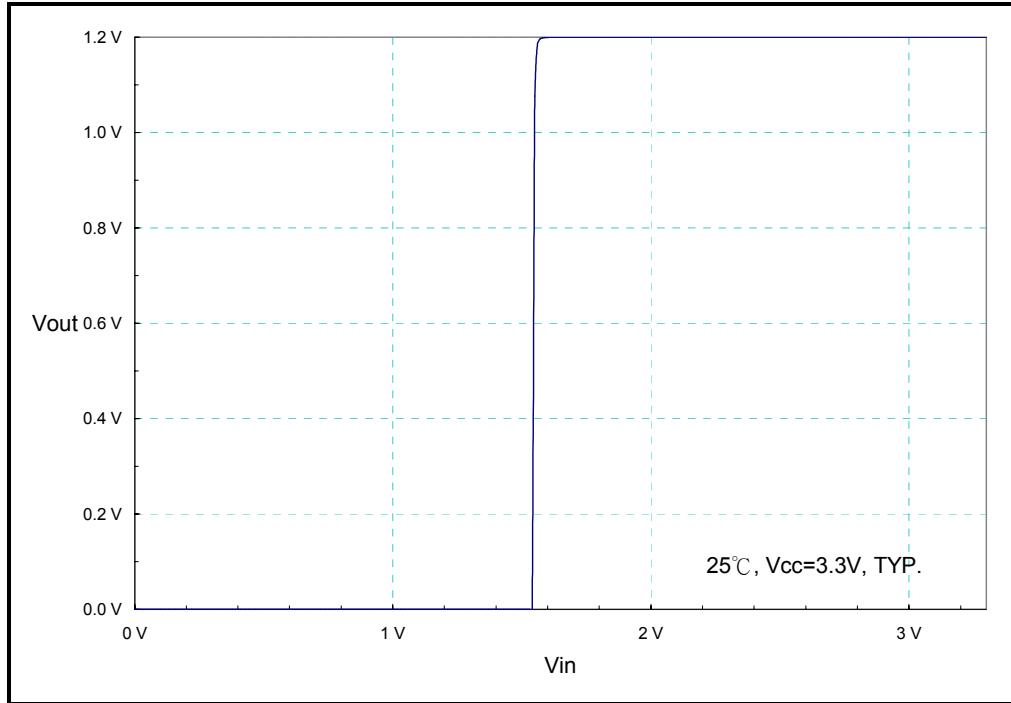


Figure 12. LVTTL switching threshold (3.3V input buffer)

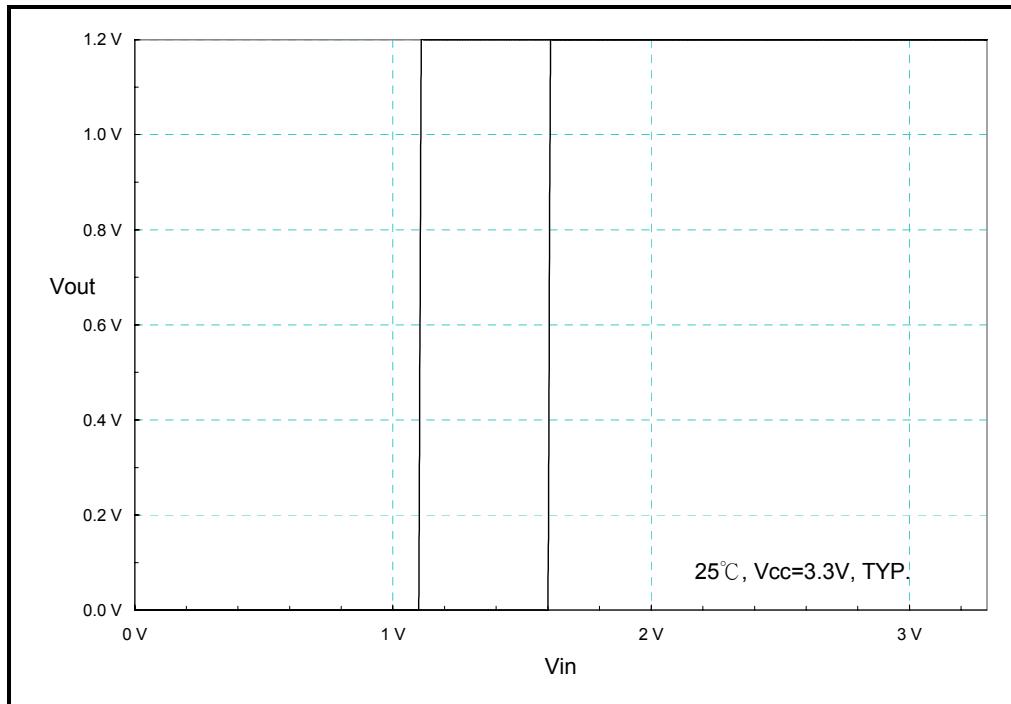


Figure 13. LVTTL Schmitt trigger switching threshold (3.3V input buffer)

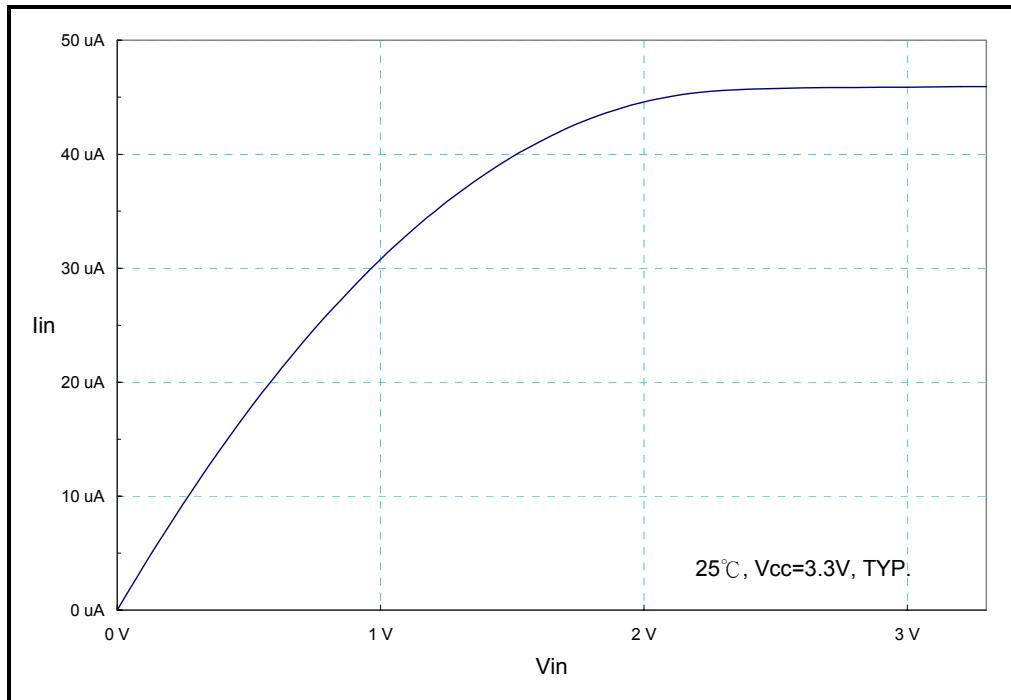


Figure 14. Pull down transistor DC characteristics (3.3V input buffer)

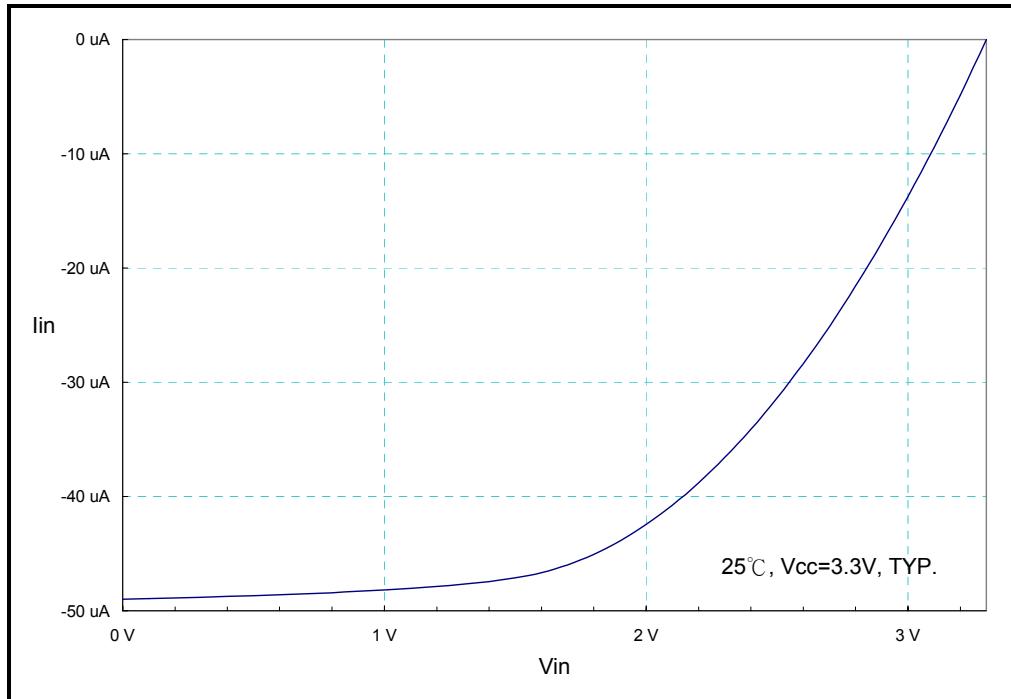


Figure 15. Pull up transistor DC characteristics (3.3V input buffer)

## 1.5. AC characteristics

### 1.5.1. Pre-characterized timing models

The library FSC0L\_D is characterized by the following three (3) corner conditions:

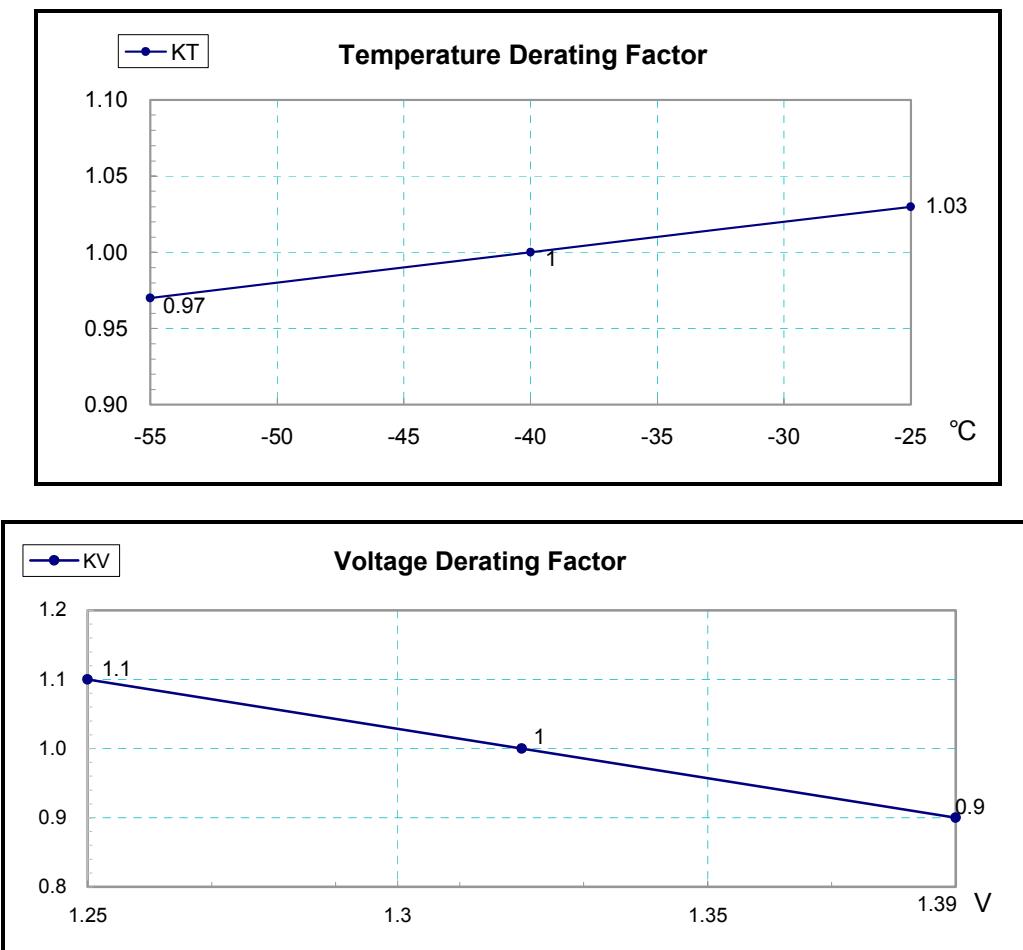
1. Best Case conditions:
  - 1.32V, -40°C, fast process
  - Its Synopsys library name is fsc0l\_d\_bc.db.
2. Typical Case conditions:
  - 1.2V, 25°C, typical process
  - Its Synopsys library name is fsc0l\_d\_tc.db.
3. Worst Case conditions:
  - 1.08V, 125°C and slow process
  - Its Synopsys library name is fsc0l\_d\_wc.db.

Generally, “Best Case” conditions provide the fastest circuit timing, and “Worst Case” conditions the slowest circuit timing.

### 1.5.2. How to estimate user specified conditions

If you conduct simulations under conditions other than those listed in section 1.5.1 above, it is recommended to use the following two (2) conditions:

1. For fast process:
  - Choose the best corner library (e.g. Synopsys fsc0l\_d\_bc.db) as the base to simulate the timing by de-rating factor as given in Figure 16.
2. For slow process:
  - Choose the worst corner library (e.g. Synopsys fsc0l\_d\_wc.db) as the base to simulate the timing by de-rating factor as given in Figure 18.

**1.5.3. Best case condition de-rating factors****Figure 16. Best case condition de-rating factors**

#### 1.5.4. Typical case condition de-rating factors

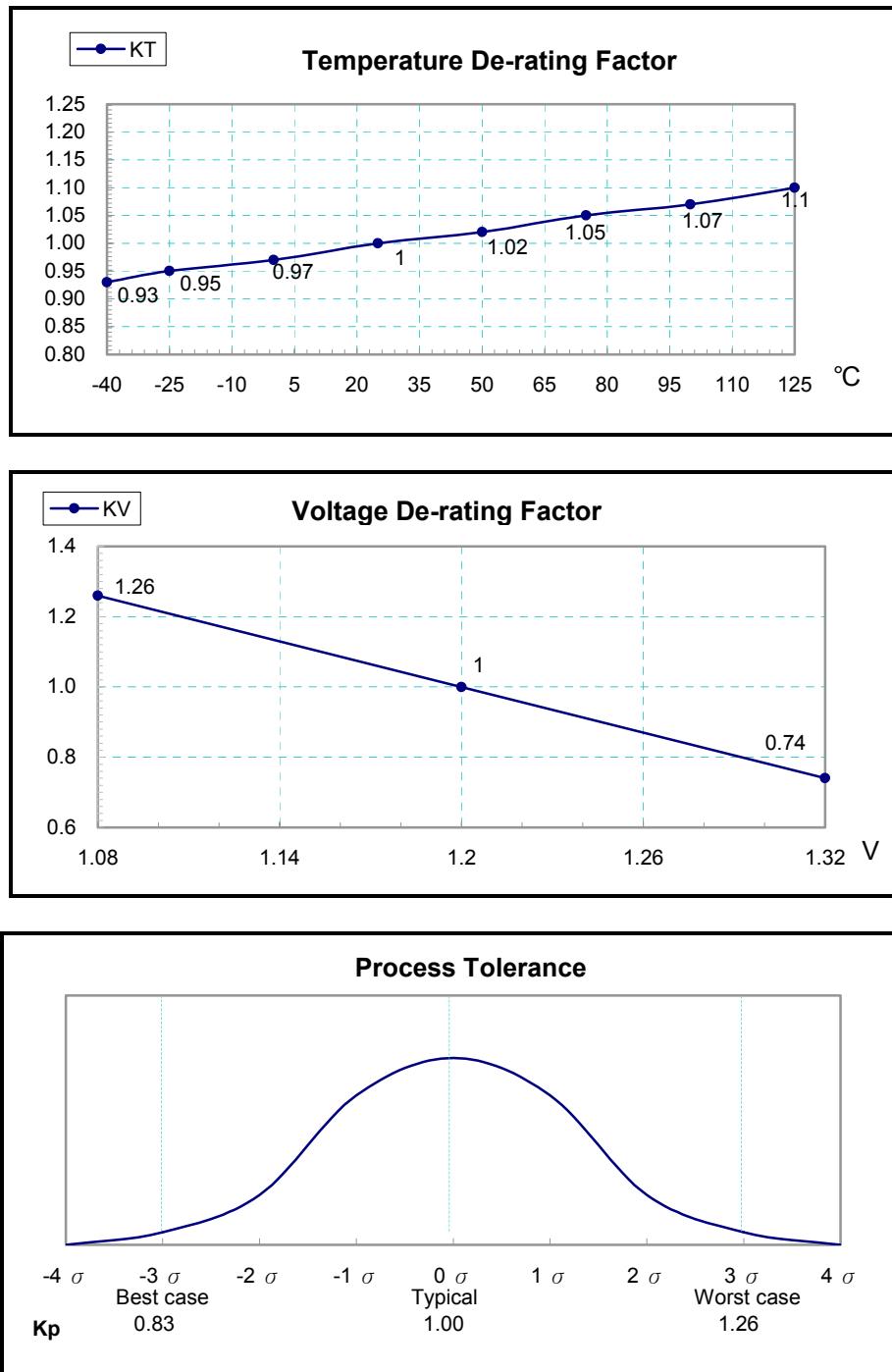
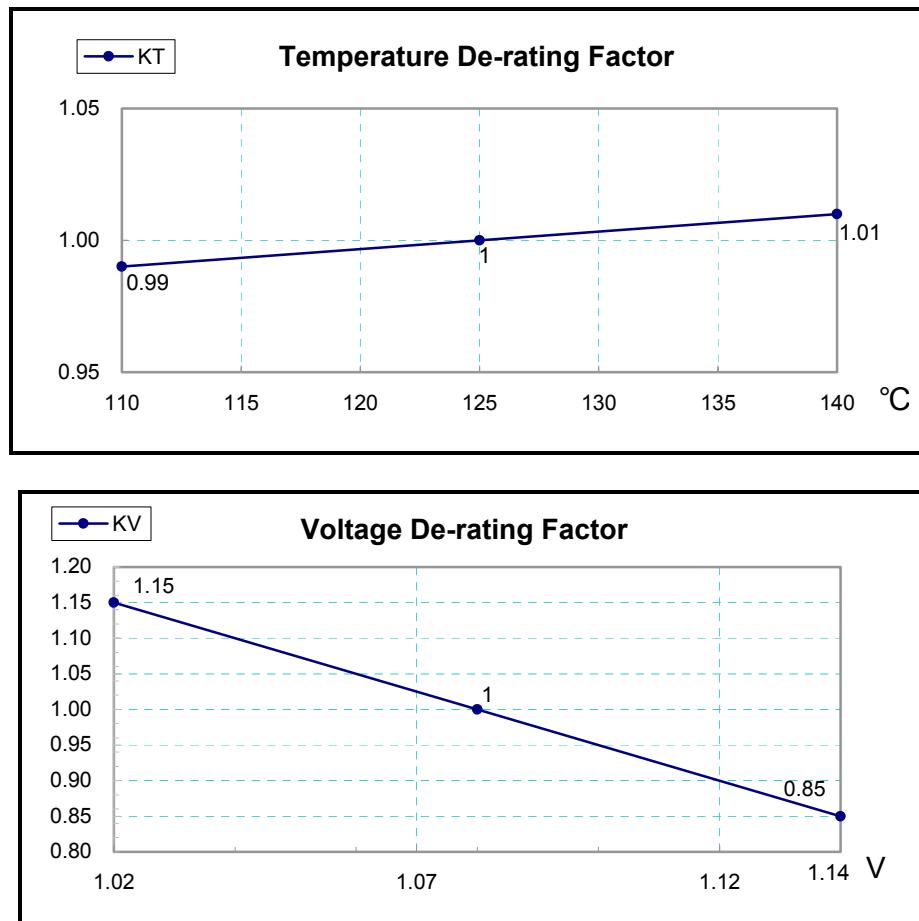


Figure 17. Typical case condition de-rating factors

**1.5.5. Worst case condition de-rating factors****Figure 18. Worst case condition de-rating factors**

### 1.5.6. Performance calculation

The following equation shows how the overall de-rating factors are determined:

$$K_{TOT} = K_P \times K_V \times K_T$$

**Formula 1. How overall de-rating factors are determined**

Where:

**K<sub>TOT</sub>** = Total de-rating factors

**K<sub>P</sub>** = Factor due to process variations

**K<sub>V</sub>** = Factor due to operating voltages

**K<sub>T</sub>** = Factor due to junction temperatures

The precision of the performance calculation is ensured by a well-defined characterization process. The complete performance calculation incorporates the non-linear slope and loading effects with adjustment parameters for process, temperature and voltage variations. The rise and fall times are characterized separately. A simplified version of the delay equation is as follows:

$$Tpd_{(after\ de-rating)} = K_{TOT} * Tpd_{(before\ de-rating)}$$

**Formula 2. Simplified version of delay calculation**

Where

**Tpd<sub>(after de-rating)</sub>** = Propagation delays, after de-rating

**Tpd<sub>(before de-rating)</sub>** = Propagation delays, before de-rating

**K<sub>TOT</sub>** = Process, voltage and temperature variation factors

For example, if your specified conditions are:

Process: Fast

Voltage: 1.25V

Temperature: -25°C

**Tpd** <sub>(before de-rating)</sub> (taking the best case model) : 100ps

The best case corner library should be used. The best case de-rating factors for this example are:

$$K_P = 1.0$$

$$K_V = 1.1$$

$$K_T = 1.03$$

Then,

$$\begin{aligned} T_{pd(\text{after de-rating})} &= T_{pd(\text{before de-rating})} * K_P * K_V * K_T \\ &= 100\text{ps} * 1.0 * 1.1 * 1.03 \\ &= 113.3\text{ps} \end{aligned}$$

### Example 2. Performance calculation using de-rating factors

You can find the exact de-rating factors in  $K_P$ ,  $K_V$  and  $K_T$  from section “1.5.3 Best case condition de-rating factors”.

## 1.5.7. Timing definitions

The timing definitions for both internal core macro cells and the input / output buffers are included in this section.

### 1.5.7.1. Internal core macro cells

All timing delays for internal macro cells are characterized from the 50% operating voltage point to the next 50%. This can be seen in Figure 19 below. The propagation delay definition applies to combinatorial cells as well as sequential elements (setup time, hold time, recovery and removal time).

Propagation delays are the timing between an input signal’s transition and the resulting output signal’s transitions.

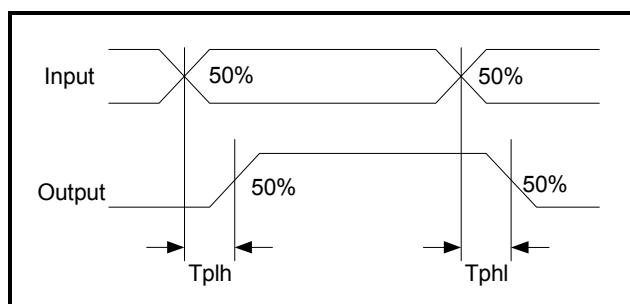
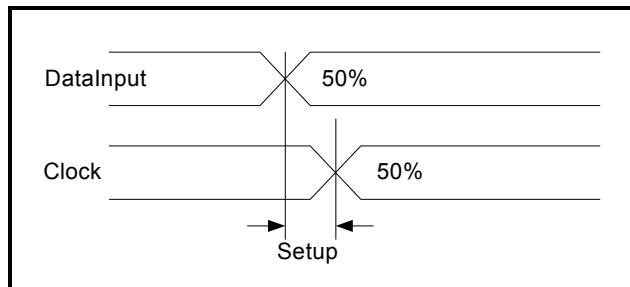


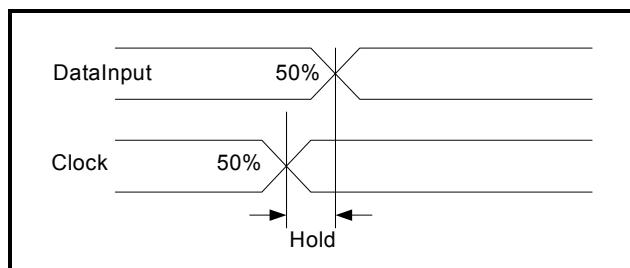
Figure 19. Timing Definitions -- Propagation Delays

Setup time is the minimum time within which input data must remain unchanged prior to an active clock transition. The setup time is characterized to ensure that no more than a **5%** excessive delay of CK→Q timing occurs, if this constraint is not violated.



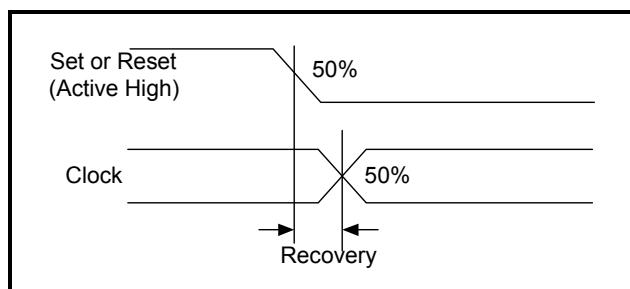
**Figure 20. Timing definitions -- Setup time**

Hold time is the minimum time within which input data must remain unchanged subsequent to an active clock transition. The hold time is characterized to ensure that no more than a **5%** excessive delay of CK→Q timing occurs, if this constraint is not violated.



**Figure 21. Timing definitions -- Hold time**

Recovery time is the minimum time within which the set or reset input must remain un-activated prior to an active clock transition. The recovery time is characterized to ensure that no more than a **5%** excessive delay of CK→Q timing occurs, if this constraint is not violated.



**Figure 22. Timing definitions -- Recovery time**

Removal time is the minimum time within which the set or reset input must remain activated subsequent to an active clock transition.

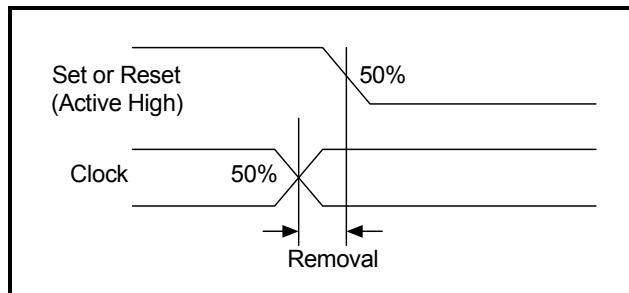


Figure 23. Timing definitions -- Removal time

Minimum pulse width is the minimum length of time between a pulse's leading and trailing edge as shown below.

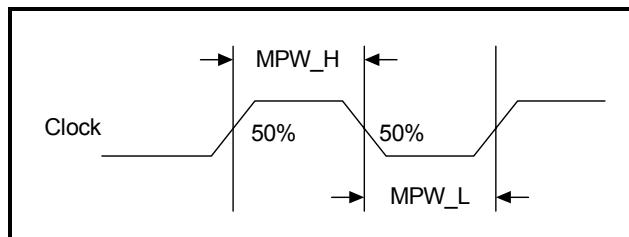


Figure 24. Timing definitions -- Minimum pulse width<sup>[9]</sup>

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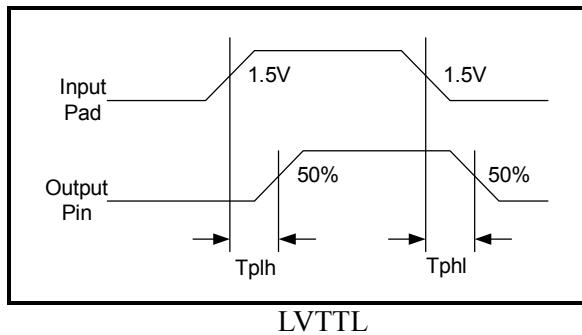
<sup>[9]</sup> The (L =>Z) timing is characterized by terminating a resistor between the output and the VDD, and the (H =>Z) timing is characterized by terminating a resistor between the output and the GND.

### 1.5.7.2. Primary input buffers

Timing delays are measured at input trip points. These points are defined by the type of function being characterized. Output trip points are always measured at the 50% voltage trip point.

**Table 25. Timing definitions -- Primary input buffers**

Function Type	VCC	Input Trip Point (VI)	Output Trip Point
3.3V LVTTL	2.97V ~ 3.63V	1.5V	50% of VCC



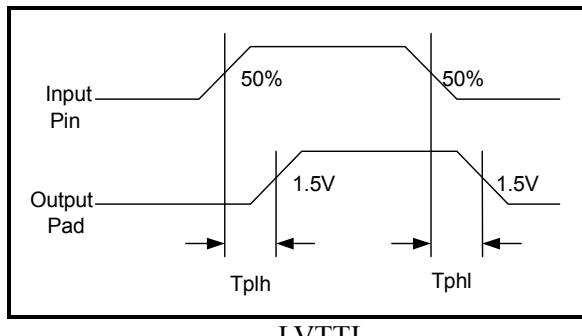
**Figure 25. Timing definitions -- Primary input buffers**

### 1.5.7.3. Primary output buffers

Timing delays are measured at the 50% input voltage trip point. Output voltage trip points are defined by the type of function being characterized.

**Table 26. Timing definitions -- Primary output buffers**

Function Type	VCC	Input Trip Point	Output Trip Point (VO)
3.3V LVTTL	2.97V ~ 3.63V	50% of VCC	1.5V



**Figure 26. Timing definitions -- Primary output buffers**

## 1.6. Power estimation and power optimization

### 1.6.1. Chip power estimation

The equation used to estimate chip power consumption can be expressed as:

$$P_{\text{total}} = P_{\text{block}} + P_{\text{core}} + P_{\text{clock}} + P_{\text{io}} + P_{\text{dc}} + P_{\text{leakage}}$$

**Formula 3. Estimating chip power consumption**

where:

- |                      |   |  |
|----------------------|---|--|
| $P_{\text{total}}$   | = | Chip's total power consumption ( $\mu\text{W}$ )               |
| $P_{\text{block}}$   | = | Full block's total power consumption ( $\mu\text{W}$ )         |
| $P_{\text{core}}$    | = | Core cell's total power consumption ( $\mu\text{W}$ )          |
| $P_{\text{clock}}$   | = | Clock tree's total power consumption ( $\mu\text{W}$ )         |
| $P_{\text{io}}$      | = | I/O cell's total power consumption ( $\mu\text{W}$ )           |
| $P_{\text{dc}}$      | = | DC current's total related power consumption ( $\mu\text{W}$ ) |
| $P_{\text{leakage}}$ | = | Leakage power consumption ( $\mu\text{W}$ )                    |

The full block's total power consumption ( $P_{\text{block}}$ ) is the summation of the individual full blocks, including memory blocks, analog blocks, PLLs, and IPs. The core cell's total power consumption ( $P_{\text{core}}$ ) is the summation of the logic gates. This does not include the I/O cells and / or the clock buffer in the clock trees. The clock tree's total power consumption ( $P_{\text{clock}}$ ) is the summation of the clock buffers in the clock trees. The I/O cell's total power consumption ( $P_{\text{io}}$ ) is the summation of the I/O cells. The DC current's total power consumption ( $P_{\text{dc}}$ ) is the summation of the DC current paths. The total leakage power consumption ( $P_{\text{leakage}}$ ) is the summation of each device's sub-threshold current and junction's reversed biased current.

#### 1.6.1.1. Early chip power estimation

It is important and helpful to obtain quick and reliable chip power estimation early in a design. Faradays' early power estimation methodology can help you choose package types, estimate battery requirements and at the same time, determine the chip's power grid design. Should the power estimation is too high, it can also help you on reducing powers in large power consuming blocks, clock trees, etc.

Faraday's early power estimation methodology is simple and reliable. It can help you estimate your chip's power requirement at very early stages. The methodology provides you with statistics records Faraday gained over 1,000 successful ASIC projects.

The following estimation items are required, if you use Faraday's methodology for early power estimations:

- Total gate count
- Toggle rate
- Frequency
- Output buffer loading
- Chip size

### **1.6.1.2. Core cell's total power consumption**

The core cell's total power consumption ( $P_{core}$ ) is the summation of the logic gates, except the I/O cells and the clock buffer in the clock trees. The equation used to calculate total core cell power consumption is given by:

$$P_{Core} = \sum_{\forall net(i)} \left( \frac{1}{2} \times C_{net(i)} \times V_{dd}^2 + E_{internal(i)} \right) \times F_{toggle(i)}$$

**Formula 4. Core cell's total power consumption**

where:

$P_{Core}$  = Core cell power consumption ( $\mu W$ )

$\frac{1}{2} \times C_{net(i)} \times V_{dd}^2$  = Switching power associated with related net (i) ( $\mu W/MHz$ )

$C_{net}$  = Total net capacitance (pF),  $C_{net} = C_{gate} + C_{wire}$

$C_{gate}$  = Cell input capacitance (pF)

$C_{wire}$  = Wire load capacitance (pF)

$V_{dd}$  = Supply voltage

$E_{internal(i)}$  = Internal power associated with related net (i) ( $\mu W / MHz$ )

$E_{internal(i)} = E_{inpins(i)} + E_{outpins(i)}$ , internal power means: power consumption inside cell when toggle occurs

$E_{inpins(i)}$  = Input pin's internal power associated with related net (i) ( $\mu W / MHz$ )

$E_{outpins(i)}$  = Output pin's internal power associated with related net (i) ( $\mu W / MHz$ )

$F_{toggle(i)}$  = Toggle count associated with related net (i) within  $1\mu s$  (toggle /  $\mu s$ ), during normal operation

Table 27 below shows the reasonable values for  $F_{\text{toggle}}$ :

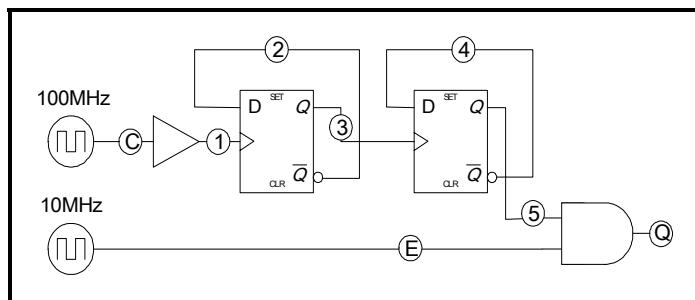
**Table 27. Reasonable values for  $F_{\text{toggle}}$**

Operating Frequency	$F_{\text{toggle}}$ (toggles / $\mu\text{s}$ ) for Different Net Types			
	Clock	F.F. Output	F.F. Input	Combination Logic
10MHz	20	$\leq 10$	$\leq 10$	$\leq 10$
50MHz	100	$\leq 50$	$\leq 50$	$\leq 50$
100MHz	200	$\leq 100$	$\leq 100$	$\leq 100$

For example, if the operating frequency is 100MHz, then:

- The  $F_{\text{toggle}}$  for clock net would be 200.
- The  $F_{\text{toggle}}$  value is less than, or equal to, 100, for the flip-flop input, the flip-flop output, and the combination logic net.

The following figure is an example of how to calculate the core cell's total power consumption:



**Figure 27. Core cell's total power consumption**

From Figure 27 above, we can see eight (8) nets that consume power during operation. Nets C and E are input pins. Net Q is an output pin. Nets 1, 2, 3, 4, and 5 are internal nets.

To calculate the power consumption associated with net 1, assume the following conditions:

- Input net C is coupled to a 100MHz clock signal
- Input net E is coupled to a 10MHz enable signal

The following equation can be used to calculate the power consumption for net 1:

$$P_{\text{net}(1)} = \left( \frac{1}{2} \times C_{\text{net}(1)} \times V_{dd}^2 + E_{\text{internal}(1)} \right) \times F_{\text{toggle}(1)}$$

**Formula 5. Power consumption calculation**

By substituting:

$$C_{\text{net}} = 0.013548 \text{ (pF)}, C_{\text{net}} = C_{\text{gate}} + C_{\text{wire}}$$

$$C_{\text{gate}} = 0.001548 \text{ (pF)}$$

$$C_{\text{wire}} = 0.012 \text{ (pF)}$$

$$V_{\text{dd}} = 1.2 \text{ (V)}$$

$$E_{\text{inpins}(1)} = 0.0069 \text{ (\mu W/MHz)}$$

$$E_{\text{outpins}(1)} = 0.0047 \text{ (\mu W/MHz)}$$

$$E_{\text{internal}(1)} = E_{\text{inpins}(1)} + E_{\text{outpins}(1)}$$

$$E_{\text{internal}(1)} = 0.0116 \text{ (\mu W/MHz)}$$

$$F_{\text{toggle}(1)} = 200 \text{ (toggle/\mu s)}$$

Then, we can have:

$$P_{\text{net}(1)} = 4.270912 \text{ (\mu W)}$$

The same power calculation can be applied to the other nets. These calculations are summarized in Table 28 below.

**Table 28. Power calculation summary**

Net Name	Power Supply (V)	C <sub>net</sub> (pF)	Switching Power ( $\mu$ W/MHz)	E <sub>inpins</sub> ( $\mu$ W/MHz)	E <sub>outpins</sub> ( $\mu$ W/MHz)	E <sub>internal</sub> ( $\mu$ W/MHz)	F <sub>toggle</sub> (toggle/ $\mu$ s)	P <sub>Core</sub> ( $\mu$ W)
C	1.2	0.001528	0.0011	0	0	0	200	0.220032
E	1.2	0.001355	0.000976	0	0	0	20	0.019512
Q	1.2	0.012	0.00864	0	0.0058	0.0058	20	0.2888
1	1.2	0.013548	0.009755	0.0069	0.0047	0.0116	200	4.270912
2	1.2	0.013234	0.009528	0.0023	0	0.0023	100	1.182848
3	1.2	0.013548	0.009755	0.0069	0.0174	0.0243	100	3.405456
4	1.2	0.013234	0.009528	0.0023	0	0.0023	50	0.591424
5	1.2	0.013169	0.009482	0	0.0174	0.0174	50	1.344084
Sum		0.081616	0.058764	0.0184	0.0453	0.0637		11.32307

In connection with the table above, please note that:

1. Switching power equals to  $1/2 * C_{\text{net}} V_{\text{dd}}^2$ .
2. The energy (E<sub>inpins</sub> and E<sub>outpins</sub>) shown here is after SDPD (state dependency and path dependency).
3. The power calculation summary assumes the internal nets (nets 1, 2, 3, 4, and 5) and output net (net Q) to have a wire load of 0.012pF.

### **1.6.2. Path dependent power models**

With the increasing demand on power optimization, the conventional approach for averaging path power ratings is no longer an effective approach in your design. In order to achieve reasonable and reliable accuracy in power estimations, Faraday supports path dependent power model for all cells in the library. The path dependent power model is used to specify the power consumption within a logic cell associated with a particular output pin. The level of power consumption depends on which path is being used. When an input pin transits, it causes a particular output pin to toggle.

Different paths have different levels of power consumption. It is important for the model to contain an accurate and precise record of each path's power consumption. Modern power optimization tools can use the path dependent power model to optimize gate-level power consumption.

### **1.6.3. State dependent power models**

The state dependent power model is used to specify a different set of power tables, depending on the condition of one, or more, input pins within specific cells.

According to our study, there is no significant difference between state dependent power model in estimating a chip's power consumption and the average power ratings for conventional libraries.

You may find that our state dependent power model only exists in sequential logic gates. This is because, according to our study, the sequential logic gates consume significantly more power. However, since modern power optimization tools focus more on sequential logic gates; as a result, we decided to concentrate our efforts on sequential logic gates also.

### **1.6.4. Power optimization**

The FSC0L\_D has the following features that will help you achieve low power designs:

- Low power core cell
- Very high density
- Optimized library for synthesis and power optimization tools
- Support a rich set of integrated clock-gating cells and enabled flip-flops

## 1.7. Guide to datasheet

DFZSB		FARADAY STANDARD CELL LIBRARY	FSC0L_D	DFZSB																																																
A	Group Name : DFZSB																																																			
B	Function : D Flip-Flop with Set and Scan																																																			
C	Truth Table	<table border="1"> <thead> <tr> <th>CK</th><th>D</th><th>SB</th><th>TD</th><th>SEL</th><th>Q</th><th>QB</th></tr> </thead> <tbody> <tr> <td>/</td><td>0</td><td>1</td><td>X</td><td>0</td><td>0</td><td>1</td></tr> <tr> <td>/</td><td>1</td><td>1</td><td>X</td><td>0</td><td>1</td><td>0</td></tr> <tr> <td>/</td><td>X</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> <tr> <td>/</td><td>X</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td></tr> <tr> <td>/</td><td>X</td><td>1</td><td>X</td><td>X</td><td>Q</td><td>QB</td></tr> <tr> <td>X</td><td>X</td><td>0</td><td>X</td><td>X</td><td>1</td><td>0</td></tr> </tbody> </table>	CK	D	SB	TD	SEL	Q	QB	/	0	1	X	0	0	1	/	1	1	X	0	1	0	/	X	1	0	1	0	1	/	X	1	1	1	1	0	/	X	1	X	X	Q	QB	X	X	0	X	X	1	0	Symbol
CK	D	SB	TD	SEL	Q	QB																																														
/	0	1	X	0	0	1																																														
/	1	1	X	0	1	0																																														
/	X	1	0	1	0	1																																														
/	X	1	1	1	1	0																																														
/	X	1	X	X	Q	QB																																														
X	X	0	X	X	1	0																																														
D	Schematic																																																			
E	Pin Order	Q QB D TD CK SEL SB		H																																																
G	Input Capacitance (ff)	& Maximum Loading (ff)	& Power Consumption (nW/MHz)	I																																																
J	Version	Input Capacitance	Maximum Loading	Power Consumption																																																
		D TD CK SEL SB	Q QB	Q D TD CK SEL																																																
DFZSBE LD	1.861	1.142	1.323	3.351	2.949	139.6	139.8	27.04	6.659	7.672	6.379	12.37																																								
DFZSBH LD	1.861	0.8270	1.324	3.351	3.884	282.4	2822	35.71	6.777	7.811	6.342	12.55																																								

Figure 28. Guide to datasheet

## FSC0L\_D

Diagram illustrating the guide to the datasheet:

- Circle K:** Points to the top header of the table.
- Circle J:** Points to the AC Characteristics section.
- Circle L:** Points to the Timing Constraint section.

FARADAY STANDARD CELL LIBRARY FSC0L_D										DFZSB				
AC Characteristics (Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)														
Version	Cell Unit	Path	Output Load											
			1.500 ff	3.306 ff	7.287 ff	16.06 ff	35.40 ff	78.03 ff	tplh	tphl				
DFZSBELD	29	SB-Q	451.8	-	463.7	-	487.7	-	538.0	-	644.7	-	880.6	-
		CK-Q	375.5	334.3	387.9	342.5	412.5	357.5	462.3	385.0	570.1	434.7	805.3	534.2
		SB-QB	-	202.6	-	212.6	-	230.2	-	259.9	-	312.5	-	414.1
		CK-QB	442.0	500.2	454.3	509.7	477.9	526.9	527.2	556.3	633.7	608.6	869.0	710.0
		Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff	tplh	tphl	tplh	tphl	tplh	tphl
DFZSBHLD	33	SB-Q	419.4	-	427.9	-	445.7	-	484.4	-	577.2	-	805.7	-
		CK-Q	378.7	333.7	387.7	340.3	406.1	353.1	445.2	376.7	538.4	421.9	767.1	519.5
		SB-QB	-	188.8	-	196.8	-	211.7	-	238.4	-	287.2	-	387.8
		CK-QB	434.8	501.8	443.3	509.0	460.9	523.4	498.3	548.8	589.0	596.1	816.3	694.4
		Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff	tplh	tphl	tplh	tphl	tplh	tphl
Timing Constraint (ps)														
Item		Version	DFZSBELD	DFZSBHLD										
Setup Timing D / CK /			289.9	275.1										
Setup Timing D \ CK /			246.8	251.7										
Setup Timing TD / CK /			368.9	359.0										
Setup Timing TD \ CK /			698.0	722.7										
Setup Timing SEL / CK /			698.0	722.7										
Setup Timing SEL \ CK /			388.6	372.5										
Hold Timing D / CK /			-75.11	-62.78										
Hold Timing D \ CK /			-34.48	-29.49										
Hold Timing TD / CK /			-126.9	-102.2										
Hold Timing TD \ CK /			-133.1	-118.3										
Hold Timing SEL / CK /			-119.5	-87.44										
Hold Timing SEL \ CK /			-36.89	-31.96										
Minimum H-pulse Width CK			356.9	381.5										
Minimum L-pulse Width CK			593.4	613.1										
Minimum L-pulse Width SB			482.5	435.7										
Recovery Timing SB / CK /			10.069	7.603										
Removal Timing SB / CK /			67.91	72.84										

Figure 29. Guide to datasheet (continued)

Description:

- A: Group name
- B: Function
- C: Truth table
- D: Schematic
- E: Pin order
- F: Symbol
- G: Input capacitance
- H: Maximum loading, also called ‘maximum capacitance’ which defines the maximum total capacitive loads that an output pin can drive
- I: Intrinsic power consumption, also called ‘internal power’ which primarily includes power dissipated by a momentary short circuit current between P and N transistor of a gate. It is characterized at output loading=0
- J: Cell name
- K: Cell information. (cell unit / delay time / timing constraints / etc.)In datasheets, it specifies propagation delay for 122ps data slew and 122ps clock slew.
- L: Timing constraint, for setup time, hold time, recovery time, removal time, and minimum pulse width, it specifies timing constraint values for 20ps data slew and 20ps clock slew.

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***Thank you for using Faraday's products and services!***

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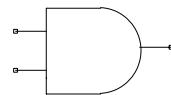
# *Chapter 2*

## *Core Cells*

Group Name : AN2

Symbol

Function : 2 Input AND



Truth Table

Schematic

I1	I2	O
1	1	1
OTHERS		0



Pin Order O I1 I2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I1	I2	O		O	
AN2CLD	0.9240	1.155		80.70		3.780
AN2ELD	1.158	1.412		139.4		5.439
AN2HLD	1.961	2.335		281.0		10.56
AN2KLD	2.436	2.728		560.7		18.97
AN2MLD	4.762	5.245		842.2		28.70
AN2NLD	4.746	5.241		1121.9		36.07

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

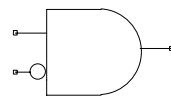
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
AN2CLD	5		tplh	tphl										
	I1-O	127.2	157.8	146.7	170.0	186.5	191.5	271.5	231.4	456.6	308.7	862.6	471.6	
	I2-O	127.1	173.0	146.6	185.0	186.5	207.0	271.2	246.6	456.0	324.2	862.7	487.2	
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
AN2ELD	5	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
		I1-O	120.5	157.2	135.3	167.3	168.0	187.0	243.9	224.9	429.4	305.2	885.0	490.5
		I2-O	120.7	172.3	135.3	182.5	168.1	202.1	244.1	240.3	429.4	320.3	885.1	506.1
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
AN2HLD	7	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
		I1-O	115.3	151.4	123.4	157.6	141.0	169.9	180.2	192.7	273.3	236.9	501.9	332.6
		I2-O	116.4	167.1	124.5	173.3	142.1	185.5	181.0	208.6	274.3	253.2	502.7	349.2

AN2KLD	12	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		I1-O	151.2	177.3	157.3	182.1	171.9	192.7	205.2	214.6	286.5	258.5	505.7	355.0
I2-O	154.2	193.2	160.4	198.0	174.9	208.7	208.3	230.8	289.6	275.0	508.8	372.0		
AN2MLD	16	Path	1.500 ff		4.323 ff		12.46 ff		35.92 ff		103.5 ff		298.4 ff	
			tplh	tphl										
I1-O	128.3	143.7	132.5	146.7	142.9	154.1	168.4	170.3	232.7	204.2	412.6	282.3		
I2-O	130.5	157.3	134.7	160.4	145.2	167.8	170.6	184.1	235.0	218.4	414.8	297.0		
AN2NLD	19	Path	1.500 ff		4.573 ff		13.94 ff		42.50 ff		129.6 ff		394.9 ff	
			tplh	tphl										
I1-O	143.3	162.8	147.0	165.6	157.1	172.9	181.7	189.9	245.2	225.9	429.2	308.9		
I2-O	145.1	176.5	148.9	179.2	158.8	186.5	183.6	203.5	247.2	239.8	431.2	323.2		

Group Name : AN2B1

Symbol

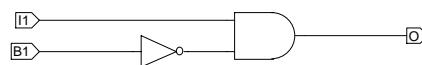
Function : 2 Input AND, One Input Inverted



Truth Table

Schematic

I1	B1	O
1	0	1
OTHERS		0



Pin Order O I1 B1

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I1	B1	O		O	
AN2B1CLD	1.286	2.057		66.17		4.052
AN2B1ELD	1.707	1.273		139.4		7.510
AN2B1HLD	2.260	1.266		281.2		11.53
AN2B1KLD	4.294	1.233		562.4		22.26

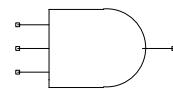
**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
AN2B1CLD	6		tplh	tphl										
	I1-O	129.3	171.6	151.7	185.2	199.6	210.8	303.0	260.7	530.4	361.5	1030	579.7	
	B1-O	105.3	73.47	128.0	86.59	176.1	111.9	280.2	161.0	508.2	262.3	1007	481.2	
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
AN2B1ELD	7	Path	tplh	tphl										
		I1-O	120.4	164.4	132.2	172.4	156.4	186.8	205.8	212.4	313.9	260.0	549.8	356.7
		B1-O	207.1	176.0	218.7	183.9	242.8	198.2	292.2	223.4	400.1	270.7	635.8	367.1
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
AN2B1HLD	9	Path	tplh	tphl										
		I1-O	119.2	177.6	127.4	184.1	145.3	197.1	184.8	221.1	278.0	266.9	506.5	363.8
		B1-O	219.1	196.7	227.2	203.3	245.0	216.3	284.2	240.0	377.5	285.2	605.9	381.7
		Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
AN2B1KLD	16	Path	tplh	tphl										
		I1-O	119.4	178.4	124.9	182.7	137.8	192.7	168.9	213.4	249.1	255.1	468.0	349.4
		B1-O	229.3	215.8	234.7	220.1	247.6	230.0	278.6	250.4	358.6	291.8	577.6	385.7

Group Name : AN3

Symbol

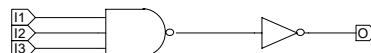
Function : 3 Input AND



Truth Table

Schematic

I1	I2	I3	O
1	1	1	1
OTHERS			0



Pin Order O I1 I2 I3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading			Power Consumption		
	I1	I2	I3	O			O		
AN3CLD	1.183	1.252	1.417		80.72		5.222		
AN3ELD	1.668	1.798	1.957		139.1		7.669		
AN3HLD	1.870	1.986	2.273		280.7		11.59		
AN3KLD	3.878	3.999	4.417		561.8		22.36		

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

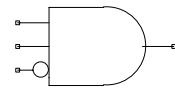
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
AN3CLD	7		tplh	tphl										
	I1-O	147.9	176.5	168.6	189.4	209.4	211.8	294.9	251.6	480.6	328.1	885.9	488.2	
	I2-O	154.5	198.8	175.1	211.7	216.3	234.4	301.0	274.6	486.1	351.6	893.4	512.1	
	I3-O	155.5	216.6	176.1	229.8	217.3	252.8	302.2	293.6	486.9	371.1	894.2	532.2	
AN3ELD	7	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I1-O	129.9	168.8	142.5	177.6	167.5	193.1	217.3	220.1	325.5	269.3	561.2	366.9
		I2-O	136.1	191.2	148.5	200.0	173.5	215.6	224.0	242.9	332.2	292.5	568.5	390.6
		I3-O	136.9	210.2	149.5	219.2	174.2	235.1	224.7	262.9	332.8	313.0	567.8	411.7
AN3HLD	9	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I1-O	142.4	174.2	151.8	181.1	171.5	194.6	212.8	219.8	306.8	266.8	535.6	364.8
		I2-O	147.7	191.9	157.2	198.8	176.9	212.4	218.4	237.6	312.4	285.1	541.2	383.4
		I3-O	147.7	206.9	157.1	214.0	176.9	227.8	218.3	253.3	312.4	301.2	541.1	400.1

AN3KLD	16	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		I1-O	132.6	164.1	138.7	168.6	153.3	179.2	186.7	200.2	268.0	242.6	487.2	337.5
		I2-O	140.1	184.5	146.3	189.1	160.9	199.6	194.4	220.8	275.8	263.8	495.0	359.3
		I3-O	142.6	203.1	148.8	207.8	163.5	218.5	197.0	240.1	278.4	283.7	497.6	380.1

Group Name : AN3B1

Symbol

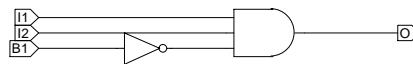
Function : 3 Input AND, One Input Inverted



Truth Table

Schematic

I1	I2	B1	O
1	1	0	1
OTHERS			0



Pin Order O I1 I2 B1

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading			Power Consumption		
	I1	I2	B1	O			O		
AN3B1CLD	1.271	1.467	1.018	80.68			6.117		
AN3B1ELD	1.820	2.118	1.035	139.2			8.959		
AN3B1HLD	2.151	2.446	1.263	280.7			13.25		
AN3B1KLD	4.409	4.865	2.708	561.6			25.74		

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

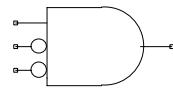
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
AN3B1CLD	10		tplh	tphl										
	I1-O	156.6	185.0	176.9	197.5	217.7	219.3	303.3	258.6	488.3	334.5	895.4	494.6	
	I2-O	158.5	201.8	178.9	214.4	219.8	236.6	305.7	276.1	491.2	352.5	896.6	513.0	
	B1-O	234.8	186.9	255.4	199.3	296.2	220.7	381.7	259.5	566.3	335.0	973.5	494.7	
AN3B1ELD	10	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I1-O	137.8	176.7	150.1	185.0	175.1	200.0	225.9	226.3	334.3	274.6	570.5	371.8
		I2-O	140.0	194.9	152.5	203.3	177.6	218.4	228.3	245.0	336.7	293.8	572.9	391.3
		B1-O	230.4	189.3	242.8	197.5	267.6	212.1	318.2	238.1	426.0	286.0	661.9	382.8
AN3B1HLD	12	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I1-O	159.0	165.2	168.7	171.5	189.2	183.9	231.1	207.3	325.7	252.2	554.6	348.4
		I2-O	160.5	176.8	170.4	183.1	190.4	195.8	232.5	219.4	327.1	264.6	555.9	361.0
		B1-O	240.2	184.5	249.9	190.7	270.2	203.1	312.1	226.1	406.6	270.9	635.4	366.6

AN3B1KLD	18	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		I1-O	150.3	158.3	156.6	162.4	171.4	171.8	205.4	191.3	287.3	231.4	506.6	324.3
		I2-O	153.5	172.1	159.7	176.2	174.8	185.6	208.6	205.5	290.5	246.1	509.8	339.5
		B1-O	222.1	172.4	228.4	176.3	243.3	185.5	277.0	204.6	358.7	244.5	578.0	336.9

Group Name : AN3B2

Symbol

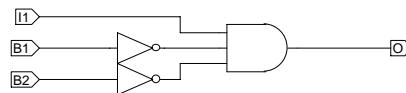
Function : 3 Input AND, Two Input Inverted



Truth Table

Schematic

I1	B1	B2	O
1	0	0	1
OTHERS			0



Pin Order O I1 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading			Power Consumption		
	I1	B1	B2	O			O		
AN3B2BLD	1.199	1.746	1.935		41.44		4.772		
AN3B2ELD	2.094	1.111	1.060		139.4		9.917		
AN3B2HLD	2.275	1.392	1.329		280.8		13.62		
AN3B2KLD	4.554	2.753	2.740		561.6		26.67		

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

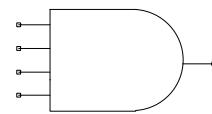
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
AN3B2BLD	8		tplh	tphl										
	I1-O	160.8	199.1	193.7	213.8	267.3	241.5	428.3	295.6	777.7	404.7	1546	638.7	
	B2-O	171.2	88.94	205.1	102.5	277.5	129.1	437.2	182.3	787.0	292.3	1556	529.5	
	B1-O	155.2	82.71	189.4	96.03	262.4	122.1	420.8	174.1	770.8	282.4	1539	518.1	
AN3B2ELD	11	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I1-O	147.9	190.1	160.7	198.6	186.1	213.7	237.4	240.4	345.8	289.2	582.1	386.8
		B2-O	254.4	213.1	267.4	221.5	292.6	236.4	343.2	262.8	451.6	311.2	688.1	408.3
		B1-O	232.9	189.3	245.4	197.3	270.5	212.1	321.6	238.1	429.6	286.1	665.7	382.8
AN3B2HLD	13	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I1-O	155.0	199.4	164.6	206.4	184.6	220.1	226.4	245.2	320.8	292.5	549.6	390.7
		B2-O	239.1	222.9	248.8	229.7	268.8	243.2	310.6	268.0	405.0	314.9	633.8	412.6
		B1-O	220.4	201.4	229.9	208.0	249.8	221.4	291.5	246.1	385.8	292.5	614.6	389.9

AN3B2KLD	19	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		I1-O	149.6	194.8	155.7	199.3	170.5	209.6	204.1	230.8	285.9	273.4	505.1	368.8
		B2-O	220.9	203.8	227.0	208.2	241.7	218.2	275.3	239.0	356.9	281.1	576.1	375.8
		B1-O	213.6	186.9	219.7	191.3	234.3	201.2	267.7	221.7	349.5	263.3	568.6	357.4

Group Name : AN4

Symbol

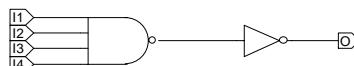
Function : 4 Input AND



Truth Table

Schematic

I1	I2	I3	I4	O
1	1	1	1	1
OTHERS				0



Pin Order O I1 I2 I3 I4

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading				Power Consumption			
	I1	I2	I3	I4	O				O			
AN4CLD	0.9410	1.179	0.9360	1.157	65.52				6.024			
AN4ELD	1.319	1.615	1.304	1.680	132.6				9.767			
AN4HLD	1.790	2.152	1.767	2.243	266.5				18.86			
AN4KLD	3.689	4.295	3.673	4.234	532.2				38.66			

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

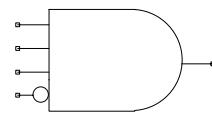
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
AN4CLD	10		tplh	tphl										
	I1-O	174.8	197.4	196.9	208.1	244.6	227.9	348.1	266.2	576.0	342.2	1075	502.7	
	I2-O	175.1	214.6	197.1	225.1	245.3	245.3	349.7	283.8	577.8	360.1	1076	520.9	
	I3-O	158.1	193.7	180.5	205.2	228.6	226.8	333.3	266.0	562.4	342.4	1061	502.7	
	I4-O	158.3	210.6	180.9	222.3	228.7	243.9	333.8	283.4	562.5	360.1	1061	520.8	
AN4ELD	11	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I1-O	157.6	225.9	169.6	233.5	194.3	247.6	246.7	274.4	360.4	324.9	610.7	424.4
		I2-O	157.4	246.3	169.6	253.7	194.1	268.0	247.1	295.1	361.9	345.8	612.9	445.7
		I3-O	136.4	212.4	148.6	221.0	173.4	236.9	226.1	265.4	340.8	316.7	593.0	416.4
		I4-O	136.7	232.5	148.8	241.1	173.9	257.2	226.6	285.8	341.6	337.5	592.6	437.6

	16	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl	tplh	tphl								
AN4HLD	I1-O	169.3	252.5	176.8	257.6	194.6	268.8	235.7	292.7	334.8	341.0	578.1	441.9	
	I2-O	168.9	271.5	176.3	276.6	194.2	287.9	235.4	311.9	334.5	360.5	577.7	461.7	
	I3-O	145.6	235.6	153.2	241.7	171.1	255.0	212.2	281.0	311.7	330.6	555.5	432.1	
	I4-O	145.7	254.6	153.4	260.7	171.3	273.9	212.2	299.9	311.8	349.9	555.6	451.8	
	33	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl	tplh	tphl								
AN4KLD	I1-O	169.4	249.1	174.0	252.4	186.1	260.2	218.1	279.4	303.0	322.7	536.0	421.3	
	I2-O	171.6	273.3	176.2	276.3	188.4	284.4	220.4	303.8	305.3	347.5	538.2	446.8	
	I3-O	141.4	230.5	146.0	234.3	158.3	243.8	190.2	265.4	275.3	310.7	508.9	409.9	
	I4-O	144.1	254.9	148.8	258.8	161.1	268.4	193.1	290.0	278.3	335.8	511.8	435.7	

Group Name : AN4B1

Symbol

Function : 4 Input AND, One Input Inverted



Truth Table

Schematic

I1	I2	I3	B1	O
1	1	1	0	1
OTHERS				0



Pin Order O I1 I2 I3 B1

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading				Power Consumption	
	I1	I2	I3	B1	O				O	
AN4B1BLD	1.115	1.184	1.345	1.743	52.11				4.851	
AN4B1ELD	1.735	1.841	2.089	4.573	132.2				9.585	
AN4B1HLD	1.885	1.996	2.249	9.547	265.7				16.81	
AN4B1KLD	3.872	3.956	4.470	18.36	531.4				33.17	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

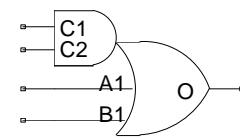
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
AN4B1BLD	9		tplh	tphl										
	I1-O	166.9	215.2	196.1	232.5	256.5	262.9	388.8	319.5	678.1	430.6	1311	665.2	
	I2-O	173.5	241.0	202.7	258.1	264.1	289.1	396.7	345.9	686.2	457.1	1318	693.3	
	I3-O	174.6	262.4	203.9	279.5	265.2	311.0	397.8	368.1	687.2	480.2	1319	716.2	
	B1-O	114.0	69.99	142.1	84.18	203.5	111.4	335.4	163.9	624.3	272.4	1256	507.7	
AN4B1ELD	12	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I1-O	148.1	205.7	160.5	214.0	185.9	229.7	239.1	257.9	353.8	309.0	605.8	408.8
		I2-O	154.3	229.8	166.7	238.3	192.5	254.2	245.4	282.6	360.2	334.1	612.0	434.4
		I3-O	155.2	249.9	167.4	258.5	192.8	274.6	246.0	303.3	362.0	355.4	613.3	456.2
		B1-O	94.41	61.35	107.5	67.88	132.8	80.81	185.8	105.3	300.6	152.9	551.2	250.1

	18	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl	tplh	tphl								
AN4B1HLD	I1-O	182.8 234.9	191.3	241.0	210.5	254.2	253.6	280.5	353.9	330.6	597.9	432.7		
	I2-O	188.6 253.1	197.2	259.3	216.4	272.6	259.5	299.0	359.9	349.5	603.9	452.1		
	I3-O	188.3 268.5	196.8	274.7	216.1	288.2	259.2	314.8	359.6	365.7	603.6	468.6		
	B1-O	90.61 57.95	98.63	62.17	117.2	71.71	159.6	92.11	259.5	135.0	503.0	230.3		
	31	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl	tplh	tphl								
AN4B1KLD	I1-O	172.7 227.0	178.0	231.0	191.6	240.3	225.4	261.7	311.8	306.7	545.6	405.7		
	I2-O	181.4 249.4	186.5	253.2	200.1	262.7	234.1	284.2	320.5	329.7	554.3	429.3		
	I3-O	182.7 266.7	188.0	270.5	201.6	280.1	235.4	302.1	322.0	347.9	555.7	448.0		
	B1-O	90.83 59.33	95.80	61.21	108.8	68.08	141.8	84.63	227.8	122.7	461.0	215.1		

Group Name : AO112

Symbol

Function : AN2 into OR3



Truth Table

Schematic

A1	B1	C1	C2	O
1	X	X	X	1
X	1	X	X	1
X	X	1	1	1
OTHERS				0



Pin Order O A1 B1 C1 C2

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	B1	C1	C2		
AO112CLD	1.656	1.864	2.097	2.252	80.62	6.847
AO112ELD	1.444	1.878	2.144	2.317	139.0	7.918
AO112HLD	1.471	1.871	2.176	2.360	280.5	11.34
AO112KLD	1.492	1.937	2.263	2.473	559.6	19.47

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AO112CLD

Cell Unit = 9

State	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	B1-O	149.7	190.5	168.8	204.5	208.1	228.8	293.4	272.2	478.0	353.0
0 1	B1-O	150.2	216.8	169.3	232.2	208.5	258.9	293.7	305.4	479.5	390.2
1 0	B1-O	157.3	243.8	177.3	259.2	217.0	286.2	302.6	333.3	488.9	418.6
0 0	A1-O	134.6	165.8	153.6	179.9	192.5	204.2	277.8	247.5	463.6	328.5
0 1	A1-O	134.8	181.4	153.7	196.5	192.7	223.2	277.8	269.7	463.7	354.3
1 0	A1-O	141.8	208.6	161.6	224.0	201.1	251.0	286.2	298.1	472.1	383.3
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C1-O	157.3	246.3	177.4	261.4	218.5	288.2	304.7	334.8	491.7	419.6
	C2-O	155.5	271.8	175.6	287.3	216.5	314.3	303.7	361.4	491.2	446.7
										896.8	614.6

Version : AO112ELD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	B1-O	142.7	213.8	154.7	224.3	178.9	242.4	228.3	273.7	336.1	328.5	573.6	431.3
0 1	B1-O	143.2	242.8	155.2	254.3	179.3	274.2	228.8	307.8	336.5	366.3	574.1	473.1
1 0	B1-O	149.8	275.6	162.5	287.1	187.5	307.0	237.6	341.3	345.7	400.2	582.1	507.6
0 0	A1-O	129.9	191.9	141.8	202.3	165.6	220.5	214.9	251.7	322.6	306.6	558.3	409.4
0 1	A1-O	130.0	209.9	141.9	221.1	165.7	241.0	215.0	274.7	322.7	333.1	558.4	440.0
1 0	A1-O	136.3	242.9	148.9	254.4	173.9	274.5	223.9	308.6	331.1	367.5	566.9	474.9
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C1-O	143.3	273.7	156.0	284.9	181.5	304.9	232.8	338.7	342.6	397.1	580.3	503.9
	C2-O	141.9	304.8	154.7	316.3	179.8	336.4	231.2	370.5	340.7	429.4	578.2	536.8

Version : AO112HLD

Cell Unit = 11

State	Output Load												
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
C1 C2		tplh	tphl										
0 0	B1-O	157.4	260.7	166.6	270.0	185.8	288.2	226.0	320.2	319.7	377.8	548.7	487.6
0 1	B1-O	157.8	298.6	167.1	308.9	186.2	328.3	226.4	363.4	320.1	425.5	549.1	541.2
1 0	B1-O	162.8	333.7	173.0	343.8	193.6	363.6	235.2	399.0	329.3	461.3	558.4	577.6
0 0	A1-O	145.3	239.5	154.4	248.9	173.2	266.9	213.2	299.1	306.7	356.7	535.3	466.4
0 1	A1-O	145.4	266.2	154.5	276.4	173.3	296.2	213.3	331.0	306.7	393.1	535.4	508.8
1 0	A1-O	150.2	301.1	160.3	311.5	180.6	331.2	222.0	366.6	315.9	429.1	544.6	545.4
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
	C1-O	150.8	330.5	160.1	340.9	179.7	360.5	221.0	395.5	316.2	457.5	546.4	573.1
	C2-O	149.6	362.9	158.9	373.3	178.6	393.0	220.1	428.4	315.3	490.9	545.5	607.2

Version : AO112KLD

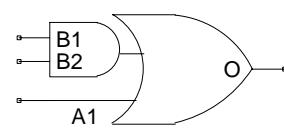
Cell Unit = 14

State	Output Load												
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
C1 C2		tplh	tphl										
0 0	B1-O	185.0	371.8	191.9	379.7	207.8	397.7	242.4	432.9	324.4	498.4	543.9	623.6
0 1	B1-O	185.3	429.2	192.3	438.0	208.1	457.8	242.8	496.3	324.7	567.3	544.3	701.0
1 0	B1-O	189.1	469.1	196.6	478.0	213.7	497.9	250.3	536.7	333.5	608.1	553.2	742.3
0 0	A1-O	174.7	350.5	181.4	358.8	197.1	376.8	231.6	411.9	313.3	477.4	532.5	602.6
0 1	A1-O	174.7	397.2	181.4	406.0	197.1	425.5	231.7	464.0	313.4	535.1	532.6	668.8
1 0	A1-O	178.3	437.2	185.8	446.2	202.7	465.8	239.1	504.6	322.1	576.1	541.5	710.3
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
	C1-O	174.0	463.0	180.6	471.8	196.4	491.3	231.3	529.8	314.5	601.0	535.2	734.7
	C2-O	172.4	499.3	179.1	508.3	194.9	527.9	230.0	566.7	313.2	638.3	533.9	772.5

Group Name : AO12

Symbol

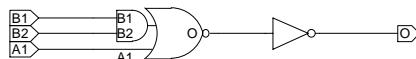
Function : AN2 into OR2



Truth Table

Schematic

A1	B1	B2	O
1	X	X	1
X	1	1	1
OTHERS			0



Pin Order O A1 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	A1	B1	B2	O		O	
AO12CLD	1.737	1.577	1.791	80.61		6.617	
AO12ELD	2.158	1.722	2.259	139.4		8.880	
AO12HLD	2.179	2.038	2.342	280.9		12.47	
AO12KLD	2.263	2.038	2.326	560.8		20.14	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version : AO12CLD

Cell Unit = 7

State	Output Load													
	B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
0 0	A1-O		162.9	176.4	182.3	189.4	222.2	212.5	307.6	254.1	493.7	333.3	899.6	497.0
0 1	A1-O		156.0	198.2	175.6	211.9	215.5	235.7	301.1	278.2	487.3	358.3	893.2	522.5
1 0	A1-O		163.3	219.3	183.4	233.0	223.7	257.2	309.6	300.1	496.0	380.6	901.5	545.2
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
	B1-O		132.2	169.9	151.3	183.7	190.7	207.4	275.8	249.9	461.7	330.0	865.9	494.2
	B2-O		132.5	190.5	151.4	204.2	190.7	228.4	276.0	271.3	461.8	351.8	866.2	516.4

Version : AO12ELD

Cell Unit = 7

State	Output Load												
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2		tplh	tphl										
0 0	A1-O	137.7	176.0	149.3	185.1	172.9	200.8	222.5	229.0	331.0	280.1	567.2	379.3
0 1	A1-O	131.4	211.6	143.1	221.7	166.7	239.3	216.5	269.5	325.1	323.0	561.3	424.5
1 0	A1-O	139.0	217.9	151.2	227.3	175.4	244.2	225.5	273.7	333.3	326.3	568.8	426.9
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
	B1-O	119.3	188.7	131.1	198.6	154.9	216.3	204.1	246.5	312.2	300.0	548.3	401.5
	B2-O	120.8	192.6	132.4	202.1	156.1	219.0	205.8	248.5	313.0	301.1	547.8	401.8

Version : AO12HLD

Cell Unit = 9

State	Output Load												
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
B1 B2		tplh	tphl										
0 0	A1-O	149.0	198.4	157.4	205.9	175.4	220.3	214.7	247.5	308.1	298.1	537.1	400.2
0 1	A1-O	143.8	229.7	152.3	237.9	170.3	253.9	209.6	283.1	303.1	336.4	532.2	441.2
1 0	A1-O	148.7	254.5	157.9	262.8	176.9	278.9	217.3	308.2	311.0	362.0	539.9	467.3
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
	B1-O	125.4	205.8	133.8	213.9	151.9	229.9	191.3	259.1	284.5	312.3	513.1	417.2
	B2-O	125.2	229.3	133.5	237.5	151.7	253.7	190.9	283.0	284.2	336.8	512.8	442.1

Version : AO12KLD

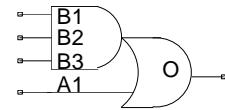
Cell Unit = 12

State	Output Load												
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
B1 B2		tplh	tphl										
0 0	A1-O	161.8	256.9	167.7	262.8	181.7	276.4	213.9	304.1	294.3	357.4	513.6	466.4
0 1	A1-O	157.3	305.3	163.3	312.3	177.5	327.5	209.6	358.2	290.1	416.3	509.5	531.2
1 0	A1-O	160.6	330.4	167.2	337.4	182.1	352.7	215.4	383.7	296.5	442.1	515.9	557.4
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
	B1-O	154.1	282.0	160.3	288.9	175.2	304.2	208.7	334.9	290.0	393.0	509.3	507.9
	B2-O	153.1	304.9	159.5	311.9	174.4	327.2	207.9	358.3	289.3	416.7	508.5	532.0

Group Name : AO13

Symbol

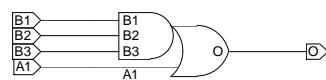
Function : AN3 into OR2



Truth Table

Schematic

A1	B1	B2	B3	O
1	X	X	X	1
X	1	1	1	1
OTHERS				0



Pin Order O A1 B1 B2 B3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	B1	B2	B3	O	
AO13CLD	1.527	2.124	2.153	2.279	80.65	6.461
AO13ELD	1.662	2.374	2.404	2.535	139.3	8.066
AO13HLD	1.652	2.373	2.403	2.535	280.5	11.31
AO13KLD	1.994	2.373	2.403	2.535	558.6	19.45

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AO13CLD

Cell Unit = 9

State	Output Load													
	B1 B2 B3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl								
0 0 0	A1-O		127.1	133.1	145.8	144.2	184.7	164.8	269.6	202.5	455.1	277.9	861.3	440.2
0 0 1	A1-O		127.3	140.6	146.0	152.5	184.9	173.9	269.7	212.7	455.2	289.1	861.5	451.6
0 1 0	A1-O		127.3	140.6	146.0	152.5	184.9	173.9	269.7	212.7	455.2	289.1	861.5	451.6
0 1 1	A1-O		128.1	162.5	146.9	175.7	185.8	199.6	271.0	242.0	456.8	321.9	861.3	486.1
1 0 0	A1-O		137.7	165.9	158.0	178.0	197.8	199.5	282.5	238.8	468.7	315.7	873.5	478.7
1 0 1	A1-O		138.6	196.1	158.3	209.8	198.8	234.2	283.5	277.2	468.7	357.6	875.2	522.4
1 1 0	A1-O		144.2	224.5	166.4	238.5	207.9	263.2	293.6	306.8	479.0	388.2	883.6	553.7
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
	B1-O		140.8	205.5	161.0	219.0	201.3	242.9	287.0	285.3	473.4	365.2	879.3	529.3
	B2-O		146.8	238.3	167.0	252.1	207.4	276.3	293.2	319.3	480.2	399.9	886.0	564.7
	B3-O		147.4	265.0	167.2	279.1	207.8	303.9	293.5	347.4	479.8	428.8	886.3	594.3

Version : AO13ELD

Cell Unit = 9

State	Output Load													
	B1 B2 B3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl								
0 0 0	A1-O		111.3	144.0	122.6	152.0	145.6	166.4	195.1	192.1	302.6	239.8	538.7	336.4
0 0 1	A1-O		111.4	151.3	122.7	159.7	145.7	174.6	195.2	201.2	302.8	250.0	538.9	347.4
0 1 0	A1-O		111.4	151.3	122.7	159.7	145.7	174.6	195.2	201.2	302.8	250.0	538.9	347.4
0 1 1	A1-O		111.6	171.6	122.9	181.3	145.9	198.0	195.4	227.2	303.2	279.5	537.9	379.9
1 0 0	A1-O		118.3	175.3	130.4	183.7	154.2	198.9	204.2	225.8	311.9	275.0	548.0	372.8
1 0 1	A1-O		118.5	202.7	130.6	212.3	154.4	229.5	204.4	259.1	312.1	311.9	548.1	412.9
1 1 0	A1-O		121.6	228.8	135.0	238.6	160.3	256.0	210.4	286.1	318.5	339.6	554.9	441.3
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
	B1-O		143.7	210.0	156.6	219.5	182.2	236.6	233.5	265.7	342.1	318.0	579.9	418.3
	B2-O		149.1	240.0	162.2	249.6	187.8	266.7	238.9	296.3	348.4	349.2	583.8	450.2
	B3-O		149.2	264.4	162.0	274.1	187.6	291.5	239.3	321.7	348.5	375.2	583.6	476.8

Version : AO13HLD

Cell Unit = 11

State	Output Load												
	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
B1	B2	B3	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	A1-O	122.0	170.7	130.2	178.0	147.7	191.5	186.6	216.9	279.5	264.4	508.1	362.8
0 0 1	A1-O	122.1	180.7	130.3	188.1	147.8	202.5	186.7	229.0	279.6	278.2	508.2	378.2
0 1 0	A1-O	122.1	180.7	130.3	188.1	147.8	202.5	186.7	229.0	279.6	278.2	508.2	378.2
0 1 1	A1-O	123.0	209.5	131.1	217.9	148.8	234.3	187.5	264.0	280.6	317.9	509.1	423.2
1 0 0	A1-O	127.1	204.4	136.3	211.9	155.2	226.6	194.8	253.2	288.1	302.8	516.6	403.4
1 0 1	A1-O	128.3	240.4	137.3	248.9	156.2	265.4	195.9	295.4	289.0	349.7	517.5	455.8
1 1 0	A1-O	129.6	266.8	139.9	275.5	160.5	292.3	201.9	322.6	295.5	377.5	524.0	484.2
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl								
	B1-O	155.9	248.1	165.7	256.7	186.2	273.0	228.3	302.7	323.5	356.5	553.4	461.9
	B2-O	161.6	277.7	171.4	286.3	191.9	302.8	234.2	332.7	329.5	387.2	559.2	493.2
	B3-O	161.2	302.1	170.9	310.9	191.4	327.6	233.7	357.9	328.9	412.8	558.7	519.5

Version : AO13KLD

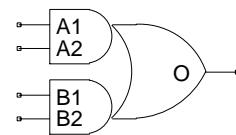
Cell Unit = 14

State	Output Load										89.21 ff		247.7 ff	
	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		89.21 ff	
B1	B2	B3	Path	tplh	tphl	tplh								
0 0 0	A1-O	143.0	203.8	148.8	209.1	162.5	221.3	194.3	246.1	274.4	294.2	493.3	395.9	
0 0 1	A1-O	143.1	220.4	148.9	226.2	162.6	239.3	194.4	265.5	274.5	316.0	493.4	420.7	
0 1 0	A1-O	143.1	220.4	148.9	226.2	162.6	239.3	194.4	265.5	274.5	316.0	493.4	420.7	
0 1 1	A1-O	143.3	269.6	149.2	276.6	162.8	291.7	194.7	321.8	274.8	379.3	493.7	493.3	
1 0 0	A1-O	146.6	239.8	153.1	245.7	167.6	258.7	200.6	285.2	281.2	336.1	500.2	441.2	
1 0 1	A1-O	146.8	296.1	153.3	303.0	167.9	318.3	200.9	348.8	281.5	406.6	500.5	521.2	
1 1 0	A1-O	147.5	319.4	154.6	326.3	170.3	341.6	205.1	372.4	286.8	430.5	505.8	545.7	
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
		tplh	tphl											
	B1-O	202.5	310.3	210.0	317.3	227.5	332.2	265.2	362.6	350.7	420.0	571.9	534.2	
	B2-O	207.8	335.2	215.3	342.1	232.8	357.3	270.5	387.9	356.1	445.7	577.4	560.3	
	B3-O	207.0	356.1	214.6	363.1	231.9	378.4	269.7	409.2	355.4	467.4	576.6	582.5	

Group Name : AO22

Symbol

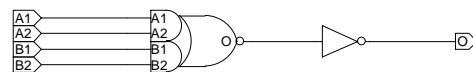
Function : 2 AN2 into OR2



Truth Table

Schematic

A1	A2	B1	B2	O
1	1	X	X	1
X	X	1	1	1
OTHERS				0



Pin Order O A1 A2 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	A2	B1	B2	O	
AO22CLD	1.503	1.639	1.366	1.470	80.65	6.332
AO22ELD	2.240	2.486	2.033	2.210	139.0	10.15
AO22HLD	2.332	2.615	2.112	2.317	281.2	12.64
AO22KLD	2.327	2.602	2.089	2.345	560.4	20.55

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AO22CLD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1 A2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	B1-O	130.6	164.3	149.9	176.9	189.2	199.7	274.5	240.4	460.3	318.6	865.0	481.8
0 1	B1-O	131.4	191.3	150.7	206.4	190.3	232.0	275.3	277.3	461.3	360.2	866.1	526.2
1 0	B1-O	138.2	219.5	158.1	234.6	198.6	260.8	283.6	306.4	468.6	389.9	875.2	556.5
0 0	B2-O	131.7	183.4	150.9	196.5	190.8	219.6	275.5	260.8	460.1	339.4	866.2	503.0
0 1	B2-O	132.0	217.7	151.2	232.7	191.0	259.0	275.8	304.6	461.8	388.1	866.4	554.6
1 0	B2-O	138.6	245.4	158.5	260.6	199.0	287.0	283.9	333.1	468.9	417.1	875.5	584.2
B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	A1-O	156.4	207.0	176.2	221.0	216.1	245.7	301.8	289.6	487.5	371.3	894.7	536.4
0 1	A1-O	149.4	236.5	169.4	251.4	209.9	277.3	295.9	322.5	482.3	405.5	889.2	571.5
1 0	A1-O	156.5	264.3	177.1	279.4	218.1	305.7	304.4	351.3	490.3	434.8	897.5	601.3
0 0	A2-O	155.4	226.5	175.0	240.7	214.9	265.8	300.4	310.1	487.2	392.2	893.0	557.8
0 1	A2-O	148.8	262.5	168.7	277.6	209.0	303.8	295.3	349.4	481.1	432.9	887.6	599.5
1 0	A2-O	155.5	290.0	176.3	305.2	217.3	331.6	303.4	377.7	490.3	461.7	895.2	628.7

Version : AO22ELD

Cell Unit = 10

State	Output Load												
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1 A2		tplh	tphl										
0 0	B1-O	126.5	154.9	138.5	163.6	162.5	178.7	211.9	205.7	320.1	255.1	556.4	353.0
0 1	B1-O	126.9	181.0	138.8	190.8	162.8	208.5	212.1	238.8	320.4	292.7	556.6	394.7
1 0	B1-O	132.3	204.2	144.7	214.2	169.5	232.0	219.4	262.7	327.4	317.0	561.9	419.4
0 0	B2-O	127.1	171.9	139.0	180.4	162.8	195.9	212.6	223.2	319.9	272.9	555.5	371.2
0 1	B2-O	127.4	204.0	139.3	214.0	163.1	231.8	212.9	262.5	320.1	316.9	555.7	419.3
1 0	B2-O	132.6	226.9	145.2	237.0	169.7	254.9	220.3	285.9	327.9	340.6	562.5	443.5
B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0	A1-O	152.4	194.8	164.8	204.3	189.2	220.9	239.2	250.3	347.6	303.0	584.6	403.8
0 1	A1-O	145.4	222.4	157.6	232.4	182.5	249.9	233.0	280.4	341.7	334.3	579.2	436.3
1 0	A1-O	151.5	246.8	164.4	256.7	190.0	274.5	240.6	305.3	349.1	359.6	587.0	462.1
0 0	A2-O	150.9	211.1	163.3	220.4	187.5	237.4	237.9	267.1	346.7	320.0	583.3	421.1
0 1	A2-O	144.0	243.8	156.5	253.7	181.2	271.4	231.4	302.2	340.0	356.5	577.6	458.9
1 0	A2-O	149.8	267.8	162.9	277.8	188.5	295.7	239.7	326.8	347.6	381.5	584.3	484.3

Version : AO22HLD

Cell Unit = 11

State	Output Load												
	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
A1 A2		tplh	tphl										
0 0	B1-O	122.9	169.7	132.5	178.0	153.8	194.2	203.6	225.5	330.8	287.9	664.9	428.3
0 1	B1-O	123.2	202.2	132.8	211.6	154.2	230.6	203.9	266.2	331.1	335.1	665.2	481.5
1 0	B1-O	127.2	226.3	137.5	235.9	159.9	255.0	210.6	290.9	338.0	360.2	672.1	507.2
0 0	B2-O	122.7	187.2	132.3	195.4	153.6	211.8	203.4	243.4	330.5	306.2	664.5	447.0
0 1	B2-O	123.0	225.9	132.6	235.5	153.9	254.6	203.7	290.6	330.8	359.9	664.8	506.9
1 0	B2-O	126.6	249.8	137.0	259.5	159.5	278.7	210.2	315.1	337.6	384.6	671.5	532.1
B1 B2	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
		tplh	tphl										
0 0	A1-O	144.0	206.3	153.8	214.9	175.7	232.4	226.0	266.0	353.9	332.1	688.8	476.1
0 1	A1-O	138.0	239.5	147.9	248.9	169.9	267.8	220.3	303.5	348.2	372.3	683.1	518.8
1 0	A1-O	142.2	264.8	153.0	274.4	176.2	293.6	227.7	329.5	355.8	398.9	690.6	545.9
0 0	A2-O	142.9	223.1	152.6	231.7	174.7	249.3	225.0	283.1	352.8	349.7	687.6	494.1
0 1	A2-O	136.7	261.4	146.7	270.9	168.7	290.1	219.3	326.0	347.3	395.2	682.0	542.2
1 0	A2-O	141.0	286.5	151.7	296.3	175.0	315.5	226.5	351.8	354.6	421.4	689.4	568.9

Version : AO22KLD

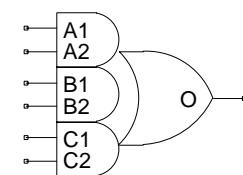
Cell Unit = 14

State	Path	Output Load											
		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
A1 A2	Path	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl		
0 0	B1-O	153.3	228.3	159.6	234.2	174.6	247.5	208.2	274.3	289.5	325.7	508.8	431.5
0 1	B1-O	153.5	279.7	159.8	286.7	174.8	302.2	208.4	333.3	289.8	391.7	509.1	507.4
1 0	B1-O	156.8	305.0	163.8	312.2	179.7	327.7	214.7	359.0	297.1	417.9	516.4	533.9
0 0	B2-O	153.1	246.1	159.4	252.1	174.4	265.5	208.1	292.3	289.5	344.2	508.8	450.5
0 1	B2-O	153.3	304.2	159.7	311.5	174.7	327.0	208.3	358.3	289.7	417.2	509.0	533.3
1 0	B2-O	156.5	329.6	163.5	336.6	179.4	352.4	214.5	383.8	296.9	443.0	516.3	559.5
B1 B2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	
0 0	A1-O	174.8	267.8	181.3	274.0	196.6	287.9	230.7	315.8	312.7	369.9	532.7	479.8
0 1	A1-O	169.4	318.7	175.9	326.0	191.2	341.5	225.4	372.3	307.6	430.8	527.7	546.4
1 0	A1-O	172.8	345.9	180.0	352.8	196.4	368.5	232.3	399.7	315.5	458.5	535.7	574.6
0 0	A2-O	173.4	285.1	179.9	291.3	195.3	305.2	229.4	333.2	311.4	387.7	531.4	498.0
0 1	A2-O	168.0	341.5	174.5	348.7	189.8	364.3	224.1	395.4	306.3	454.2	526.4	570.2
1 0	A2-O	171.4	368.4	178.6	375.4	195.0	391.1	231.0	422.6	314.2	481.7	534.4	598.2

Group Name : AO222

Symbol

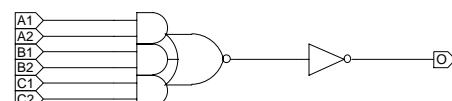
Function : 3 AN2 into OR3



Truth Table

Schematic

A1	A2	B1	B2	C1	C2	O
1	1	X	X	X	X	1
X	X	1	1	X	X	1
X	X	X	X	1	1	1
OTHERS						0



Pin Order O A1 A2 B1 B2 C1 C2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance						Maximum Loading	Power Consumption
	A1	A2	B1	B2	C1	C2		
AO222CLD	1.895	2.065	1.733	1.947	1.661	1.843	80.49	9.351
AO222ELD	2.042	2.219	1.882	2.118	1.654	2.046	138.5	11.04
AO222HLD	2.146	2.361	1.804	2.211	2.004	2.096	279.9	14.73
AO222KLD	2.146	2.361	1.805	2.212	2.006	2.096	558.0	22.33

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AO222CLD

Cell Unit = 12

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1 A2 B1 B2	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
0 0 0 0	C1-O	152.5	170.6	172.5	185.0	212.8	209.8	298.1	254.2	483.9	336.6	888.8	502.4
0 0 0 1	C1-O	152.8	193.5	172.8	209.6	213.0	237.2	298.4	285.3	484.2	372.1	889.0	541.2
0 0 1 0	C1-O	158.5	214.9	179.5	231.0	220.3	259.0	305.5	307.5	491.8	394.8	896.0	564.3
0 1 0 0	C1-O	152.7	185.8	172.7	201.7	212.9	229.8	298.2	278.8	484.0	367.3	888.9	538.4
0 1 0 1	C1-O	152.9	209.2	172.9	226.6	213.1	257.2	298.5	309.6	484.3	402.3	889.1	577.0
0 1 1 0	C1-O	158.6	234.7	179.6	252.6	220.4	283.4	305.6	336.4	491.9	429.6	896.1	604.9
1 0 0 0	C1-O	158.4	207.0	179.4	223.2	220.2	251.6	305.5	301.2	491.8	390.2	895.9	561.7
1 0 0 1	C1-O	158.7	235.1	179.7	253.0	220.4	283.8	305.8	336.8	492.1	430.0	896.3	605.3
1 0 1 0	C1-O	164.3	260.9	186.3	278.9	228.1	310.1	314.2	363.5	500.4	457.2	905.1	632.9
0 0 0 0	C2-O	152.4	187.4	172.4	201.8	212.6	227.1	297.9	271.9	483.2	354.7	888.9	520.9
0 0 0 1	C2-O	152.7	214.8	172.7	231.0	212.9	259.1	298.2	307.6	483.6	394.9	889.1	564.5
0 0 1 0	C2-O	158.3	236.0	179.2	252.4	220.2	280.6	305.6	329.5	491.6	417.2	895.7	587.1
0 1 0 0	C2-O	152.5	206.7	172.5	222.9	212.7	251.3	298.0	300.9	483.4	390.0	889.0	561.6
0 1 0 1	C2-O	152.8	234.7	172.8	252.6	213.0	283.4	298.3	336.6	483.7	429.8	889.2	605.1
0 1 1 0	C2-O	158.4	260.3	179.3	278.4	220.3	309.6	305.6	363.0	491.7	456.7	895.8	632.5
1 0 0 0	C2-O	158.2	227.8	179.2	244.3	220.1	273.0	305.5	323.0	491.6	412.5	895.7	584.5
1 0 0 1	C2-O	158.5	260.7	179.4	278.7	220.4	309.9	305.8	363.4	491.9	457.1	896.0	632.9
1 0 1 0	C2-O	164.0	286.5	186.0	304.6	227.8	336.2	314.3	389.8	500.1	483.9	905.5	660.2
A1 A2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0 0	B1-O	190.2	233.3	210.9	249.0	252.1	276.5	337.9	324.6	524.4	411.3	932.0	580.2
0 0 0 1	B1-O	181.1	259.5	202.2	275.5	243.7	303.4	329.9	351.6	515.7	438.5	924.1	607.7
0 0 1 0	B1-O	187.9	282.5	209.6	298.7	251.9	326.8	338.7	375.4	525.5	462.8	932.6	632.3
0 1 0 0	B1-O	190.6	271.3	211.3	288.9	252.5	319.7	338.3	372.9	524.9	466.3	932.4	641.7
0 1 0 1	B1-O	181.6	298.8	202.7	316.4	244.2	347.2	330.4	399.9	516.1	492.8	924.5	667.6
0 1 1 0	B1-O	188.3	326.7	210.1	344.7	252.3	375.6	339.2	428.9	525.9	522.2	933.1	697.6
1 0 0 0	B1-O	196.7	293.6	218.2	311.3	259.9	342.5	346.4	396.0	533.5	489.8	938.8	665.6
1 0 0 1	B1-O	187.8	324.9	209.5	342.9	251.6	373.8	338.5	427.0	525.2	520.2	932.4	695.6
1 0 1 0	B1-O	194.2	353.1	217.0	371.0	260.3	402.4	347.0	455.8	533.5	549.6	941.5	725.4
0 0 0 0	B2-O	188.2	249.2	208.9	264.9	250.3	292.7	335.7	341.1	522.2	428.1	930.3	597.4
0 0 0 1	B2-O	179.3	278.9	200.1	295.0	241.7	323.1	328.2	371.7	514.7	459.0	922.2	628.5
0 0 1 0	B2-O	185.9	301.7	207.6	318.0	250.0	346.3	336.8	395.2	523.9	482.9	929.3	652.9
0 1 0 0	B2-O	188.6	291.4	209.3	309.1	250.7	340.2	336.2	393.8	522.5	487.6	930.7	663.4
0 1 0 1	B2-O	179.8	322.4	200.5	340.3	242.1	371.2	328.3	424.4	515.2	517.6	922.6	693.0
0 1 1 0	B2-O	186.3	350.1	208.0	368.2	250.4	399.4	337.2	452.9	524.3	546.7	929.9	722.5
1 0 0 0	B2-O	194.7	313.5	216.0	331.2	258.1	362.6	344.5	416.4	530.6	510.6	938.2	686.7
1 0 0 1	B2-O	185.8	348.3	207.4	366.4	249.8	397.6	336.5	451.1	523.7	544.8	928.9	720.5
1 0 1 0	B2-O	192.1	376.3	215.0	394.3	258.1	425.9	346.0	479.6	533.0	573.8	939.7	750.1

B1 B2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0	A1-O	213.1	268.7	235.0	284.7	277.9	313.1	365.9	362.8	554.4	451.9	961.9	623.3
0 0 0 1	A1-O	198.2	297.2	220.8	313.4	264.5	341.9	353.1	391.3	541.9	480.1	951.7	651.3
0 0 1 0	A1-O	205.6	320.2	228.7	336.6	273.2	365.4	362.4	415.1	550.7	504.4	960.6	676.0
0 1 0 0	A1-O	207.3	305.2	229.0	323.1	271.7	353.6	359.6	406.8	548.1	500.2	956.0	675.6
0 1 0 1	A1-O	193.9	332.7	216.2	350.3	259.7	381.1	347.9	433.8	536.7	526.7	946.3	701.6
0 1 1 0	A1-O	201.2	360.8	224.0	378.6	268.3	409.7	357.2	462.8	545.3	556.1	955.2	731.5
1 0 0 0	A1-O	213.6	327.1	236.1	344.9	279.1	375.9	367.7	429.5	556.3	523.3	964.3	699.1
1 0 0 1	A1-O	200.6	358.5	223.3	376.4	267.5	407.4	356.4	460.5	544.5	553.8	954.3	729.1
1 0 1 0	A1-O	207.2	386.5	231.2	404.6	276.3	435.9	365.7	489.4	554.5	583.1	963.3	758.9
0 0 0 0	A2-O	211.1	284.6	233.0	300.9	276.1	329.6	363.3	379.5	551.6	469.0	960.0	640.6
0 0 0 1	A2-O	195.9	316.9	218.3	333.3	262.1	362.0	351.4	411.7	541.0	501.0	948.5	672.5
0 0 1 0	A2-O	203.1	339.7	226.4	356.3	270.6	385.3	360.0	435.3	549.8	524.9	956.9	696.9
0 1 0 0	A2-O	205.1	325.5	226.8	343.3	269.9	374.4	357.1	427.9	545.7	521.7	954.6	697.5
0 1 0 1	A2-O	191.6	356.7	213.7	374.5	257.3	405.7	346.4	458.7	535.7	552.0	943.4	727.3
0 1 1 0	A2-O	198.7	384.4	221.7	402.7	265.9	433.8	354.6	487.3	544.2	581.0	952.3	756.8
1 0 0 0	A2-O	211.6	347.3	233.9	365.2	277.5	396.4	365.5	450.3	552.7	544.5	962.5	720.6
1 0 0 1	A2-O	198.0	382.3	221.1	400.4	265.1	431.6	353.9	485.0	543.6	578.6	952.3	754.4
1 0 1 0	A2-O	204.7	409.9	228.9	428.1	274.0	459.7	364.1	513.4	553.1	607.6	961.2	783.8

Version : AO222ELD

Cell Unit = 12

State	Output Load													
	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff			
A1 A2 B1 B2		Path	tplh	tphl										
0 0 0 0	C1-O		141.8	186.1	154.6	196.4	179.4	214.8	229.5	245.9	337.7	301.2	574.0	404.6
0 0 0 1	C1-O		142.0	210.1	154.8	221.5	179.6	241.7	229.7	276.0	337.9	335.3	574.1	443.1
0 0 1 0	C1-O		147.0	234.5	160.5	246.1	186.2	266.3	237.3	301.0	344.4	360.6	580.4	468.9
0 1 0 0	C1-O		141.9	203.1	154.7	214.5	179.5	235.0	229.6	269.5	337.8	329.7	574.0	439.4
0 1 0 1	C1-O		142.1	227.5	154.8	240.0	179.7	262.1	229.7	299.6	338.0	363.5	574.2	477.3
0 1 1 0	C1-O		147.1	256.4	160.5	269.1	186.2	291.4	237.4	329.3	344.5	393.7	580.5	508.1
1 0 0 0	C1-O		147.0	227.4	160.4	239.0	186.2	259.6	237.3	294.7	344.5	355.5	580.5	465.5
1 0 0 1	C1-O		147.2	256.8	160.6	269.6	186.4	291.9	237.5	329.8	344.7	394.3	580.7	508.6
1 0 1 0	C1-O		152.0	286.1	166.2	298.9	193.2	321.4	245.1	359.7	352.8	424.4	589.4	539.2
0 0 0 0	C2-O		142.9	190.0	155.6	200.1	180.3	217.9	230.3	248.8	338.6	303.7	574.8	406.8
0 0 0 1	C2-O		143.1	219.4	155.9	230.6	180.6	250.4	230.5	284.5	338.8	343.6	575.0	451.2
0 0 1 0	C2-O		148.0	241.5	161.4	252.8	187.1	272.9	238.4	307.1	345.5	366.5	581.5	474.6
0 1 0 0	C2-O		143.0	211.2	155.7	222.5	180.4	242.6	230.4	277.4	338.7	337.6	574.9	447.2
0 1 0 1	C2-O		143.2	241.3	155.9	253.8	180.6	275.8	230.6	313.3	338.9	377.4	575.0	491.3
0 1 1 0	C2-O		148.1	268.1	161.5	280.8	187.2	303.0	238.4	340.8	345.6	405.2	581.6	519.6
1 0 0 0	C2-O		148.0	233.4	161.3	245.0	187.1	265.2	238.3	300.3	345.5	360.9	581.5	470.9
1 0 0 1	C2-O		148.2	268.6	161.6	281.2	187.3	303.5	238.6	341.3	346.1	405.7	581.3	520.1
1 0 1 0	C2-O		152.9	295.5	167.1	308.3	194.2	330.7	246.1	368.7	353.9	433.5	590.5	548.3
A1 A2 C1 C2		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
0 0 0 0	B1-O		176.1	236.2	189.1	247.0	214.7	266.4	265.6	299.5	373.9	357.7	612.3	464.5
0 0 0 1	B1-O		166.6	274.3	180.1	285.8	205.7	305.9	257.2	340.3	365.9	399.6	602.3	507.5
0 0 1 0	B1-O		174.7	285.3	188.8	296.7	215.5	316.5	267.4	350.7	377.1	409.7	612.7	517.4
0 1 0 0	B1-O		176.5	275.7	189.5	287.8	215.1	309.5	266.0	346.8	374.5	410.6	612.7	524.3
0 1 0 1	B1-O		167.0	315.5	180.4	328.1	206.1	350.2	257.7	387.9	366.3	451.9	602.8	565.8
0 1 1 0	B1-O		175.1	331.3	189.2	343.8	215.9	365.9	267.8	403.4	377.5	467.6	613.4	581.5
1 0 0 0	B1-O		181.7	299.5	195.5	311.7	222.1	333.5	273.9	371.1	382.3	435.4	619.5	549.5
1 0 0 1	B1-O		172.4	344.9	186.5	357.7	213.0	380.0	265.1	417.9	374.7	482.5	610.3	596.9
1 0 1 0	B1-O		180.0	358.7	195.1	371.4	222.7	393.7	276.2	431.5	385.8	496.0	622.4	610.3
0 0 0 0	B2-O		173.9	253.2	186.9	264.1	212.7	283.5	264.1	316.9	373.0	375.4	609.7	482.5
0 0 0 1	B2-O		164.4	296.4	177.9	308.0	203.6	328.3	255.2	363.0	363.8	422.7	600.3	531.0
0 0 1 0	B2-O		172.4	305.4	186.7	316.8	213.2	336.8	265.8	371.2	374.8	430.6	611.2	538.6
0 1 0 0	B2-O		174.2	297.1	187.3	309.3	213.1	331.2	264.5	368.7	373.3	432.9	610.3	547.0
0 1 0 1	B2-O		164.8	342.0	178.3	354.7	203.9	377.2	255.5	415.1	364.2	479.5	600.8	593.9
0 1 1 0	B2-O		172.8	355.8	187.1	368.3	213.6	390.6	266.1	428.4	375.1	492.9	611.5	607.3
1 0 0 0	B2-O		179.6	320.7	193.4	333.0	219.8	354.9	271.4	392.8	380.9	457.3	617.0	571.8
1 0 0 1	B2-O		170.4	371.3	184.3	384.1	210.9	406.8	263.5	445.0	372.7	509.7	609.3	624.6
1 0 1 0	B2-O		178.0	383.0	192.9	395.7	220.7	418.2	274.2	456.2	383.9	520.9	621.1	635.8

B1 B2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0	A1-O	195.5	270.3	209.6	281.3	236.5	301.1	289.3	335.4	399.5	395.4	637.4	504.6
0 0 0 1	A1-O	179.3	311.4	193.5	323.0	221.0	343.5	275.3	378.3	386.8	438.8	625.1	548.5
0 0 1 0	A1-O	190.1	321.5	205.2	333.0	233.3	353.1	287.5	388.1	399.5	448.5	638.7	558.1
0 1 0 0	A1-O	190.3	307.8	204.3	320.1	231.1	341.7	283.7	378.9	394.3	442.8	633.0	556.4
0 1 0 1	A1-O	176.1	347.3	190.0	360.0	217.3	382.2	271.3	419.8	382.4	483.9	620.5	597.8
0 1 1 0	A1-O	186.1	363.2	201.1	375.8	228.9	397.7	282.9	435.3	394.6	499.5	633.7	613.5
1 0 0 0	A1-O	196.0	331.3	210.5	343.5	238.1	365.4	291.3	402.9	401.7	467.1	639.4	581.1
1 0 0 1	A1-O	181.7	376.5	196.6	389.2	224.3	411.6	278.7	449.5	389.8	514.0	629.3	628.4
1 0 1 0	A1-O	191.1	390.4	207.0	403.0	236.1	425.3	291.2	463.0	402.6	527.5	640.5	641.9
0 0 0 0	A2-O	193.5	287.6	207.3	298.6	234.3	318.6	287.6	353.2	397.9	413.5	636.9	523.1
0 0 0 1	A2-O	176.5	333.9	191.1	345.5	218.4	366.2	272.6	401.4	384.6	462.3	624.2	572.5
0 0 1 0	A2-O	187.3	342.0	202.6	353.6	230.7	373.8	285.4	409.0	397.0	469.7	635.9	579.8
0 1 0 0	A2-O	188.2	329.7	202.0	341.9	228.8	363.8	282.0	401.3	392.2	465.5	629.8	579.5
0 1 0 1	A2-O	173.2	374.6	187.7	387.2	214.8	409.6	268.5	447.6	380.2	512.0	619.6	626.4
0 1 1 0	A2-O	183.4	388.2	198.5	400.9	226.5	423.0	280.8	460.8	392.2	525.4	630.9	639.8
1 0 0 0	A2-O	193.8	352.8	208.4	365.2	235.7	387.2	289.1	425.0	400.2	489.4	638.8	603.9
1 0 0 1	A2-O	178.9	403.2	193.9	416.1	221.9	438.7	276.5	476.9	388.2	541.7	627.3	656.5
1 0 1 0	A2-O	188.5	415.1	204.5	427.7	233.7	450.1	289.0	488.2	400.0	553.0	640.0	667.8

Version : AO222HLD

Cell Unit = 13

State	Path	Output Load														
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff				
A1	A2	B1	B2	tplh	tphl											
0	0	0	0	C1-O	146.5	215.2	155.9	224.0	175.1	241.1	215.8	272.1	309.5	328.4	538.3	436.9
0	0	0	1	C1-O	146.8	262.4	156.2	272.8	175.4	292.6	216.1	328.2	309.8	391.5	538.6	509.2
0	0	1	0	C1-O	150.7	272.5	160.7	282.3	181.1	301.3	223.0	335.9	317.2	397.1	546.0	512.0
0	1	0	0	C1-O	146.6	242.6	156.0	252.9	175.2	272.0	215.9	306.8	309.6	369.2	538.4	486.2
0	1	0	1	C1-O	146.9	290.9	156.2	302.1	175.5	324.1	216.2	363.1	309.9	432.0	538.7	557.4
0	1	1	0	C1-O	150.7	306.4	160.7	317.4	181.2	338.8	223.1	376.6	317.3	443.6	546.1	566.5
1	0	0	0	C1-O	150.5	269.0	160.6	279.0	181.0	298.7	222.9	333.8	317.1	396.5	545.9	513.9
1	0	0	1	C1-O	150.8	325.1	160.8	336.5	181.2	358.7	223.2	398.1	317.4	467.2	546.2	593.1
1	0	1	0	C1-O	154.4	337.8	165.2	349.1	186.8	370.4	230.0	408.5	325.0	476.0	553.8	599.4
0	0	0	0	C2-O	147.0	235.9	156.3	244.9	175.6	262.0	216.4	293.3	310.1	350.0	538.8	459.0
0	0	0	1	C2-O	147.3	290.8	156.6	301.2	175.9	321.4	216.7	357.4	310.4	421.0	539.1	539.1
0	0	1	0	C2-O	151.0	297.9	161.0	308.1	181.4	327.1	223.4	361.8	317.6	423.5	546.4	539.0
0	1	0	0	C2-O	147.1	268.9	156.4	278.9	175.7	298.6	216.5	333.8	310.2	396.6	539.0	514.0
0	1	0	1	C2-O	147.3	325.0	156.7	336.5	175.9	358.7	216.8	398.1	310.5	467.2	539.2	593.3
0	1	1	0	C2-O	151.1	337.5	161.1	348.8	181.5	370.1	223.5	408.3	317.7	475.8	546.5	599.2
1	0	0	0	C2-O	150.9	295.1	160.9	305.3	181.3	324.8	223.3	360.5	317.5	423.6	546.3	541.5
1	0	0	1	C2-O	151.2	358.8	161.2	370.7	181.6	392.8	223.6	432.4	317.8	502.0	546.6	628.5
1	0	1	0	C2-O	154.7	368.8	165.4	379.9	187.0	401.6	230.4	440.0	325.4	507.7	554.2	631.7
A1 A2 C1 C2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff				
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl			
0	0	0	0	B1-O	172.9	292.6	182.4	302.4	202.3	321.2	243.6	355.6	338.0	417.4	567.6	533.4
0	0	0	1	B1-O	166.0	329.3	175.7	339.7	195.7	359.4	237.2	395.1	331.7	458.5	561.3	576.2
0	0	1	0	B1-O	170.3	360.4	180.8	370.6	202.2	390.7	245.1	426.7	340.2	490.4	569.8	608.5
0	1	0	0	B1-O	173.2	341.1	182.7	351.7	202.5	372.8	243.9	411.2	338.3	479.2	567.8	603.9
0	1	0	1	B1-O	166.3	378.6	176.0	389.8	195.9	411.8	237.4	450.8	332.0	519.7	561.6	645.1
0	1	1	0	B1-O	170.5	415.6	181.1	427.0	202.4	449.2	245.3	488.6	340.4	557.8	570.0	683.9
1	0	0	0	B1-O	177.0	370.1	187.3	381.1	208.4	402.4	250.9	440.8	345.8	509.4	575.3	634.5
1	0	0	1	B1-O	170.2	412.5	180.6	424.0	201.8	446.2	244.5	485.5	339.6	554.6	569.2	680.6
1	0	1	0	B1-O	174.2	449.4	185.6	461.2	208.1	483.5	252.3	523.1	348.2	592.7	577.9	719.2
0	0	0	0	B2-O	172.4	287.5	182.0	296.6	201.9	314.6	243.2	347.5	337.7	407.0	567.2	519.8
0	0	0	1	B2-O	165.5	328.5	175.2	338.5	195.1	357.5	236.8	391.9	331.4	453.2	561.0	568.2
0	0	1	0	B2-O	169.6	356.3	180.3	366.2	201.6	385.7	244.5	420.1	339.8	481.8	569.4	597.2
0	1	0	0	B2-O	172.8	341.6	182.3	352.0	202.3	372.2	243.5	409.4	338.0	475.4	567.6	597.3
0	1	0	1	B2-O	165.9	383.9	175.5	394.9	195.5	416.1	237.1	454.0	331.7	521.1	561.3	644.0
0	1	1	0	B2-O	170.0	417.8	180.6	428.8	201.9	450.3	244.9	488.4	340.1	555.9	569.7	679.4
1	0	0	0	B2-O	176.7	367.9	186.9	378.6	208.0	398.8	250.6	436.0	345.5	502.6	575.1	624.9
1	0	0	1	B2-O	169.6	414.9	180.2	426.0	201.3	447.5	244.1	485.6	339.3	552.9	568.9	676.3
1	0	1	0	B2-O	173.6	448.7	185.1	460.1	207.6	481.6	251.8	520.0	347.7	587.8	577.5	711.7

B1 B2 C1 C2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0 0	A1-O	189.7	304.2	199.7	313.5	220.2	331.9	262.7	365.7	358.5	426.9	589.2	542.5
0 0 0 1	A1-O	178.6	343.3	188.8	353.3	209.8	372.5	252.7	407.6	349.2	470.0	580.5	587.0
0 0 1 0	A1-O	183.1	371.9	194.3	382.1	216.6	401.7	260.9	436.7	358.0	499.7	589.3	617.2
0 1 0 0	A1-O	184.7	368.7	194.8	379.7	215.3	400.6	257.6	439.0	353.3	507.2	584.0	631.8
0 1 0 1	A1-O	175.1	406.4	185.1	417.8	205.9	439.7	248.6	478.8	345.0	547.7	576.2	673.1
0 1 1 0	A1-O	179.5	443.5	190.6	455.0	212.7	477.1	256.8	516.5	353.7	585.9	584.8	711.9
1 0 0 0	A1-O	189.9	372.9	200.7	383.3	222.4	403.6	266.0	440.5	362.2	506.7	592.9	628.6
1 0 0 1	A1-O	180.0	415.6	190.9	426.5	212.9	447.9	257.0	485.8	353.8	552.7	584.9	675.7
1 0 1 0	A1-O	184.2	449.7	196.1	460.9	219.5	482.3	265.0	520.5	362.6	587.9	593.8	711.4
0 0 0 0	A2-O	188.0	323.7	198.0	333.2	218.6	351.5	261.1	385.6	357.0	447.1	587.7	563.1
0 0 0 1	A2-O	176.7	367.0	186.9	377.3	208.0	396.6	251.1	431.8	347.7	494.7	579.0	612.1
0 0 1 0	A2-O	181.2	395.5	192.4	405.6	214.7	425.5	259.2	460.7	356.4	524.0	587.7	641.9
0 1 0 0	A2-O	183.0	395.3	193.1	406.1	213.6	427.5	256.0	466.0	351.8	534.5	582.5	659.6
0 1 0 1	A2-O	173.2	437.4	183.3	448.7	204.2	470.9	247.0	510.2	343.5	579.4	574.6	705.4
0 1 1 0	A2-O	177.6	474.0	188.7	485.6	210.9	507.9	255.1	547.5	352.1	617.1	583.3	743.7
1 0 0 0	A2-O	188.1	396.7	198.9	407.1	220.7	427.7	264.4	464.9	360.7	531.2	591.4	653.5
1 0 0 1	A2-O	178.1	443.6	189.0	454.6	211.1	476.1	255.3	514.3	352.2	581.7	583.4	705.1
1 0 1 0	A2-O	182.2	477.6	194.2	488.7	217.7	510.3	263.3	548.7	361.0	616.5	592.2	740.5

Version : AO222KLD

Cell Unit = 16

State	Output Load													
	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff			
A1 A2 B1 B2		Path	tplh	tphl										
0 0 0 0	C1-O		180.2	289.4	187.3	296.6	203.9	312.8	239.9	345.0	323.2	405.7	542.9	524.4
0 0 0 1	C1-O		180.4	361.6	187.6	370.0	204.2	389.1	240.2	426.4	323.5	495.7	543.2	627.2
0 0 1 0	C1-O		183.3	363.1	191.1	371.3	208.5	389.6	246.1	425.3	330.6	492.0	550.6	619.6
0 1 0 0	C1-O		180.3	335.2	187.4	343.3	204.0	361.9	240.0	398.2	323.3	465.8	543.0	595.6
0 1 0 1	C1-O		180.5	408.5	187.7	418.1	204.3	438.9	240.3	479.9	323.5	555.6	543.2	697.0
0 1 1 0	C1-O		183.3	415.7	191.1	424.8	208.6	444.8	246.1	484.5	330.7	557.9	550.7	695.7
1 0 0 0	C1-O		183.2	361.7	191.0	369.9	208.4	388.5	246.0	425.0	330.5	493.1	550.5	623.1
1 0 0 1	C1-O		183.4	443.0	191.2	452.4	208.7	473.3	246.2	514.6	330.8	590.6	550.7	732.5
1 0 1 0	C1-O		186.1	447.1	194.5	456.3	213.0	476.7	252.0	516.6	337.9	590.1	558.2	728.4
0 0 0 0	C2-O		179.9	309.8	187.1	317.1	203.6	333.4	239.7	365.8	323.0	426.7	542.7	545.8
0 0 0 1	C2-O		180.2	389.4	187.3	398.1	203.9	417.3	239.9	454.8	323.3	524.4	543.0	656.3
0 0 1 0	C2-O		183.0	388.2	190.7	396.7	208.2	415.0	245.8	450.8	330.4	517.9	550.3	645.8
0 1 0 0	C2-O		180.0	361.1	187.2	369.3	203.7	387.9	239.8	424.4	323.1	492.5	542.8	622.7
0 1 0 1	C2-O		180.3	442.2	187.4	451.6	204.0	472.6	240.0	513.9	323.3	589.9	543.0	731.9
0 1 1 0	C2-O		183.1	446.2	190.8	455.6	208.2	475.8	245.8	515.7	330.4	589.3	550.4	727.6
1 0 0 0	C2-O		182.9	387.3	190.6	395.9	208.1	414.5	245.7	451.1	330.3	519.5	550.2	650.0
1 0 0 1	C2-O		183.1	476.1	190.8	485.7	208.3	506.7	245.9	548.3	330.5	624.7	550.5	767.1
1 0 1 0	C2-O		185.8	477.7	194.0	486.9	212.6	507.2	251.6	547.3	337.7	621.3	558.0	760.1
A1 A2 C1 C2		Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
0 0 0 0	B1-O		206.3	375.2	213.7	383.1	230.5	400.3	267.0	435.4	351.0	501.3	571.5	628.6
0 0 0 1	B1-O		199.8	428.1	207.2	436.4	224.2	455.5	260.8	492.8	345.0	562.1	565.6	693.6
0 0 1 0	B1-O		203.0	458.9	211.1	467.9	229.1	486.8	267.5	524.3	353.1	593.9	574.0	725.9
0 1 0 0	B1-O		206.5	441.9	213.9	450.8	230.8	470.4	267.2	509.4	351.3	582.5	571.8	720.8
0 1 0 1	B1-O		200.1	495.6	207.4	505.2	224.5	526.0	261.1	567.0	345.2	642.6	565.8	784.1
0 1 1 0	B1-O		203.3	532.9	211.3	542.5	229.4	563.4	267.8	604.7	353.4	680.7	574.2	822.7
1 0 0 0	B1-O		209.5	471.4	217.4	480.1	235.3	500.0	273.3	539.1	358.6	612.5	579.4	751.2
1 0 0 1	B1-O		203.0	529.7	211.0	539.3	228.9	560.2	267.1	601.5	352.6	677.5	573.4	819.4
1 0 1 0	B1-O		206.0	567.0	214.7	576.5	233.8	597.6	273.6	639.2	360.7	715.5	581.9	858.0
0 0 0 0	B2-O		205.6	361.0	213.0	368.3	229.8	385.3	266.4	418.1	350.4	481.2	570.9	604.0
0 0 0 1	B2-O		199.0	418.2	206.4	426.6	223.5	444.8	260.0	480.4	344.2	547.1	564.8	674.7
0 0 1 0	B2-O		202.2	446.3	210.4	454.4	228.4	472.8	266.8	508.8	352.4	575.7	573.3	703.8
0 1 0 0	B2-O		206.0	433.6	213.4	442.1	230.2	461.0	266.7	498.3	350.8	568.8	571.3	703.2
0 1 0 1	B2-O		199.4	491.9	206.8	500.9	223.8	521.2	260.4	560.8	344.6	634.1	565.2	771.9
0 1 1 0	B2-O		202.6	525.9	210.7	535.2	228.7	555.4	267.1	595.3	352.7	669.0	573.6	807.4
1 0 0 0	B2-O		208.9	460.1	216.7	468.8	234.7	487.8	272.7	525.3	358.0	595.9	578.8	730.7
1 0 0 1	B2-O		202.3	523.1	210.4	532.4	228.2	552.6	266.4	592.4	351.9	666.1	572.8	804.3
1 0 1 0	B2-O		205.3	557.2	214.0	566.6	233.2	587.0	273.0	627.0	360.0	700.9	581.3	839.7

B1 B2 C1 C2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0 0 0	A1-O	224.0	380.3	231.6	387.7	249.1	405.0	286.5	438.5	371.8	503.2	593.5	628.9
0 0 0 1	A1-O	213.9	435.3	221.5	443.8	239.1	462.2	277.1	498.4	363.0	566.2	585.3	695.9
0 0 1 0	A1-O	217.1	464.4	225.5	472.6	244.4	491.2	284.0	527.7	371.4	595.7	594.0	725.9
0 1 0 0	A1-O	219.2	469.8	226.7	478.5	244.1	498.3	281.4	537.2	366.7	610.3	588.4	748.7
0 1 0 1	A1-O	210.1	523.6	217.8	533.1	235.2	553.9	273.0	594.9	358.7	670.6	580.9	812.0
0 1 1 0	A1-O	213.4	560.8	221.7	570.4	240.5	591.3	279.9	632.6	367.0	708.7	589.5	850.7
1 0 0 0	A1-O	223.2	465.6	231.4	473.8	249.8	492.8	288.8	530.2	375.3	600.6	597.2	735.0
1 0 0 1	A1-O	214.0	524.3	222.2	533.4	240.9	553.5	280.1	593.1	367.2	666.5	589.6	804.3
1 0 1 0	A1-O	217.1	558.5	226.0	567.9	245.9	588.1	286.9	628.0	375.5	701.6	598.3	840.0
0 0 0 0	A2-O	222.2	399.4	229.9	407.0	247.3	424.2	284.8	457.9	370.2	522.8	591.9	648.9
0 0 0 1	A2-O	212.0	458.7	219.6	467.3	237.2	485.8	275.2	522.2	361.2	590.2	583.6	720.3
0 0 1 0	A2-O	215.2	487.6	223.5	495.8	242.6	514.5	282.2	551.2	369.6	619.5	592.3	750.1
0 1 0 0	A2-O	217.4	495.8	225.0	504.7	242.4	524.5	279.7	563.6	365.0	636.9	586.8	775.7
0 1 0 1	A2-O	208.2	554.0	215.9	563.4	233.4	584.3	271.2	625.6	357.0	701.5	579.2	843.4
0 1 1 0	A2-O	211.5	590.7	219.8	600.4	238.7	621.5	278.0	663.0	365.3	739.3	587.8	881.8
1 0 0 0	A2-O	221.5	489.0	229.7	497.3	248.1	516.3	287.0	553.9	373.6	624.7	595.6	759.4
1 0 0 1	A2-O	212.1	551.9	220.3	561.1	239.0	581.3	278.3	621.2	365.4	694.7	587.9	833.0
1 0 1 0	A2-O	215.2	586.0	224.0	595.3	244.0	615.6	285.1	655.7	373.7	729.7	596.6	868.5

Group Name : AO2222

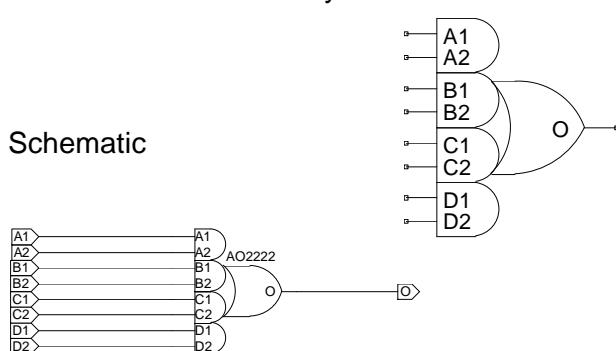
Symbol

Function : 4 AN2 into OR4

## Truth Table

A1 A2	B1 B2	C1 C2	D1 D2	O
1 X	1 X	X X	X X	1 1
X X	1 X	1 X	X X	1 1
X X	X X	X X	1 1	X X
X X	X X	X X	X 1	1 1
OTHERS				0

## Schematic



Pin Order O A1 A2 B1 B2 C1 C2 D1 D2

## Input Capacitance (ff) &amp; Maximum Loading (ff)

Version	Input Capacitance									Maximum Loading
	A1	A2	B1	B2	C1	C2	D1	D2	O	
AO2222BLD	1.381	1.586	1.304	1.499	1.400	1.606	1.319	1.442	54.36	
AO2222CLD	1.492	1.699	1.404	1.628	1.522	1.740	1.431	1.581	81.44	
AO2222ELD	2.206	2.375	2.031	2.340	2.267	2.523	2.058	2.291	129.8	
AO2222HLD	2.291	2.374	2.106	2.437	2.343	2.617	2.132	2.389	261.7	

## Power Consumption (nW/MHz)

Version	Power Consumption	
	O	
AO2222BLD	7.378	
AO2222CLD	8.553	
AO2222ELD	13.87	
AO2222HLD	22.00	

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AO2222BLD

Cell Unit = 16

State A1 A2 B1 B2 C1 C2	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0 0 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.1	256.4	650.3	353.2
0 0 0 0 0 1	D1-O	174.4	196.7	201.2	212.0	258.7	240.1	381.3	292.1	650.1	392.6
0 0 0 0 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.5	666.2	430.8
0 0 0 1 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.1	256.4	650.3	353.2
0 0 0 1 0 1	D1-O	174.4	196.7	201.1	212.0	258.7	240.1	381.3	292.1	650.1	392.6
0 0 0 1 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.4	666.2	430.8
0 0 1 0 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.1	256.4	650.3	353.2
0 0 1 0 0 1	D1-O	174.4	196.7	201.1	212.0	258.7	240.1	381.3	292.1	650.1	392.6
0 0 1 0 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.4	666.2	430.8
0 1 0 0 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.1	256.4	650.3	353.2
0 1 0 0 0 1	D1-O	174.4	196.7	201.1	212.0	258.7	240.1	381.3	292.1	650.1	392.6
0 1 0 0 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.4	666.2	430.8
0 1 0 1 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.0	256.4	650.3	353.1
0 1 0 1 0 1	D1-O	174.4	196.7	201.1	212.0	258.7	240.1	381.3	292.1	650.1	392.6
0 1 0 1 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.4	666.2	430.8
0 1 1 0 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.0	256.4	650.3	353.1
0 1 1 0 0 1	D1-O	174.4	196.7	201.1	212.0	258.7	240.1	381.3	292.1	650.1	392.6
0 1 1 0 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.4	666.2	430.8
1 0 0 0 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.1	256.4	650.3	353.2
1 0 0 0 0 1	D1-O	174.4	196.7	201.1	212.0	258.7	240.1	381.3	292.1	650.1	392.6
1 0 0 0 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.4	666.2	430.8
1 0 0 1 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.0	256.4	650.3	353.1
1 0 0 1 0 1	D1-O	174.4	196.7	201.1	212.0	258.7	240.1	381.3	292.1	650.1	392.6
1 0 0 1 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.4	666.2	430.8
1 0 1 0 0 0	D1-O	173.7	169.2	200.5	182.7	257.9	207.8	381.0	256.4	650.3	353.1
1 0 1 0 0 1	D1-O	174.4	196.7	201.1	212.0	258.7	240.1	381.3	292.1	650.1	392.6
1 0 1 0 1 0	D1-O	188.2	232.7	216.3	248.3	274.1	276.9	397.1	329.4	666.2	430.8
0 0 0 0 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.8	648.2	367.8
0 0 0 0 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5
0 0 0 0 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8
0 0 0 1 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.7	648.2	367.8
0 0 0 1 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5
0 0 0 1 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8
0 0 1 0 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.7	648.2	367.8
0 0 1 0 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5
0 0 1 0 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8
0 1 0 0 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.7	648.2	367.7
0 1 0 0 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5
0 1 0 0 1 0	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5

0 1 0 0 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8	1252	659.6
0 1 0 1 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.7	648.2	367.7	1237	574.2
0 1 0 1 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5	1237	620.7
0 1 0 1 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8	1252	659.6
0 1 1 0 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.7	648.2	367.7	1237	574.2
0 1 1 0 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5	1237	620.7
0 1 1 0 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8	1252	659.6
1 0 0 0 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.7	648.2	367.7	1237	574.2
1 0 0 0 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5	1237	620.7
1 0 0 0 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8	1252	659.6
1 0 0 1 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.7	648.2	367.7	1237	574.2
1 0 0 1 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5	1237	620.7
1 0 0 1 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8	1252	659.6
1 0 1 0 0 0	D2-O	173.4	182.9	200.1	196.6	257.6	222.1	380.7	270.7	648.2	367.7	1237	574.2
1 0 1 0 0 1	D2-O	173.8	215.8	200.4	231.2	258.0	259.3	381.1	312.0	648.7	412.5	1237	620.7
1 0 1 0 1 0	D2-O	187.4	251.6	215.2	266.9	273.4	295.9	396.4	348.8	664.4	450.8	1252	659.6
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.4
0 0 0 0 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
0 0 0 0 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.3	685.3	453.0	1272	661.5
0 0 0 1 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.4
0 0 0 1 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
0 0 0 1 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.2	685.3	452.9	1272	661.6
0 0 1 0 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.4
0 0 1 0 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
0 0 1 0 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.2	685.3	452.9	1272	661.6
0 1 0 0 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.3
0 1 0 0 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
0 1 0 0 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.2	685.3	452.9	1272	661.6
0 1 0 1 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.3
0 1 0 1 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
0 1 0 1 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.2	685.3	452.9	1272	661.5
0 1 1 0 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.3
0 1 1 0 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
0 1 1 0 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.2	685.3	452.9	1272	661.5
1 0 0 0 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.3
1 0 0 0 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
1 0 0 0 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.2	685.3	452.9	1272	661.5
1 0 0 1 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.3
1 0 0 1 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
1 0 0 1 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.2	685.3	452.9	1272	661.5
1 0 1 0 0 0	C1-O	204.0	207.3	231.4	221.8	289.0	249.3	413.6	300.5	683.8	399.8	1270	607.3

1 0 1 0 0 1	C1-O	196.9	235.9	224.3	250.9	282.0	278.8	405.5	331.5	676.6	432.4	1263	640.5
1 0 1 0 1 0	C1-O	204.3	256.7	232.0	271.8	290.4	300.4	415.0	352.2	685.3	452.9	1272	661.5
0 0 0 0 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
0 0 0 0 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
0 0 0 0 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.8	1277	698.8
0 0 0 1 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
0 0 0 1 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
0 0 0 1 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.8	1277	698.8
0 0 1 0 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
0 0 1 0 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
0 0 1 0 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.8	1277	698.8
0 1 0 0 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
0 1 0 0 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
0 1 0 0 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.8	1277	698.8
0 1 0 1 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
0 1 0 1 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
0 1 0 1 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.7	1277	698.8
0 1 1 0 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
0 1 1 0 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
0 1 1 0 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.7	1277	698.8
1 0 0 0 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
1 0 0 0 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
1 0 0 0 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.8	1277	698.8
1 0 0 1 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
1 0 0 1 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
1 0 0 1 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.7	1277	698.8
1 0 1 0 0 0	C2-O	209.1	233.0	236.7	247.9	294.1	275.3	418.8	326.8	689.0	426.6	1275	634.9
1 0 1 0 0 1	C2-O	201.9	269.9	229.4	285.1	287.7	314.1	412.1	366.4	681.4	467.8	1269	676.9
1 0 1 0 1 0	C2-O	209.3	290.7	237.4	305.9	295.3	335.0	419.1	387.6	689.3	489.7	1277	698.8
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	B1-O	208.8	192.7	235.0	205.6	291.9	230.3	414.4	278.0	684.3	375.1	1269	582.3
0 0 0 0 0 1	B1-O	208.9	193.0	234.9	206.0	291.4	230.9	414.3	279.1	684.3	376.5	1269	583.7
0 0 0 0 1 0	B1-O	208.9	193.0	234.9	206.0	291.4	230.9	414.3	279.1	684.3	376.5	1269	583.7
0 0 0 1 0 0	B1-O	208.7	192.8	235.2	205.8	291.9	230.7	414.3	278.9	684.3	376.5	1269	584.1
0 0 0 1 0 1	B1-O	208.5	193.1	235.1	206.2	291.8	231.3	414.3	279.9	684.2	377.9	1269	585.6
0 0 0 1 1 0	B1-O	208.5	193.1	235.1	206.2	291.8	231.3	414.3	279.9	684.2	377.9	1269	585.6
0 0 1 0 0 0	B1-O	208.7	192.8	235.2	205.8	291.9	230.7	414.3	278.9	684.3	376.5	1269	584.1
0 0 1 0 0 1	B1-O	208.5	193.1	235.1	206.2	291.8	231.3	414.3	279.9	684.2	377.9	1269	585.6
0 0 1 0 1 0	B1-O	208.5	193.1	235.1	206.2	291.8	231.3	414.3	279.9	684.2	377.9	1269	585.6
0 1 0 0 0 0	B1-O	209.1	226.4	235.4	240.6	292.3	267.6	414.8	318.3	684.6	418.7	1270	627.5
0 1 0 0 0 1	B1-O	209.3	226.7	235.5	241.0	291.8	268.2	414.7	319.1	684.6	419.8	1270	629.0
0 1 0 0 1 0	B1-O	209.3	226.7	235.5	241.0	291.8	268.2	414.7	319.1	684.6	419.8	1270	629.0

0 1 0 1 0 0	B1-O	209.0	226.5	235.6	240.8	292.3	268.0	414.7	319.1	684.6	420.0	1270	629.2
0 1 0 1 0 1	B1-O	208.9	226.8	235.5	241.1	292.2	268.5	414.6	319.8	684.6	421.1	1270	630.7
0 1 0 1 1 0	B1-O	208.9	226.8	235.5	241.1	292.2	268.5	414.6	319.8	684.6	421.1	1270	630.7
0 1 1 0 0 0	B1-O	209.0	226.5	235.6	240.8	292.3	268.0	414.7	319.1	684.6	420.0	1270	629.2
0 1 1 0 0 1	B1-O	208.9	226.8	235.5	241.1	292.2	268.5	414.6	319.8	684.6	421.1	1270	630.7
0 1 1 0 1 0	B1-O	208.9	226.8	235.5	241.1	292.2	268.5	414.6	319.8	684.6	421.1	1270	630.7
1 0 0 0 0 0	B1-O	223.2	261.7	249.8	276.3	307.4	303.6	429.8	354.6	698.5	455.2	1285	664.5
1 0 0 0 0 1	B1-O	223.2	262.0	249.9	276.7	306.9	304.1	429.8	355.5	698.5	456.4	1285	665.7
1 0 0 0 1 0	B1-O	223.2	262.0	249.9	276.7	306.9	304.1	429.8	355.5	698.5	456.4	1285	665.7
1 0 0 1 0 0	B1-O	223.2	261.8	249.7	276.5	307.3	303.9	429.7	355.3	698.5	456.5	1285	666.0
1 0 0 1 0 1	B1-O	223.1	262.1	249.6	276.8	307.3	304.5	429.7	356.2	698.5	457.7	1285	667.4
1 0 0 1 1 0	B1-O	223.1	262.1	249.6	276.8	307.3	304.5	429.7	356.2	698.5	457.7	1285	667.4
1 0 1 0 0 0	B1-O	223.2	261.8	249.7	276.5	307.3	303.9	429.7	355.3	698.5	456.5	1285	666.0
1 0 1 0 0 1	B1-O	223.1	262.1	249.6	276.8	307.3	304.5	429.7	356.2	698.5	457.7	1285	667.4
1 0 1 0 1 0	B1-O	223.1	262.1	249.6	276.8	307.3	304.5	429.7	356.2	698.5	457.7	1285	667.4
0 0 0 0 0 0	B2-O	207.4	206.5	234.0	219.4	290.7	244.2	413.3	292.1	680.6	389.5	1268	596.9
0 0 0 0 0 1	B2-O	207.3	206.8	233.9	219.8	290.6	244.9	413.4	293.2	680.6	391.0	1268	598.6
0 0 0 0 1 0	B2-O	207.3	206.8	233.9	219.8	290.6	244.9	413.4	293.2	680.6	391.0	1268	598.6
0 0 0 1 0 0	B2-O	207.3	206.6	234.0	219.6	290.6	244.6	413.4	293.0	680.6	391.0	1268	598.8
0 0 0 1 0 1	B2-O	207.2	206.9	233.9	220.0	290.5	245.2	413.4	294.0	680.6	392.4	1268	600.5
0 0 0 1 1 0	B2-O	207.2	206.9	233.9	220.0	290.5	245.2	413.4	294.0	680.6	392.4	1268	600.5
0 0 1 0 0 0	B2-O	207.3	206.6	234.0	219.6	290.6	244.6	413.4	293.0	680.6	391.0	1268	598.8
0 0 1 0 0 1	B2-O	207.2	206.9	233.9	220.0	290.5	245.2	413.4	294.0	680.6	392.4	1268	600.5
0 0 1 0 1 0	B2-O	207.2	206.9	233.9	220.0	290.5	245.2	413.4	294.0	680.6	392.4	1268	600.5
0 1 0 0 0 0	B2-O	207.8	245.5	234.4	259.8	291.0	286.7	413.7	338.1	680.9	438.4	1269	647.5
0 1 0 0 0 1	B2-O	207.6	245.8	234.3	260.2	290.9	287.3	413.9	339.0	680.9	439.7	1269	649.0
0 1 0 0 1 0	B2-O	207.6	245.8	234.3	260.2	290.9	287.3	413.9	339.0	680.9	439.7	1269	649.1
0 1 0 1 0 0	B2-O	207.7	245.6	234.3	260.0	290.9	287.1	413.9	338.9	680.9	439.7	1269	649.2
0 1 0 1 0 1	B2-O	207.6	245.9	234.2	260.3	290.8	287.6	413.8	339.7	680.9	441.0	1269	650.8
0 1 0 1 1 0	B2-O	207.6	245.9	234.2	260.3	290.8	287.6	413.8	339.7	680.9	441.0	1269	650.8
0 1 1 0 0 0	B2-O	207.7	245.6	234.3	260.0	290.9	287.1	413.9	338.9	680.9	439.7	1269	649.2
0 1 1 0 0 1	B2-O	207.6	245.9	234.2	260.3	290.8	287.6	413.8	339.7	680.9	441.0	1269	650.8
0 1 1 0 1 0	B2-O	207.6	245.9	234.2	260.3	290.8	287.6	413.8	339.7	680.9	441.0	1269	650.8
1 0 0 0 0 0	B2-O	221.6	280.7	248.8	295.3	305.8	322.7	428.9	373.9	695.9	474.7	1284	684.1
1 0 0 0 0 1	B2-O	221.4	281.0	248.7	295.7	305.7	323.2	428.8	374.9	695.9	475.9	1284	685.3
1 0 0 0 1 0	B2-O	221.4	281.0	248.7	295.7	305.7	323.2	428.8	374.9	695.9	475.9	1284	685.3
1 0 0 1 0 0	B2-O	221.5	280.8	248.7	295.5	305.7	323.1	428.8	374.7	695.9	476.0	1284	685.7
1 0 0 1 0 1	B2-O	221.4	281.1	248.6	295.8	305.6	323.5	428.8	375.6	695.9	477.2	1284	687.0
1 0 0 1 1 0	B2-O	221.4	281.1	248.6	295.8	305.6	323.5	428.8	375.6	695.9	477.2	1284	687.0
1 0 1 0 0 0	B2-O	221.5	280.8	248.7	295.5	305.7	323.1	428.8	374.7	695.9	476.0	1284	685.7
1 0 1 0 0 1	B2-O	221.4	281.1	248.6	295.8	305.6	323.5	428.8	375.6	695.9	477.2	1284	687.0
1 0 1 0 1 0	B2-O	221.4	281.1	248.6	295.8	305.6	323.5	428.8	375.6	695.9	477.2	1284	687.0

B1 B2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	A1-O	237.7	230.2	264.6	243.5	322.0	269.2	444.8	318.6	714.2	417.9	1301	625.5
0 0 0 0 0 1	A1-O	237.6	230.5	264.5	243.9	321.6	269.9	444.8	319.6	714.2	419.2	1301	626.9
0 0 0 0 1 0	A1-O	237.6	230.5	264.5	243.9	321.6	269.9	444.8	319.6	714.2	419.2	1301	626.9
0 0 0 1 0 0	A1-O	237.6	230.3	264.5	243.7	322.0	269.6	444.8	319.5	714.2	419.2	1301	627.2
0 0 0 1 0 1	A1-O	237.5	230.5	264.4	244.1	321.9	270.2	444.8	320.4	714.1	420.5	1301	628.7
0 0 0 1 1 0	A1-O	237.5	230.5	264.4	244.1	321.9	270.2	444.8	320.4	714.1	420.5	1301	628.7
0 0 1 0 0 0	A1-O	237.6	230.3	264.5	243.7	322.0	269.6	444.8	319.5	714.2	419.2	1301	627.2
0 0 1 0 0 1	A1-O	237.5	230.5	264.4	244.1	321.9	270.2	444.8	320.4	714.1	420.5	1301	628.7
0 0 1 0 1 0	A1-O	237.5	230.5	264.4	244.1	321.9	270.2	444.8	320.4	714.1	420.5	1301	628.7
0 1 0 0 0 0	A1-O	231.4	264.0	258.1	278.2	315.3	305.0	439.5	355.8	708.7	455.8	1296	664.4
0 1 0 0 0 1	A1-O	231.4	264.3	258.3	278.7	315.2	305.6	439.5	356.8	708.7	457.0	1296	666.2
0 1 0 0 1 0	A1-O	231.4	264.3	258.3	278.7	315.2	305.6	439.5	356.8	708.7	457.0	1296	666.2
0 1 0 1 0 0	A1-O	231.4	264.1	258.4	278.4	315.2	305.4	439.5	356.6	708.7	457.1	1296	666.2
0 1 0 1 0 1	A1-O	231.3	264.4	258.3	278.9	315.1	305.9	439.4	357.5	708.7	458.4	1296	668.0
0 1 0 1 1 0	A1-O	231.3	264.4	258.3	278.9	315.1	305.9	439.4	357.5	708.7	458.3	1296	668.0
0 1 1 0 0 0	A1-O	231.4	264.1	258.4	278.4	315.2	305.4	439.5	356.6	708.7	457.1	1296	666.2
0 1 1 0 0 1	A1-O	231.3	264.4	258.3	278.9	315.1	305.9	439.4	357.5	708.7	458.3	1296	668.0
0 1 1 0 1 0	A1-O	231.3	264.4	258.3	278.9	315.1	305.9	439.4	357.5	708.7	458.3	1296	668.0
1 0 0 0 0 0	A1-O	238.9	284.8	266.1	299.2	323.6	326.2	446.7	377.1	715.5	477.4	1303	686.1
1 0 0 0 0 1	A1-O	238.9	285.2	265.9	299.6	323.5	326.8	446.7	378.1	715.5	478.6	1303	687.7
1 0 0 0 1 0	A1-O	238.9	285.2	265.9	299.6	323.5	326.8	446.7	378.1	715.5	478.6	1303	687.7
1 0 0 1 0 0	A1-O	238.9	285.0	266.0	299.4	323.5	326.6	446.7	377.9	715.5	478.7	1303	687.7
1 0 0 1 0 1	A1-O	238.8	285.2	266.0	299.8	323.4	327.1	446.7	378.8	715.5	479.9	1303	689.5
1 0 0 1 1 0	A1-O	238.8	285.2	266.0	299.8	323.4	327.1	446.7	378.8	715.5	479.9	1303	689.5
1 0 1 0 0 0	A1-O	238.9	285.0	266.0	299.4	323.5	326.6	446.7	377.9	715.5	478.7	1303	687.7
1 0 1 0 0 1	A1-O	238.8	285.2	266.0	299.8	323.4	327.1	446.7	378.8	715.5	479.9	1303	689.5
1 0 1 0 1 0	A1-O	238.8	285.2	266.0	299.8	323.4	327.1	446.7	378.8	715.5	479.9	1303	689.5
0 0 0 0 0 0	A2-O	243.0	255.3	269.5	268.8	326.4	294.9	450.3	344.5	720.0	443.9	1306	652.5
0 0 0 0 0 1	A2-O	242.9	255.5	269.4	269.2	326.3	295.5	450.2	345.5	720.3	445.2	1306	654.1
0 0 0 0 1 0	A2-O	242.9	255.5	269.4	269.2	326.3	295.5	450.2	345.5	720.3	445.2	1306	654.1
0 0 0 1 0 0	A2-O	242.9	255.3	269.4	269.0	326.3	295.3	450.2	345.4	720.3	445.3	1306	654.3
0 0 0 1 0 1	A2-O	242.8	255.6	269.5	269.3	326.1	295.8	450.1	346.3	720.3	446.6	1306	655.9
0 0 0 1 1 0	A2-O	242.8	255.6	269.5	269.3	326.1	295.8	450.1	346.3	720.3	446.6	1306	655.9
0 0 1 0 0 0	A2-O	242.9	255.3	269.4	269.0	326.3	295.3	450.2	345.4	720.3	445.3	1306	654.3
0 0 1 0 0 1	A2-O	242.8	255.6	269.5	269.3	326.1	295.8	450.1	346.3	720.3	446.6	1306	655.9
0 0 1 0 1 0	A2-O	242.8	255.6	269.5	269.3	326.1	295.8	450.1	346.3	720.3	446.6	1306	655.9
0 1 0 0 0 0	A2-O	236.3	297.0	263.1	311.5	320.0	338.9	444.3	389.9	712.9	490.7	1300	700.3
0 1 0 0 0 1	A2-O	236.2	297.3	263.0	311.9	319.9	339.5	444.2	390.8	712.9	491.9	1300	701.6
0 1 0 0 1 0	A2-O	236.2	297.3	263.0	311.9	319.9	339.5	444.2	390.8	712.9	491.9	1300	701.6
0 1 0 1 0 0	A2-O	236.3	297.1	263.0	311.7	319.9	339.3	444.2	390.7	712.9	492.0	1300	701.9
0 1 0 1 0 1	A2-O	236.2	297.4	262.9	312.1	319.8	339.8	444.1	391.5	712.9	493.2	1300	703.2

<b>0 1 0 1 1 0</b>	A2-O	236.2	297.4	262.9	312.1	319.8	339.8	444.1	391.5	712.9	493.2	1300	703.2
<b>0 1 1 0 0 0</b>	A2-O	236.3	297.1	263.0	311.7	319.9	339.3	444.2	390.7	712.9	492.0	1300	701.9
<b>0 1 1 0 0 1</b>	A2-O	236.2	297.4	262.9	312.1	319.8	339.8	444.1	391.5	712.9	493.2	1300	703.2
<b>0 1 1 0 1 0</b>	A2-O	236.2	297.4	262.9	312.1	319.8	339.8	444.1	391.5	712.9	493.2	1300	703.2
<b>1 0 0 0 0 0</b>	A2-O	243.5	318.2	270.6	332.7	328.2	360.2	451.1	411.5	719.5	512.6	1308	722.2
<b>1 0 0 0 0 1</b>	A2-O	243.3	318.5	270.4	333.1	328.1	360.8	451.1	412.3	719.5	513.7	1308	723.7
<b>1 0 0 0 1 0</b>	A2-O	243.3	318.5	270.4	333.1	328.1	360.8	451.1	412.3	719.5	513.7	1308	723.7
<b>1 0 0 1 0 0</b>	A2-O	243.4	318.3	270.5	332.9	328.1	360.6	451.1	412.2	719.5	513.8	1308	723.8
<b>1 0 0 1 0 1</b>	A2-O	243.4	318.6	270.6	333.3	328.0	361.1	451.0	413.0	719.5	515.0	1308	725.4
<b>1 0 0 1 1 0</b>	A2-O	243.4	318.6	270.6	333.3	328.0	361.1	451.0	413.0	719.5	515.0	1308	725.4
<b>1 0 1 0 0 0</b>	A2-O	243.4	318.3	270.5	332.9	328.1	360.6	451.1	412.2	719.5	513.8	1308	723.8
<b>1 0 1 0 0 1</b>	A2-O	243.4	318.6	270.6	333.3	328.0	361.1	451.0	413.0	719.5	515.0	1308	725.4
<b>1 0 1 0 1 0</b>	A2-O	243.4	318.6	270.6	333.3	328.0	361.1	451.0	413.0	719.5	515.0	1308	725.4

Version : AO2222CLD

Cell Unit = 16

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1	A2	B1	B2	C1	C2	tph	tph	tph	tph	tph	tph	tph	tph
0 0 0 0 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.5	474.6	326.8	867.4	489.5
0 0 0 0 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.3	476.1	369.7	867.9	534.7
0 0 0 0 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.4	882.3	578.2
0 0 0 1 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.5	474.6	326.8	867.4	489.6
0 0 0 1 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.3	476.1	369.7	867.9	534.7
0 0 0 1 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.4	882.3	578.2
0 0 1 0 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.5	474.6	326.8	867.4	489.6
0 0 1 0 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.3	476.1	369.7	867.9	534.7
0 0 1 0 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.4	882.3	578.2
0 1 0 0 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.4	474.6	326.8	867.4	489.5
0 1 0 0 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.2	476.1	369.6	867.9	534.7
0 1 0 0 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.3	882.3	578.2
0 1 0 1 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.4	474.6	326.8	867.4	489.5
0 1 0 1 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.3	476.1	369.7	867.9	534.7
0 1 0 1 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.3	882.3	578.2
0 1 1 0 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.4	474.6	326.8	867.4	489.5
0 1 1 0 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.3	476.1	369.7	867.9	534.7
0 1 1 0 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.3	882.3	578.2
1 0 0 0 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.4	474.6	326.8	867.4	489.5
1 0 0 0 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.2	476.1	369.6	867.9	534.7
1 0 0 0 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.3	882.3	578.2
1 0 0 1 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.4	474.6	326.8	867.4	489.5
1 0 0 1 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.3	476.1	369.7	867.9	534.7
1 0 0 1 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.3	882.3	578.2
1 0 1 0 0 0	D1-O	154.7	177.5	173.1	188.8	211.7	210.0	294.9	249.4	474.6	326.8	867.4	489.5
1 0 1 0 0 1	D1-O	155.5	208.4	173.9	221.2	212.6	245.0	295.8	288.3	476.1	369.7	867.9	534.7
1 0 1 0 1 0	D1-O	167.2	248.9	186.6	262.0	226.5	286.2	310.0	330.1	489.8	412.3	882.3	578.2
0 0 0 0 0 0	D2-O	154.9	194.6	173.3	206.1	211.7	227.3	295.0	267.1	474.9	344.7	867.1	507.7
0 0 0 0 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
0 0 0 0 1 0	D2-O	166.4	271.5	186.1	284.7	225.7	309.1	308.5	353.3	488.5	435.8	881.4	602.0
0 0 0 1 0 0	D2-O	154.9	194.6	173.3	206.1	211.7	227.3	295.0	267.1	474.9	344.7	867.1	507.7
0 0 0 1 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
0 0 0 1 1 0	D2-O	166.4	271.5	186.1	284.7	225.6	309.1	308.4	353.3	488.5	435.8	881.4	602.0
0 0 1 0 0 0	D2-O	154.9	194.6	173.3	206.1	211.7	227.3	295.0	267.1	474.9	344.7	867.1	507.7
0 0 1 0 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
0 1 0 0 0 0	D2-O	154.9	194.6	173.3	206.1	211.7	227.3	295.0	267.0	474.9	344.7	867.1	507.7
0 1 0 0 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
0 1 0 0 1 0	D2-O	166.4	271.5	186.1	284.7	225.6	309.1	308.4	353.3	488.5	435.8	881.4	602.0

0 1 0 1 0 0	D2-O	154.9	194.6	173.3	206.1	211.6	227.3	295.0	267.1	474.9	344.7	867.1	507.7
0 1 0 1 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
0 1 0 1 1 0	D2-O	166.4	271.5	186.1	284.7	225.6	309.1	308.4	353.3	488.5	435.8	881.4	602.0
0 1 1 0 0 0	D2-O	154.9	194.6	173.3	206.1	211.6	227.3	295.0	267.1	474.9	344.7	867.1	507.7
0 1 1 0 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
0 1 1 0 1 0	D2-O	166.4	271.5	186.1	284.7	225.6	309.1	308.4	353.3	488.5	435.8	881.4	602.0
1 0 0 0 0 0	D2-O	154.9	194.6	173.3	206.1	211.7	227.3	295.0	267.0	474.9	344.7	867.1	507.7
1 0 0 0 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
1 0 0 0 1 0	D2-O	166.4	271.5	186.1	284.7	225.6	309.1	308.4	353.3	488.5	435.8	881.4	602.0
1 0 0 1 0 0	D2-O	154.9	194.6	173.3	206.1	211.6	227.3	295.0	267.1	474.9	344.7	867.1	507.7
1 0 0 1 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
1 0 0 1 1 0	D2-O	166.4	271.5	186.1	284.7	225.6	309.1	308.4	353.3	488.5	435.8	881.4	602.0
1 0 1 0 0 0	D2-O	154.9	194.6	173.3	206.1	211.6	227.3	295.0	267.1	474.9	344.7	867.1	507.7
1 0 1 0 0 1	D2-O	155.2	231.6	173.6	244.6	211.9	268.5	295.3	312.1	475.3	393.8	867.4	559.2
1 0 1 0 1 0	D2-O	166.4	271.5	186.1	284.7	225.6	309.1	308.4	353.3	488.5	435.8	881.4	602.0
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.7	895.1	536.8
0 0 0 0 0 1	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1
0 0 0 0 1 0	C1-O	180.1	271.6	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
0 0 0 1 0 0	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.7	895.1	536.8
0 0 0 1 0 1	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1
0 0 0 1 1 0	C1-O	180.1	271.6	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
0 0 1 0 0 0	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.7	895.1	536.8
0 0 1 0 0 1	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1
0 0 1 0 1 0	C1-O	180.1	271.6	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
0 0 1 0 1 1	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.7	895.1	536.8
0 1 0 0 0 0	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1
0 1 0 0 0 1	C1-O	180.1	271.6	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
0 1 0 0 1 0	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.6	895.1	536.8
0 1 0 1 0 0	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1
0 1 0 1 0 1	C1-O	180.1	271.6	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
0 1 1 0 0 0	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.6	895.1	536.8
0 1 1 0 0 1	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1
0 1 1 0 1 0	C1-O	180.1	271.5	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
1 0 0 0 0 0	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.6	895.1	536.8
1 0 0 0 0 1	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1
1 0 0 0 1 0	C1-O	180.1	271.6	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
1 0 0 1 0 0	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.6	895.1	536.8
1 0 0 1 0 1	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1
1 0 0 1 1 0	C1-O	180.1	271.5	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
1 0 1 0 0 0	C1-O	180.0	215.8	198.7	228.0	237.4	250.8	321.3	292.6	501.9	372.6	895.1	536.8
1 0 1 0 0 1	C1-O	173.4	246.8	192.1	259.8	231.0	283.5	315.1	326.7	495.4	408.1	889.2	573.1

1 0 1 0 1 0	C1-O	180.1	271.5	199.4	284.6	239.3	308.6	322.7	352.1	503.3	433.8	897.3	599.2
0 0 0 0 0 0	C2-O	183.9	244.7	202.8	257.2	242.1	280.1	325.4	322.5	505.7	403.2	899.8	568.0
0 0 0 0 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
0 0 0 0 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
0 0 0 1 0 0	C2-O	183.8	244.7	202.8	257.1	242.1	280.1	325.4	322.5	505.7	403.2	899.8	568.0
0 0 0 1 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
0 0 0 1 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
0 0 1 0 0 0	C2-O	183.8	244.7	202.8	257.1	242.1	280.1	325.4	322.5	505.7	403.2	899.8	568.0
0 0 1 0 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
0 0 1 0 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
0 1 0 0 0 0	C2-O	183.9	244.7	202.8	257.2	242.1	280.1	325.4	322.5	505.7	403.2	899.8	568.0
0 1 0 0 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
0 1 0 0 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
0 1 0 1 0 0	C2-O	183.8	244.7	202.8	257.1	242.1	280.1	325.4	322.5	505.6	403.2	899.8	568.0
0 1 0 1 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
0 1 0 1 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
0 1 1 0 0 0	C2-O	183.8	244.7	202.8	257.1	242.1	280.1	325.4	322.5	505.6	403.2	899.8	568.0
0 1 1 0 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
0 1 1 0 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
1 0 0 0 0 0	C2-O	183.9	244.7	202.8	257.2	242.1	280.1	325.4	322.5	505.7	403.2	899.8	568.0
1 0 0 0 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
1 0 0 0 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
1 0 0 1 0 0	C2-O	183.8	244.7	202.8	257.1	242.1	280.1	325.4	322.5	505.6	403.2	899.8	568.0
1 0 0 1 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
1 0 0 1 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
1 0 1 0 0 0	C2-O	183.8	244.7	202.8	257.1	242.1	280.1	325.4	322.5	505.6	403.2	899.8	568.0
1 0 1 0 0 1	C2-O	177.7	284.9	196.7	298.1	236.3	322.3	319.6	366.2	499.5	448.4	894.2	614.2
1 0 1 0 1 0	C2-O	184.5	309.3	203.9	322.7	243.9	347.1	327.6	391.2	508.3	473.7	901.7	639.9
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	B1-O	183.4	200.6	201.0	211.4	239.1	232.1	322.0	271.4	501.1	349.4	893.8	512.8
0 0 0 0 0 1	B1-O	183.2	201.0	201.1	211.9	239.0	232.8	321.7	272.5	501.1	351.1	893.8	514.9
0 0 0 0 1 0	B1-O	183.2	201.0	201.1	211.9	239.0	232.8	321.7	272.5	501.1	351.1	893.8	514.9
0 0 0 1 0 0	B1-O	183.1	200.8	200.9	211.6	239.0	232.5	321.9	272.2	501.1	350.9	893.8	515.1
0 0 0 1 0 1	B1-O	182.9	201.0	200.8	212.0	239.0	233.1	321.8	273.3	501.1	352.6	893.8	517.1
0 0 0 1 1 0	B1-O	182.9	201.0	200.8	212.0	239.0	233.1	321.8	273.3	501.1	352.6	893.8	517.1
0 0 1 0 0 0	B1-O	183.1	200.8	200.9	211.6	239.0	232.5	321.9	272.2	501.1	350.9	893.8	515.1
0 0 1 0 0 1	B1-O	182.9	201.0	200.8	212.0	239.0	233.1	321.8	273.3	501.1	352.6	893.8	517.1
0 0 1 0 1 0	B1-O	182.9	201.0	200.8	212.0	239.0	233.1	321.8	273.3	501.1	352.6	893.8	517.1
0 1 0 0 0 0	B1-O	183.7	237.6	201.4	249.7	239.5	272.3	322.3	314.4	501.5	395.5	894.3	561.3
0 1 0 0 0 1	B1-O	183.6	237.9	201.4	250.0	239.3	272.9	322.0	315.4	501.5	397.0	894.3	563.1
0 1 0 0 1 0	B1-O	183.6	237.9	201.4	250.0	239.3	272.9	322.0	315.4	501.5	397.0	894.3	563.1
0 1 0 1 0 0	B1-O	183.4	237.7	201.3	249.8	239.4	272.7	322.3	315.2	501.5	396.9	894.3	563.2

0 1 0 1 0 1	B1-O	183.2	238.0	201.1	250.2	239.3	273.2	322.1	316.1	501.5	398.3	894.3	565.1
0 1 0 1 1 0	B1-O	183.2	238.0	201.1	250.2	239.3	273.2	322.1	316.1	501.5	398.3	894.3	565.1
0 1 1 0 0 0	B1-O	183.4	237.7	201.3	249.8	239.4	272.7	322.3	315.2	501.5	396.9	894.3	563.2
0 1 1 0 0 1	B1-O	183.2	238.0	201.1	250.2	239.3	273.2	322.1	316.1	501.5	398.3	894.3	565.1
0 1 1 0 1 0	B1-O	183.2	238.0	201.1	250.2	239.3	273.2	322.1	316.1	501.5	398.3	894.3	565.1
1 0 0 0 0 0	B1-O	195.6	277.0	214.2	289.3	252.7	312.3	335.7	354.8	515.7	436.4	907.7	602.6
1 0 0 0 0 1	B1-O	195.5	277.3	214.1	289.7	252.6	312.9	335.6	355.7	515.7	437.8	907.7	604.4
1 0 0 0 1 0	B1-O	195.5	277.3	214.1	289.7	252.6	312.9	335.6	355.7	515.7	437.8	907.7	604.4
1 0 0 1 0 0	B1-O	195.5	277.2	213.8	289.5	252.9	312.7	335.6	355.5	515.7	437.8	907.7	604.5
1 0 0 1 0 1	B1-O	195.3	277.4	213.7	289.8	252.8	313.2	335.5	356.4	515.6	439.1	907.7	606.4
1 0 0 1 1 0	B1-O	195.3	277.4	213.7	289.8	252.8	313.2	335.5	356.4	515.6	439.1	907.7	606.4
1 0 1 0 0 0	B1-O	195.5	277.2	213.8	289.5	252.9	312.7	335.6	355.5	515.7	437.8	907.7	604.5
1 0 1 0 0 1	B1-O	195.3	277.4	213.7	289.8	252.8	313.2	335.5	356.4	515.6	439.1	907.7	606.4
1 0 1 0 1 0	B1-O	195.3	277.4	213.7	289.8	252.8	313.2	335.5	356.4	515.6	439.1	907.7	606.4
0 0 0 0 0 0	B2-O	182.4	217.5	200.6	228.4	238.4	249.1	321.1	288.6	501.2	366.7	892.7	530.4
0 0 0 0 0 1	B2-O	182.2	217.8	200.4	228.8	238.3	249.8	321.0	289.7	501.2	368.4	892.6	532.4
0 0 0 0 1 0	B2-O	182.2	217.8	200.4	228.8	238.3	249.8	321.0	289.7	501.2	368.4	892.6	532.4
0 0 0 1 0 0	B2-O	182.3	217.6	200.2	228.5	238.6	249.5	321.0	289.4	501.2	368.3	892.6	532.6
0 0 0 1 0 1	B2-O	182.1	217.9	200.1	228.9	238.5	250.1	320.9	290.5	501.1	369.9	892.6	534.6
0 0 0 1 1 0	B2-O	182.1	217.9	200.1	228.9	238.5	250.1	320.9	290.5	501.1	369.9	892.6	534.6
0 0 1 0 0 0	B2-O	182.3	217.6	200.2	228.5	238.6	249.5	321.0	289.4	501.2	368.3	892.6	532.6
0 0 1 0 0 1	B2-O	182.1	217.9	200.1	228.9	238.5	250.1	320.9	290.5	501.1	369.9	892.6	534.6
0 0 1 0 1 0	B2-O	182.1	217.9	200.1	228.9	238.5	250.1	320.9	290.5	501.1	369.9	892.6	534.6
0 1 0 0 0 0	B2-O	182.6	260.8	200.8	272.9	238.7	295.7	321.3	338.0	501.5	419.3	892.9	585.2
0 1 0 0 0 1	B2-O	182.5	261.0	200.7	273.3	238.6	296.3	321.2	338.9	501.5	420.7	892.9	587.0
0 1 0 0 1 0	B2-O	182.5	261.0	200.7	273.3	238.6	296.3	321.2	338.9	501.5	420.7	892.9	587.0
0 1 0 1 0 0	B2-O	182.5	260.9	200.5	273.1	238.9	296.1	321.2	338.7	501.5	420.7	892.9	587.2
0 1 0 1 0 1	B2-O	182.4	261.1	200.4	273.4	238.8	296.6	321.1	339.6	501.4	422.1	892.9	589.0
0 1 0 1 1 0	B2-O	182.4	261.1	200.4	273.4	238.8	296.6	321.1	339.6	501.4	422.1	892.9	589.0
0 1 1 0 0 0	B2-O	182.5	260.9	200.5	273.1	238.9	296.1	321.2	338.7	501.5	420.7	892.9	587.2
0 1 1 0 0 1	B2-O	182.4	261.1	200.4	273.4	238.8	296.6	321.1	339.6	501.4	422.1	892.9	589.0
0 1 1 0 1 0	B2-O	182.4	261.1	200.4	273.4	238.8	296.6	321.1	339.6	501.4	422.1	892.9	589.0
1 0 0 0 0 0	B2-O	194.9	299.6	213.1	312.0	251.8	335.1	334.4	377.8	514.4	459.6	905.8	626.0
1 0 0 0 0 1	B2-O	194.4	299.9	213.0	312.3	252.2	335.7	334.3	378.7	514.3	461.0	905.8	627.8
1 0 0 0 1 0	B2-O	194.4	299.9	213.0	312.3	252.2	335.7	334.3	378.7	514.3	461.0	905.8	627.8
1 0 0 1 0 0	B2-O	194.5	299.7	213.0	312.2	252.2	335.5	334.3	378.5	514.3	460.9	905.8	627.9
1 0 0 1 0 1	B2-O	194.3	300.0	212.9	312.5	252.1	336.0	334.3	379.4	514.3	462.3	905.8	629.7
1 0 0 1 1 0	B2-O	194.3	300.0	212.9	312.5	252.1	336.0	334.3	379.4	514.3	462.3	905.8	629.7
1 0 1 0 0 0	B2-O	194.5	299.7	213.0	312.2	252.2	335.5	334.3	378.5	514.3	460.9	905.8	627.9
1 0 1 0 0 1	B2-O	194.3	300.0	212.9	312.5	252.1	336.0	334.3	379.4	514.3	462.3	905.8	629.7
1 0 1 0 1 0	B2-O	194.3	300.0	212.9	312.5	252.1	336.0	334.3	379.4	514.3	462.3	905.8	629.8

B1 B2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	A1-O	207.6	238.0	225.9	249.3	264.6	270.7	347.2	311.4	526.6	391.1	921.1	555.7
0 0 0 0 0 1	A1-O	207.4	238.3	225.7	249.7	264.4	271.4	347.1	312.5	526.6	392.6	921.1	557.7
0 0 0 0 1 0	A1-O	207.4	238.3	225.7	249.7	264.4	271.4	347.1	312.5	526.6	392.6	921.1	557.7
0 0 0 1 0 0	A1-O	207.5	238.1	225.8	249.5	264.5	271.1	347.1	312.2	526.6	392.6	921.1	557.8
0 0 0 1 0 1	A1-O	207.4	238.4	225.7	249.8	264.2	271.7	346.7	313.2	526.6	394.1	921.0	559.8
0 0 0 1 1 0	A1-O	207.4	238.4	225.7	249.8	264.2	271.7	346.7	313.2	526.6	394.1	921.0	559.8
0 0 1 0 0 0	A1-O	207.5	238.1	225.8	249.5	264.5	271.1	347.1	312.2	526.6	392.6	921.1	557.8
0 0 1 0 0 1	A1-O	207.4	238.4	225.7	249.8	264.2	271.7	346.7	313.2	526.6	394.1	921.0	559.8
0 0 1 0 1 0	A1-O	207.4	238.4	225.7	249.8	264.2	271.7	346.7	313.2	526.6	394.1	921.0	559.8
0 1 0 0 0 0	A1-O	201.4	274.1	219.9	286.3	258.8	308.9	341.3	351.0	521.1	432.1	915.5	597.9
0 1 0 0 0 1	A1-O	201.3	274.4	219.7	286.7	258.7	309.5	341.2	352.0	521.1	433.6	915.5	599.7
0 1 0 0 1 0	A1-O	201.3	274.4	219.7	286.7	258.7	309.5	341.2	352.0	521.1	433.6	915.5	599.7
0 1 0 1 0 0	A1-O	201.3	274.2	219.7	286.4	258.7	309.2	341.2	351.8	521.1	433.5	915.5	599.8
0 1 0 1 0 1	A1-O	201.2	274.5	219.6	286.8	258.6	309.8	341.0	352.7	521.0	434.9	915.5	601.7
0 1 0 1 1 0	A1-O	201.2	274.5	219.6	286.8	258.6	309.8	341.0	352.7	521.0	434.9	915.5	601.7
0 1 1 0 0 0	A1-O	201.3	274.2	219.7	286.4	258.7	309.2	341.2	351.8	521.1	433.5	915.5	599.8
0 1 1 0 0 1	A1-O	201.2	274.5	219.6	286.8	258.6	309.8	341.0	352.7	521.0	434.9	915.5	601.7
0 1 1 0 1 0	A1-O	201.2	274.5	219.6	286.8	258.6	309.8	341.0	352.7	521.0	434.9	915.5	601.7
1 0 0 0 0 0	A1-O	208.9	299.1	227.5	311.2	266.1	334.1	349.7	376.4	530.3	457.7	922.2	623.6
1 0 0 0 0 1	A1-O	208.4	299.4	227.4	311.6	266.0	334.6	349.6	377.3	530.3	459.1	922.2	625.4
1 0 0 0 1 0	A1-O	208.4	299.4	227.4	311.6	266.0	334.6	349.6	377.3	530.3	459.1	922.2	625.4
1 0 0 1 0 0	A1-O	208.5	299.2	227.1	311.4	266.4	334.4	349.6	377.1	530.3	459.0	922.2	625.6
1 0 0 1 0 1	A1-O	208.3	299.5	227.0	311.8	266.3	335.0	349.5	378.0	530.3	460.4	922.2	627.4
1 0 0 1 1 0	A1-O	208.3	299.5	227.0	311.8	266.3	335.0	349.5	378.0	530.3	460.4	922.2	627.4
1 0 1 0 0 0	A1-O	208.5	299.2	227.1	311.4	266.4	334.4	349.6	377.1	530.3	459.0	922.2	625.6
1 0 1 0 0 1	A1-O	208.3	299.5	227.0	311.8	266.3	335.0	349.5	378.0	530.3	460.4	922.2	627.4
1 0 1 0 1 0	A1-O	208.3	299.5	227.0	311.8	266.3	335.0	349.5	378.0	530.3	460.4	922.2	627.4
0 0 0 0 0 0	A2-O	211.4	265.9	229.4	277.4	267.8	299.2	351.2	340.2	530.0	420.2	924.4	585.3
0 0 0 0 0 1	A2-O	211.3	266.2	229.4	277.9	267.8	299.8	350.6	341.3	530.0	421.8	924.4	587.2
0 0 0 0 1 0	A2-O	211.3	266.2	229.4	277.9	267.8	299.8	350.6	341.3	530.0	421.8	924.4	587.2
0 0 0 1 0 0	A2-O	211.3	266.1	229.4	277.6	267.9	299.6	351.1	341.0	530.0	421.7	924.4	587.3
0 0 0 1 0 1	A2-O	211.3	266.3	229.3	278.0	267.7	300.1	351.0	342.0	530.0	423.2	924.4	589.3
0 0 0 1 1 0	A2-O	211.3	266.3	229.3	278.0	267.7	300.1	351.0	342.0	530.0	423.2	924.4	589.3
0 0 1 0 0 0	A2-O	211.3	266.1	229.4	277.6	267.9	299.6	351.1	341.0	530.0	421.7	924.4	587.3
0 0 1 0 0 1	A2-O	211.3	266.3	229.3	278.0	267.7	300.1	351.0	342.0	530.0	423.2	924.4	589.3
0 0 1 0 1 0	A2-O	211.3	266.3	229.3	278.0	267.7	300.1	351.0	342.0	530.0	423.2	924.4	589.3
0 1 0 0 0 0	A2-O	205.6	311.3	224.0	323.5	262.5	346.6	345.7	389.0	524.6	470.6	919.1	636.8
0 1 0 0 0 1	A2-O	205.4	311.6	223.9	323.9	262.4	347.1	344.9	390.0	524.6	472.0	919.0	638.6
0 1 0 0 1 0	A2-O	205.4	311.6	223.9	323.9	262.4	347.1	344.9	390.0	524.6	472.0	919.0	638.6
0 1 0 1 0 0	A2-O	205.5	311.4	223.9	323.7	262.4	346.9	344.9	389.8	524.6	472.0	919.0	638.8
0 1 0 1 0 1	A2-O	205.3	311.7	223.8	324.1	262.4	347.4	344.9	390.6	524.6	473.3	919.0	640.6

0 1 0 1 1 0	A2-O	205.3	311.7	223.8	324.1	262.4	347.4	344.9	390.6	524.5	473.3	919.0	640.6
0 1 1 0 0 0	A2-O	205.5	311.4	223.9	323.7	262.4	346.9	344.9	389.8	524.6	472.0	919.0	638.8
0 1 1 0 0 1	A2-O	205.3	311.7	223.8	324.1	262.4	347.4	344.9	390.6	524.5	473.3	919.0	640.6
0 1 1 0 1 0	A2-O	205.3	311.7	223.8	324.1	262.4	347.4	344.9	390.6	524.5	473.3	919.0	640.6
1 0 0 0 0 0	A2-O	212.5	335.9	231.0	348.3	269.7	371.3	352.9	414.0	533.0	495.8	926.7	662.3
1 0 0 0 0 1	A2-O	212.3	336.2	230.9	348.6	269.8	371.9	352.8	415.0	533.0	497.2	926.7	664.0
1 0 0 0 1 0	A2-O	212.3	336.2	230.9	348.6	269.8	371.9	352.8	415.0	533.0	497.2	926.7	664.0
1 0 0 1 0 0	A2-O	212.4	336.0	231.0	348.5	269.8	371.7	352.8	414.8	533.0	497.2	926.7	664.2
1 0 0 1 0 1	A2-O	212.2	336.3	230.8	348.8	269.7	372.2	352.7	415.6	532.9	498.5	926.7	666.0
1 0 0 1 1 0	A2-O	212.2	336.3	230.8	348.8	269.7	372.2	352.7	415.6	532.9	498.5	926.7	666.0
1 0 1 0 0 0	A2-O	212.4	336.0	231.0	348.5	269.8	371.7	352.8	414.8	533.0	497.2	926.7	664.2
1 0 1 0 0 1	A2-O	212.2	336.3	230.8	348.8	269.7	372.2	352.7	415.6	532.9	498.5	926.7	666.0
1 0 1 0 1 0	A2-O	212.2	336.3	230.8	348.8	269.7	372.2	352.7	415.6	532.9	498.5	926.7	666.0

Version : AO2222ELD

Cell Unit = 20

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1	A2	B1	B2	C1	C2	tph	tphl	tph	tphl	tph	tphl	tph	tphl
0 0 0 0 0 0	D1-O	155.0	169.6	166.8	176.4	191.7	189.2	244.7	212.5	358.6	255.7	607.3	340.3
0 0 0 0 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.6	248.6	358.8	295.8	608.5	384.5
0 0 0 0 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.9	331.1	619.3	420.5
0 0 0 1 0 0	D1-O	155.0	169.6	166.8	176.4	191.6	189.2	244.7	212.5	358.6	255.6	607.3	340.3
0 0 0 1 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.5	248.6	358.8	295.8	608.5	384.5
0 0 0 1 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.8	331.1	619.3	420.5
0 0 1 0 0 0	D1-O	155.0	169.6	166.8	176.4	191.6	189.2	244.7	212.5	358.6	255.6	607.3	340.3
0 0 1 0 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.5	248.6	358.8	295.8	608.5	384.5
0 0 1 0 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.8	331.1	619.3	420.5
0 1 0 0 0 0	D1-O	155.0	169.6	166.8	176.4	191.6	189.2	244.7	212.5	358.6	255.6	607.3	340.3
0 1 0 0 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.6	248.6	358.8	295.8	608.5	384.5
0 1 0 0 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.8	331.0	619.3	420.4
0 1 0 1 0 0	D1-O	155.0	169.6	166.8	176.4	191.6	189.2	244.7	212.5	358.6	255.6	607.3	340.3
0 1 0 1 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.5	248.6	358.8	295.8	608.5	384.5
0 1 0 1 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.8	331.0	619.3	420.4
0 1 1 0 0 0	D1-O	155.0	169.6	166.8	176.4	191.6	189.2	244.7	212.5	358.6	255.6	607.3	340.3
0 1 1 0 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.5	248.6	358.8	295.8	608.5	384.5
0 1 1 0 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.8	331.0	619.3	420.4
1 0 0 0 0 0	D1-O	155.0	169.6	166.8	176.4	191.6	189.2	244.7	212.5	358.6	255.6	607.3	340.3
1 0 0 0 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.6	248.6	358.8	295.8	608.5	384.5
1 0 0 0 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.8	331.0	619.3	420.4
1 0 0 1 0 0	D1-O	155.0	169.6	166.8	176.4	191.6	189.2	244.7	212.5	358.6	255.6	607.3	340.3
1 0 0 1 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.5	248.6	358.8	295.8	608.5	384.5
1 0 0 1 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.8	331.0	619.3	420.4
1 0 1 0 0 0	D1-O	155.0	169.6	166.8	176.4	191.6	189.2	244.7	212.5	358.6	255.6	607.3	340.3
1 0 1 0 0 1	D1-O	155.6	200.2	167.5	207.9	192.6	222.4	245.5	248.6	358.8	295.8	608.5	384.5
1 0 1 0 1 0	D1-O	165.3	234.1	177.8	242.0	204.0	256.8	257.5	283.4	370.8	331.0	619.3	420.4
0 0 0 0 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.1	606.7	357.0
0 0 0 0 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.6	359.3	318.0	607.2	407.1
0 0 0 0 1 0	D2-O	164.5	255.1	177.1	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4
0 0 0 1 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.1	606.7	357.0
0 0 0 1 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.6	359.3	318.0	607.2	407.1
0 0 0 1 1 0	D2-O	164.5	255.1	177.0	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4
0 0 1 0 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.1	606.7	357.0
0 0 1 0 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.6	359.3	318.0	607.2	407.1
0 0 1 0 1 0	D2-O	164.5	255.1	177.0	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4
0 1 0 0 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.0	606.7	357.0
0 1 0 0 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.5	359.3	318.0	607.2	407.0
0 1 0 0 1 0	D2-O	164.5	255.1	177.1	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4

0 1 0 1 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.0	606.7	356.9
0 1 0 1 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.6	359.3	318.0	607.2	407.0
0 1 0 1 1 0	D2-O	164.5	255.1	177.0	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4
0 1 1 0 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.0	606.7	356.9
0 1 1 0 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.6	359.3	318.0	607.2	407.0
0 1 1 0 1 0	D2-O	164.5	255.1	177.0	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4
1 0 0 0 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.0	606.7	357.0
1 0 0 0 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.5	359.3	318.0	607.2	407.0
1 0 0 0 1 0	D2-O	164.5	255.1	177.1	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4
1 0 0 1 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.0	606.7	356.9
1 0 0 1 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.6	359.3	318.0	607.2	407.0
1 0 0 1 1 0	D2-O	164.5	255.1	177.0	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4
1 0 1 0 0 0	D2-O	154.7	185.5	166.5	192.2	191.3	205.2	244.6	228.7	358.9	272.0	606.7	356.9
1 0 1 0 0 1	D2-O	155.0	221.7	166.8	229.5	191.6	244.1	244.9	270.6	359.3	318.0	607.2	407.0
1 0 1 0 1 0	D2-O	164.5	255.1	177.0	263.1	202.9	278.0	256.1	304.8	370.1	352.7	617.8	442.4
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	C1-O	178.9	204.7	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
0 0 0 0 0 1	C1-O	172.8	234.8	185.0	242.5	210.2	257.1	263.4	283.3	378.5	330.4	627.9	419.1
0 0 0 0 1 0	C1-O	179.1	257.7	191.6	265.5	217.4	280.3	271.1	306.7	385.8	354.1	635.2	443.1
0 0 0 1 0 0	C1-O	178.9	204.6	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
0 0 0 1 0 1	C1-O	172.8	234.8	185.0	242.5	210.2	257.1	263.4	283.3	378.5	330.4	627.9	419.1
0 0 0 1 1 0	C1-O	179.0	257.7	191.6	265.5	217.3	280.3	271.1	306.7	385.8	354.1	635.2	443.1
0 0 1 0 0 0	C1-O	178.9	204.6	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
0 0 1 0 0 1	C1-O	172.8	234.8	185.0	242.5	210.2	257.1	263.4	283.3	378.5	330.4	627.9	419.1
0 0 1 0 1 0	C1-O	179.0	257.7	191.6	265.5	217.3	280.3	271.1	306.7	385.8	354.1	635.2	443.1
0 1 0 0 0 0	C1-O	178.9	204.6	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
0 1 0 0 0 1	C1-O	172.8	234.8	185.0	242.5	210.2	257.1	263.4	283.3	378.5	330.4	627.9	419.1
0 1 0 0 1 0	C1-O	179.1	257.7	191.6	265.5	217.3	280.3	271.1	306.7	385.8	354.0	635.2	443.1
0 1 0 1 0 0	C1-O	178.8	204.6	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
0 1 0 1 0 1	C1-O	172.8	234.8	185.0	242.5	210.1	257.1	263.4	283.3	378.5	330.4	627.9	419.1
0 1 0 1 1 0	C1-O	179.0	257.7	191.6	265.5	217.3	280.3	271.1	306.7	385.8	354.0	635.2	443.1
0 1 1 0 0 0	C1-O	178.8	204.6	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
0 1 1 0 0 1	C1-O	172.8	234.8	185.0	242.5	210.1	257.1	263.4	283.3	378.5	330.4	627.9	419.1
0 1 1 0 1 0	C1-O	179.0	257.7	191.6	265.5	217.3	280.3	271.1	306.7	385.8	354.0	635.2	443.1
1 0 0 0 0 0	C1-O	178.9	204.6	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
1 0 0 0 0 1	C1-O	172.8	234.8	185.0	242.5	210.2	257.1	263.4	283.3	378.5	330.4	627.9	419.1
1 0 0 0 1 0	C1-O	179.1	257.7	191.6	265.5	217.3	280.3	271.1	306.7	385.8	354.0	635.2	443.1
1 0 0 1 0 0	C1-O	178.8	204.6	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
1 0 0 1 0 1	C1-O	172.8	234.8	185.0	242.5	210.1	257.1	263.4	283.3	378.5	330.4	627.9	419.1
1 0 1 0 0 0	C1-O	178.8	204.6	190.8	211.8	215.9	225.4	269.1	250.4	383.9	295.9	633.1	383.1
1 0 1 0 0 1	C1-O	172.8	234.8	185.0	242.5	210.1	257.1	263.4	283.3	378.5	330.4	627.9	419.1

1 0 1 0 1 0	C1-O	179.0	257.7	191.6	265.5	217.3	280.3	271.1	306.7	385.8	354.0	635.2	443.1
0 0 0 0 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.5	321.1	635.0	408.8
0 0 0 0 0 1	C2-O	175.4	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.9
0 0 0 0 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.0	273.7	338.9	388.0	386.8	636.3	476.5
0 0 0 1 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.4	321.1	635.0	408.8
0 0 0 1 0 1	C2-O	175.3	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.9
0 0 0 1 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.1	273.7	338.9	388.0	386.8	636.3	476.5
0 0 1 0 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.4	321.1	635.0	408.8
0 0 1 0 0 1	C2-O	175.3	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.9
0 0 1 0 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.1	273.7	338.9	388.0	386.8	636.3	476.5
0 1 0 0 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.4	321.1	635.0	408.8
0 1 0 0 0 1	C2-O	175.3	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.8
0 1 0 0 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.0	273.7	338.8	388.0	386.8	636.3	476.5
0 1 0 1 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.4	321.1	635.0	408.8
0 1 0 1 0 1	C2-O	175.3	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.8
0 1 0 1 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.0	273.7	338.9	388.0	386.8	636.3	476.5
0 1 1 0 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.4	321.1	635.0	408.8
0 1 1 0 0 1	C2-O	175.3	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.8
0 1 1 0 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.0	273.7	338.9	388.0	386.8	636.3	476.5
1 0 0 0 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.4	321.1	635.0	408.8
1 0 0 0 0 1	C2-O	175.3	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.8
1 0 0 0 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.0	273.7	338.8	388.0	386.8	636.3	476.5
1 0 0 1 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.4	321.1	635.0	408.8
1 0 0 1 0 1	C2-O	175.3	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.8
1 0 0 1 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.0	273.7	338.9	388.0	386.8	636.3	476.5
1 0 1 0 0 0	C2-O	181.2	228.8	193.2	236.0	218.2	249.8	271.7	275.1	386.4	321.1	635.0	408.8
1 0 1 0 0 1	C2-O	175.3	266.5	187.6	274.4	212.8	289.2	265.8	315.8	381.0	363.5	630.4	452.8
1 0 1 0 1 0	C2-O	181.5	289.2	194.0	297.2	219.7	312.0	273.7	338.9	388.0	386.8	636.3	476.5
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	B1-O	179.0	179.6	190.7	185.6	214.7	197.3	267.2	219.6	380.2	262.0	628.6	346.8
0 0 0 0 0 1	B1-O	178.8	180.0	190.1	186.0	214.5	197.9	267.1	220.5	380.1	263.5	628.5	349.0
0 0 0 0 1 0	B1-O	178.8	180.0	190.1	186.0	214.5	197.9	267.1	220.5	380.1	263.5	628.5	349.0
0 0 0 1 0 0	B1-O	178.9	179.7	190.2	185.7	214.7	197.6	267.3	220.1	380.1	263.2	628.5	348.9
0 0 0 1 0 1	B1-O	178.7	180.0	190.0	186.1	214.5	198.1	267.1	220.9	380.1	264.5	628.5	350.9
0 0 0 1 1 0	B1-O	178.7	180.0	190.0	186.1	214.5	198.1	267.1	220.9	380.1	264.5	628.5	350.9
0 0 1 0 0 0	B1-O	178.9	179.7	190.2	185.7	214.7	197.6	267.3	220.1	380.1	263.2	628.5	348.9
0 0 1 0 0 1	B1-O	178.7	180.0	190.0	186.1	214.5	198.1	267.1	220.9	380.1	264.5	628.5	350.9
0 0 1 0 1 0	B1-O	178.7	180.0	190.0	186.1	214.5	198.1	267.1	220.9	380.1	264.5	628.5	350.9
0 1 0 0 0 0	B1-O	179.9	211.8	191.3	218.6	215.5	231.7	268.2	256.0	381.5	301.1	629.5	388.7
0 1 0 0 0 1	B1-O	179.7	212.1	191.1	219.0	215.7	232.2	267.9	256.8	381.4	302.4	629.5	390.6
0 1 0 0 1 0	B1-O	179.7	212.1	191.1	219.0	215.7	232.2	267.9	256.8	381.4	302.4	629.5	390.6
0 1 0 1 0 0	B1-O	179.8	211.9	191.2	218.8	215.7	232.0	268.0	256.5	381.4	302.1	629.5	390.5

0 1 0 1 0 1	B1-O	179.7	212.2	191.0	219.1	215.5	232.4	267.8	257.2	381.3	303.3	629.4	392.4
0 1 0 1 1 0	B1-O	179.7	212.2	191.0	219.1	215.5	232.4	267.8	257.2	381.3	303.3	629.4	392.4
0 1 1 0 0 0	B1-O	179.8	211.9	191.2	218.8	215.7	232.0	268.0	256.5	381.4	302.1	629.5	390.5
0 1 1 0 0 1	B1-O	179.7	212.2	191.0	219.1	215.5	232.4	267.8	257.2	381.3	303.3	629.4	392.4
0 1 1 0 1 0	B1-O	179.7	212.2	191.0	219.1	215.5	232.4	267.8	257.2	381.3	303.3	629.4	392.4
1 0 0 0 0 0	B1-O	190.5	244.1	201.8	251.0	226.3	264.2	279.3	288.8	392.5	334.2	639.5	422.2
1 0 0 0 0 1	B1-O	189.8	244.4	201.5	251.3	226.6	264.7	279.1	289.6	392.6	335.4	639.5	424.0
1 0 0 0 1 0	B1-O	189.8	244.4	201.5	251.3	226.6	264.7	279.1	289.6	392.6	335.4	639.5	424.0
1 0 0 1 0 0	B1-O	189.9	244.2	201.6	251.1	226.6	264.5	279.1	289.3	392.6	335.2	639.5	424.0
1 0 0 1 0 1	B1-O	189.7	244.5	201.4	251.5	226.4	264.9	278.9	290.0	392.0	336.3	639.5	425.8
1 0 0 1 1 0	B1-O	189.7	244.5	201.4	251.5	226.4	264.9	278.9	290.0	392.0	336.3	639.5	425.8
1 0 1 0 0 0	B1-O	189.9	244.2	201.6	251.1	226.6	264.5	279.1	289.3	392.6	335.2	639.5	424.0
1 0 1 0 0 1	B1-O	189.7	244.5	201.4	251.5	226.4	264.9	278.9	290.0	392.0	336.3	639.5	425.8
1 0 1 0 1 0	B1-O	189.7	244.5	201.4	251.5	226.4	264.9	278.9	290.0	392.0	336.3	639.5	425.8
0 0 0 0 0 0	B2-O	179.1	195.5	190.5	201.6	214.6	213.4	266.7	235.8	381.0	278.3	628.4	363.3
0 0 0 0 0 1	B2-O	178.9	195.8	190.3	202.0	214.4	214.0	266.6	236.7	380.9	279.8	628.3	365.4
0 0 0 0 1 0	B2-O	178.9	195.8	190.3	202.0	214.4	214.0	266.6	236.7	380.9	279.8	628.3	365.4
0 0 0 1 0 0	B2-O	179.0	195.6	190.4	201.7	214.5	213.6	266.6	236.3	380.6	279.5	628.3	365.3
0 0 0 1 0 1	B2-O	178.8	195.9	190.2	202.1	214.3	214.2	266.4	237.1	380.5	280.8	628.5	367.4
0 0 0 1 1 0	B2-O	178.8	195.9	190.2	202.1	214.3	214.2	266.4	237.1	380.5	280.8	628.5	367.4
0 0 1 0 0 0	B2-O	179.0	195.6	190.4	201.7	214.5	213.6	266.6	236.3	380.6	279.5	628.3	365.3
0 0 1 0 0 1	B2-O	178.8	195.9	190.2	202.1	214.3	214.2	266.4	237.1	380.5	280.8	628.5	367.4
0 0 1 0 1 0	B2-O	178.8	195.9	190.2	202.1	214.3	214.2	266.4	237.1	380.5	280.8	628.5	367.4
0 1 0 0 0 0	B2-O	179.4	233.5	190.8	240.4	214.9	253.6	267.0	278.0	381.3	323.3	628.8	411.1
0 1 0 0 0 1	B2-O	179.2	233.8	190.7	240.7	214.8	254.1	266.9	278.8	381.2	324.5	628.8	413.0
0 1 0 0 1 0	B2-O	179.2	233.8	190.7	240.7	214.8	254.1	266.9	278.8	381.2	324.5	628.8	413.0
0 1 0 1 0 0	B2-O	179.3	233.6	190.7	240.5	214.8	253.8	266.9	278.5	381.0	324.3	628.8	412.9
0 1 0 1 0 1	B2-O	179.1	233.9	190.5	240.9	214.6	254.3	266.8	279.2	380.9	325.5	629.0	414.8
0 1 0 1 1 0	B2-O	179.1	233.9	190.5	240.9	214.6	254.3	266.8	279.2	380.9	325.5	629.0	414.8
0 1 1 0 0 0	B2-O	179.3	233.6	190.7	240.5	214.8	253.8	266.9	278.5	381.0	324.3	628.8	412.9
0 1 1 0 0 1	B2-O	179.1	233.9	190.5	240.9	214.6	254.3	266.8	279.2	380.9	325.5	629.0	414.8
0 1 1 0 1 0	B2-O	179.1	233.9	190.5	240.9	214.6	254.3	266.8	279.2	380.9	325.5	629.0	414.8
1 0 0 0 0 0	B2-O	189.5	265.4	201.1	272.3	225.7	285.6	278.2	310.3	391.8	355.8	639.8	444.0
1 0 0 0 0 1	B2-O	189.4	265.7	200.9	272.6	225.6	286.1	278.1	311.1	391.8	357.1	639.7	445.8
1 0 0 0 1 0	B2-O	189.4	265.7	200.9	272.6	225.6	286.1	278.1	311.1	391.8	357.1	639.7	445.8
1 0 0 1 0 0	B2-O	189.4	265.5	201.0	272.4	225.6	285.9	278.1	310.8	391.8	356.8	639.7	445.8
1 0 0 1 0 1	B2-O	189.3	265.8	200.8	272.8	225.5	286.3	277.9	311.5	391.7	358.0	639.7	447.6
1 0 0 1 1 0	B2-O	189.3	265.8	200.8	272.8	225.5	286.3	277.9	311.5	391.7	358.0	639.7	447.6
1 0 1 0 0 0	B2-O	189.4	265.5	201.0	272.4	225.6	285.9	278.1	310.8	391.8	356.8	639.7	445.8
1 0 1 0 0 1	B2-O	189.3	265.8	200.8	272.8	225.5	286.3	277.9	311.5	391.7	358.0	639.7	447.6
1 0 1 0 1 0	B2-O	189.3	265.8	200.8	272.8	225.5	286.3	277.9	311.5	391.7	358.0	639.7	447.6

B1 B2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	A1-O	210.2	214.3	221.7	220.5	245.9	232.9	298.9	256.1	412.3	299.9	661.1	386.2
0 0 0 0 0 1	A1-O	209.6	214.6	221.5	220.9	245.7	233.4	298.8	256.9	412.2	301.3	661.0	388.2
0 0 0 0 1 0	A1-O	209.6	214.6	221.5	220.9	245.7	233.4	298.8	256.9	412.2	301.3	661.0	388.2
0 0 0 1 0 0	A1-O	209.7	214.4	221.2	220.7	245.7	233.1	298.8	256.6	412.2	300.9	661.0	388.2
0 0 0 1 0 1	A1-O	209.5	214.6	221.0	221.0	245.6	233.6	298.7	257.4	412.1	302.2	661.0	390.1
0 0 0 1 1 0	A1-O	209.5	214.6	221.0	221.0	245.6	233.6	298.7	257.4	412.1	302.2	661.0	390.1
0 0 1 0 0 0	A1-O	209.7	214.4	221.2	220.7	245.7	233.1	298.8	256.6	412.2	300.9	661.0	388.2
0 0 1 0 0 1	A1-O	209.5	214.6	221.0	221.0	245.6	233.6	298.7	257.4	412.1	302.2	661.0	390.1
0 0 1 0 1 0	A1-O	209.5	214.6	221.0	221.0	245.6	233.6	298.7	257.4	412.1	302.2	661.0	390.1
0 1 0 0 0 0	A1-O	203.7	245.7	215.7	252.5	240.2	265.6	293.3	289.9	406.7	335.0	655.7	422.7
0 1 0 0 0 1	A1-O	203.5	246.0	215.5	252.9	240.0	266.1	293.2	290.7	406.7	336.3	655.6	424.5
0 1 0 0 1 0	A1-O	203.5	246.0	215.5	252.9	240.0	266.1	293.2	290.7	406.7	336.3	655.6	424.5
0 1 0 1 0 0	A1-O	203.6	245.8	215.2	252.7	240.0	265.9	293.2	290.4	406.7	336.1	655.6	424.5
0 1 0 1 0 1	A1-O	203.4	246.1	215.0	253.0	239.9	266.3	293.0	291.1	406.6	337.2	655.6	426.3
0 1 0 1 1 0	A1-O	203.4	246.1	215.0	253.0	239.9	266.3	293.0	291.1	406.6	337.2	655.6	426.3
0 1 1 0 0 0	A1-O	203.6	245.8	215.2	252.7	240.0	265.9	293.2	290.4	406.7	336.1	655.6	424.5
0 1 1 0 0 1	A1-O	203.4	246.1	215.0	253.0	239.9	266.3	293.0	291.1	406.6	337.2	655.6	426.3
0 1 1 0 1 0	A1-O	203.4	246.1	215.0	253.0	239.9	266.3	293.0	291.1	406.6	337.2	655.6	426.3
1 0 0 0 0 0	A1-O	211.3	269.0	223.1	275.9	247.7	289.0	300.8	313.4	415.3	358.7	662.5	446.5
1 0 0 0 0 1	A1-O	210.6	269.3	222.9	276.2	247.5	289.5	300.8	314.2	415.3	359.9	662.5	448.3
1 0 0 0 1 0	A1-O	210.6	269.3	222.9	276.2	247.5	289.5	300.8	314.2	415.3	359.9	662.5	448.3
1 0 0 1 0 0	A1-O	210.7	269.1	222.5	276.0	247.8	289.2	300.9	313.9	415.3	359.7	662.5	448.3
1 0 0 1 0 1	A1-O	210.5	269.4	222.4	276.4	247.7	289.7	300.8	314.6	415.2	360.8	662.5	450.1
1 0 0 1 1 0	A1-O	210.5	269.4	222.4	276.4	247.7	289.7	300.8	314.6	415.2	360.8	662.5	450.1
1 0 1 0 0 0	A1-O	210.7	269.1	222.5	276.0	247.8	289.2	300.9	313.9	415.3	359.7	662.5	448.3
1 0 1 0 0 1	A1-O	210.5	269.4	222.4	276.4	247.7	289.7	300.8	314.6	415.2	360.8	662.5	450.1
1 0 1 0 1 0	A1-O	210.5	269.4	222.4	276.4	247.7	289.7	300.8	314.6	415.2	360.8	662.5	450.1
0 0 0 0 0 0	A2-O	214.7	236.6	226.2	243.0	250.4	255.4	303.5	278.8	416.9	322.9	665.3	409.5
0 0 0 0 0 1	A2-O	214.1	236.9	226.0	243.3	250.2	256.0	303.4	279.6	416.8	324.2	665.3	411.5
0 0 0 0 1 0	A2-O	214.1	236.9	226.0	243.3	250.2	256.0	303.4	279.6	416.8	324.2	665.3	411.5
0 0 0 1 0 0	A2-O	214.2	236.7	225.7	243.1	250.4	255.7	303.4	279.3	416.8	323.9	665.3	411.4
0 0 0 1 0 1	A2-O	214.0	237.0	225.5	243.4	250.3	256.2	303.2	280.1	416.8	325.2	665.2	413.4
0 0 0 1 1 0	A2-O	214.0	237.0	225.5	243.4	250.3	256.2	303.2	280.1	416.8	325.2	665.2	413.4
0 0 1 0 0 0	A2-O	214.2	236.7	225.7	243.1	250.4	255.7	303.4	279.3	416.8	323.9	665.3	411.4
0 0 1 0 0 1	A2-O	214.0	237.0	225.5	243.4	250.3	256.2	303.2	280.1	416.8	325.2	665.2	413.4
0 0 1 0 1 0	A2-O	214.0	237.0	225.5	243.4	250.3	256.2	303.2	280.1	416.8	325.2	665.2	413.4
0 1 0 0 0 0	A2-O	208.9	275.2	220.4	282.1	244.6	295.4	297.3	319.9	411.5	365.3	661.0	453.3
0 1 0 0 0 1	A2-O	208.7	275.5	220.2	282.5	244.9	295.9	297.2	320.7	411.4	366.6	660.9	455.1
0 1 0 0 1 0	A2-O	208.7	275.5	220.2	282.5	244.9	295.9	297.2	320.7	411.4	366.6	660.9	455.1
0 1 0 1 0 0	A2-O	208.4	275.3	219.9	282.3	244.8	295.6	297.2	320.4	411.4	366.3	660.9	455.1
0 1 0 1 0 1	A2-O	208.2	275.6	219.7	282.7	244.7	296.1	297.1	321.1	411.3	367.5	660.9	456.9

<b>0 1 0 1 1 0</b>	A2-O	<b>208.2</b>	<b>275.6</b>	<b>219.7</b>	<b>282.7</b>	<b>244.7</b>	<b>296.1</b>	<b>297.1</b>	<b>321.1</b>	<b>411.3</b>	<b>367.5</b>	<b>660.9</b>	<b>456.9</b>
<b>0 1 1 0 0 0</b>	A2-O	<b>208.4</b>	<b>275.3</b>	<b>219.9</b>	<b>282.3</b>	<b>244.8</b>	<b>295.6</b>	<b>297.2</b>	<b>320.4</b>	<b>411.4</b>	<b>366.3</b>	<b>660.9</b>	<b>455.1</b>
<b>0 1 1 0 0 1</b>	A2-O	<b>208.2</b>	<b>275.6</b>	<b>219.7</b>	<b>282.7</b>	<b>244.7</b>	<b>296.1</b>	<b>297.1</b>	<b>321.1</b>	<b>411.3</b>	<b>367.5</b>	<b>660.9</b>	<b>456.9</b>
<b>0 1 1 0 1 0</b>	A2-O	<b>208.2</b>	<b>275.6</b>	<b>219.7</b>	<b>282.7</b>	<b>244.7</b>	<b>296.1</b>	<b>297.1</b>	<b>321.1</b>	<b>411.3</b>	<b>367.5</b>	<b>660.9</b>	<b>456.9</b>
<b>1 0 0 0 0 0</b>	A2-O	<b>216.0</b>	<b>298.2</b>	<b>227.6</b>	<b>305.1</b>	<b>252.3</b>	<b>318.4</b>	<b>305.7</b>	<b>343.1</b>	<b>419.4</b>	<b>388.6</b>	<b>668.6</b>	<b>476.8</b>
<b>1 0 0 0 0 1</b>	A2-O	<b>215.3</b>	<b>298.5</b>	<b>227.2</b>	<b>305.5</b>	<b>252.6</b>	<b>318.9</b>	<b>305.5</b>	<b>343.8</b>	<b>419.5</b>	<b>389.8</b>	<b>668.6</b>	<b>478.6</b>
<b>1 0 0 0 1 0</b>	A2-O	<b>215.3</b>	<b>298.5</b>	<b>227.2</b>	<b>305.5</b>	<b>252.6</b>	<b>318.9</b>	<b>305.5</b>	<b>343.8</b>	<b>419.5</b>	<b>389.8</b>	<b>668.6</b>	<b>478.6</b>
<b>1 0 0 1 0 0</b>	A2-O	<b>215.4</b>	<b>298.3</b>	<b>227.2</b>	<b>305.3</b>	<b>252.6</b>	<b>318.7</b>	<b>305.5</b>	<b>343.6</b>	<b>419.5</b>	<b>389.6</b>	<b>668.6</b>	<b>478.6</b>
<b>1 0 0 1 0 1</b>	A2-O	<b>215.2</b>	<b>298.6</b>	<b>227.0</b>	<b>305.6</b>	<b>252.4</b>	<b>319.1</b>	<b>305.3</b>	<b>344.3</b>	<b>419.0</b>	<b>390.7</b>	<b>668.5</b>	<b>480.4</b>
<b>1 0 0 1 1 0</b>	A2-O	<b>215.2</b>	<b>298.6</b>	<b>227.0</b>	<b>305.6</b>	<b>252.4</b>	<b>319.1</b>	<b>305.3</b>	<b>344.3</b>	<b>419.0</b>	<b>390.8</b>	<b>668.5</b>	<b>480.4</b>
<b>1 0 1 0 0 0</b>	A2-O	<b>215.4</b>	<b>298.3</b>	<b>227.2</b>	<b>305.3</b>	<b>252.6</b>	<b>318.7</b>	<b>305.5</b>	<b>343.6</b>	<b>419.5</b>	<b>389.6</b>	<b>668.6</b>	<b>478.6</b>
<b>1 0 1 0 0 1</b>	A2-O	<b>215.2</b>	<b>298.6</b>	<b>227.0</b>	<b>305.6</b>	<b>252.4</b>	<b>319.1</b>	<b>305.3</b>	<b>344.3</b>	<b>419.0</b>	<b>390.8</b>	<b>668.5</b>	<b>480.4</b>
<b>1 0 1 0 1 0</b>	A2-O	<b>215.2</b>	<b>298.6</b>	<b>227.0</b>	<b>305.6</b>	<b>252.4</b>	<b>319.1</b>	<b>305.3</b>	<b>344.3</b>	<b>419.0</b>	<b>390.8</b>	<b>668.5</b>	<b>480.4</b>

Version : AO2222HLD

Cell Unit = 24

State	Path	Output Load															
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff					
A1	A2	B1	B2	C1	C2	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0 0 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.4				
0 0 0 0 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.4	312.4	342.2	362.4	583.0	458.5				
0 0 0 0 1 0	D1-O	183.9	302.4	192.5	309.0	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
0 0 0 1 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.4				
0 0 0 1 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.3	312.4	342.2	362.4	583.0	458.5				
0 0 0 1 1 0	D1-O	183.9	302.4	192.5	309.0	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
0 0 1 0 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.4				
0 0 1 0 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.3	312.4	342.2	362.4	583.0	458.5				
0 0 1 0 1 0	D1-O	183.9	302.4	192.5	309.0	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
0 1 0 0 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.3				
0 1 0 0 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.3	312.4	342.2	362.4	583.0	458.4				
0 1 0 0 1 0	D1-O	183.9	302.4	192.5	309.0	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
0 1 0 1 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.3				
0 1 0 1 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.3	312.4	342.2	362.4	583.0	458.4				
0 1 0 1 1 0	D1-O	183.9	302.4	192.5	309.0	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
0 1 1 0 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.3				
0 1 1 0 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.3	312.4	342.2	362.4	583.0	458.4				
0 1 1 0 1 0	D1-O	183.9	302.4	192.5	308.9	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
1 0 0 0 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.3				
1 0 0 0 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.3	312.4	342.2	362.4	583.0	458.4				
1 0 0 0 1 0	D1-O	183.9	302.4	192.5	309.0	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
1 0 0 1 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.3				
1 0 0 1 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.3	312.4	342.2	362.4	583.0	458.4				
1 0 0 1 1 0	D1-O	183.9	302.4	192.5	308.9	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
1 0 1 0 0 0	D1-O	175.5	219.2	183.4	224.8	201.6	236.5	243.0	259.8	341.9	304.2	582.7	393.3				
1 0 1 0 0 1	D1-O	175.8	265.8	183.7	272.3	201.9	285.8	243.3	312.4	342.2	362.4	583.0	458.4				
1 0 1 0 1 0	D1-O	183.9	302.4	192.5	308.9	211.7	322.7	254.4	349.7	353.7	400.2	594.5	496.9				
0 0 0 0 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	411.0				
0 0 0 0 0 1	D2-O	175.2	289.0	183.1	295.4	201.1	309.0	242.7	336.0	341.7	386.1	582.4	482.5				
0 0 0 0 1 0	D2-O	183.2	325.2	191.7	331.8	210.9	345.7	253.7	372.8	353.1	423.5	593.9	520.6				
0 0 0 1 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	411.0				
0 0 0 1 0 1	D2-O	175.2	288.9	183.0	295.4	201.1	309.0	242.6	336.0	341.7	386.1	582.4	482.5				
0 0 0 1 1 0	D2-O	183.2	325.2	191.7	331.8	210.9	345.7	253.7	372.8	353.1	423.5	593.9	520.5				
0 0 1 0 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	411.0				
0 0 1 0 0 1	D2-O	175.2	288.9	183.0	295.4	201.1	309.0	242.6	336.0	341.7	386.1	582.4	482.5				
0 1 0 0 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	411.0				
0 1 0 0 0 1	D2-O	175.2	288.9	183.1	295.4	201.1	309.0	242.6	336.0	341.7	386.1	582.4	482.5				
0 1 0 0 1 0	D2-O	183.2	325.2	191.7	331.8	210.9	345.7	253.7	372.8	353.1	423.5	593.9	520.5				

0 1 0 1 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	410.9
0 1 0 1 0 1	D2-O	175.1	288.9	183.0	295.4	201.1	309.0	242.6	336.0	341.7	386.1	582.4	482.5
0 1 0 1 1 0	D2-O	183.2	325.2	191.7	331.8	210.9	345.7	253.6	372.8	353.1	423.5	593.9	520.5
0 1 1 0 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	410.9
0 1 1 0 0 1	D2-O	175.1	288.9	183.0	295.4	201.1	309.0	242.6	336.0	341.7	386.1	582.4	482.5
0 1 1 0 1 0	D2-O	183.2	325.2	191.7	331.8	210.9	345.7	253.6	372.8	353.1	423.5	593.9	520.5
1 0 0 0 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	411.0
1 0 0 0 0 1	D2-O	175.2	288.9	183.1	295.4	201.1	309.0	242.6	336.0	341.7	386.1	582.4	482.5
1 0 0 0 1 0	D2-O	183.2	325.2	191.7	331.8	210.9	345.7	253.7	372.8	353.1	423.5	593.9	520.5
1 0 0 1 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	410.9
1 0 0 1 0 1	D2-O	175.1	288.9	183.0	295.4	201.1	309.0	242.6	336.0	341.7	386.1	582.4	482.5
1 0 0 1 1 0	D2-O	183.2	325.2	191.7	331.8	210.9	345.7	253.6	372.8	353.1	423.5	593.9	520.5
1 0 1 0 0 0	D2-O	174.9	236.1	182.8	241.6	200.8	253.5	242.4	276.9	341.4	321.6	582.2	410.9
1 0 1 0 0 1	D2-O	175.1	288.9	183.0	295.4	201.1	309.0	242.6	336.0	341.7	386.1	582.4	482.5
1 0 1 0 1 0	D2-O	183.2	325.2	191.7	331.8	210.9	345.7	253.6	372.8	353.1	423.5	593.9	520.5
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0 0 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.1
0 0 0 0 0 1	C1-O	190.5	300.1	198.6	306.4	217.1	320.0	259.0	346.7	358.3	396.6	599.6	492.7
0 0 0 0 1 0	C1-O	196.0	325.3	204.4	331.7	223.6	345.6	266.2	372.2	365.8	422.5	607.1	518.9
0 0 0 1 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.1
0 0 0 1 0 1	C1-O	190.5	300.1	198.5	306.4	217.1	320.0	259.0	346.7	358.3	396.6	599.6	492.7
0 0 0 1 1 0	C1-O	196.0	325.3	204.4	331.7	223.5	345.5	266.2	372.2	365.8	422.6	607.1	518.9
0 0 1 0 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.1
0 0 1 0 0 1	C1-O	190.5	300.1	198.5	306.4	217.1	320.0	259.0	346.7	358.3	396.6	599.6	492.7
0 0 1 0 1 0	C1-O	196.0	325.3	204.4	331.7	223.5	345.5	266.2	372.2	365.8	422.6	607.1	518.9
0 1 0 0 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.0
0 1 0 0 0 1	C1-O	190.5	300.1	198.5	306.4	217.1	320.0	259.0	346.7	358.3	396.6	599.6	492.7
0 1 0 0 1 0	C1-O	196.0	325.3	204.4	331.7	223.6	345.6	266.2	372.2	365.8	422.5	607.1	518.9
0 1 0 1 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.0
0 1 0 1 0 1	C1-O	190.5	300.1	198.5	306.4	217.1	320.0	258.9	346.7	358.2	396.6	599.6	492.6
0 1 0 1 1 0	C1-O	196.0	325.3	204.4	331.7	223.5	345.5	266.2	372.2	365.8	422.5	607.1	518.9
0 1 1 0 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.0
0 1 1 0 0 1	C1-O	190.5	300.1	198.5	306.4	217.1	320.0	258.9	346.7	358.2	396.6	599.6	492.6
0 1 1 0 1 0	C1-O	196.0	325.3	204.4	331.7	223.5	345.5	266.2	372.2	365.8	422.5	607.1	518.9
1 0 0 0 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.0
1 0 0 0 0 1	C1-O	190.5	300.1	198.5	306.4	217.1	320.0	259.0	346.7	358.3	396.6	599.6	492.7
1 0 0 0 1 0	C1-O	196.0	325.3	204.4	331.7	223.6	345.6	266.2	372.2	365.8	422.5	607.1	518.9
1 0 0 1 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.0
1 0 0 1 0 1	C1-O	190.5	300.1	198.5	306.4	217.1	320.0	258.9	346.7	358.2	396.6	599.6	492.6
1 0 1 0 0 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.0
1 0 1 0 0 1	C1-O	196.0	325.3	204.4	331.7	223.5	345.5	266.2	372.2	365.8	422.5	607.1	518.9
1 0 1 0 1 0	C1-O	195.7	255.0	203.7	260.7	222.1	272.8	263.9	297.1	363.0	343.9	604.3	436.0
1 0 1 0 1 1	C1-O	190.5	300.1	198.5	306.4	217.1	320.0	258.9	346.7	358.2	396.6	599.6	492.6

1 0 1 0 1 0	C1-O	196.0	325.3	204.4	331.7	223.5	345.5	266.2	372.2	365.8	422.5	607.1	518.9
0 0 0 0 0 0	C2-O	198.8	280.9	206.6	286.6	225.1	299.0	266.9	323.6	366.2	370.6	607.6	463.4
0 0 0 0 0 1	C2-O	193.7	334.1	201.6	340.7	220.0	354.3	262.0	381.4	361.5	431.8	602.9	528.6
0 0 0 0 1 0	C2-O	199.0	359.3	207.4	365.7	226.6	379.7	269.3	406.8	369.0	457.4	610.4	554.5
0 0 0 1 0 0	C2-O	198.8	280.9	206.6	286.5	225.0	299.0	266.9	323.6	366.2	370.6	607.6	463.4
0 0 0 1 0 1	C2-O	193.7	334.1	201.6	340.7	220.0	354.3	262.0	381.4	361.5	431.8	602.9	528.5
0 0 0 1 1 0	C2-O	198.9	359.3	207.4	365.7	226.6	379.7	269.3	406.8	369.0	457.4	610.4	554.5
0 0 1 0 0 0	C2-O	198.8	280.9	206.6	286.5	225.0	299.0	266.9	323.6	366.2	370.6	607.6	463.4
0 0 1 0 0 1	C2-O	193.7	334.1	201.6	340.7	220.0	354.3	262.0	381.4	361.5	431.8	602.9	528.5
0 0 1 0 1 0	C2-O	198.9	359.3	207.4	365.7	226.6	379.7	269.3	406.8	369.0	457.4	610.4	554.5
0 1 0 0 0 0	C2-O	198.8	280.9	206.6	286.6	225.1	299.0	266.9	323.6	366.2	370.6	607.6	463.4
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0 1 0 1 0 0	C2-O	198.8	280.9	206.6	286.5	225.0	299.0	266.9	323.6	366.2	370.6	607.6	463.3
0 1 0 1 0 1	C2-O	193.7	334.1	201.6	340.7	220.0	354.3	262.0	381.4	361.5	431.8	602.9	528.5
0 1 0 1 1 0	C2-O	198.9	359.3	207.4	365.7	226.6	379.7	269.3	406.8	369.0	457.4	610.4	554.5
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0 1 1 0 0 1	C2-O	193.7	334.1	201.6	340.7	220.0	354.3	262.0	381.4	361.5	431.8	602.9	528.5
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1 0 0 0 0 0	C2-O	198.8	280.9	206.6	286.6	225.1	299.0	266.9	323.6	366.2	370.6	607.6	463.4
1 0 0 0 0 1	C2-O	193.7	334.1	201.6	340.7	220.0	354.3	262.0	381.4	361.5	431.8	602.9	528.5
1 0 0 0 1 0	C2-O	199.0	359.3	207.4	365.7	226.6	379.7	269.3	406.8	369.0	457.4	610.4	554.5
1 0 0 1 0 0	C2-O	198.8	280.9	206.6	286.5	225.0	299.0	266.9	323.6	366.2	370.6	607.6	463.3
1 0 0 1 0 1	C2-O	193.7	334.1	201.6	340.7	220.0	354.3	262.0	381.4	361.5	431.8	602.9	528.5
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1 0 1 0 0 1	C2-O	193.7	334.1	201.6	340.7	220.0	354.3	262.0	381.4	361.5	431.8	602.9	528.5
1 0 1 0 1 0	C2-O	198.9	359.3	207.4	365.7	226.6	379.7	269.3	406.8	369.0	457.4	610.4	554.5
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0 0 0 0	B1-O	197.3	227.8	204.4	232.7	221.7	243.3	262.8	264.9	361.2	307.9	601.0	396.7
0 0 0 0 0 1	B1-O	196.9	228.3	204.1	233.2	221.3	244.0	262.4	266.0	361.0	309.9	601.0	400.3
0 0 0 0 1 0	B1-O	196.9	228.3	204.1	233.2	221.3	244.0	262.4	266.0	361.0	309.9	601.0	400.3
0 0 0 1 0 0	B1-O	197.1	228.0	204.3	232.9	221.5	243.6	262.5	265.5	361.0	309.3	601.0	399.9
0 0 0 1 0 1	B1-O	196.7	228.4	203.9	233.4	221.1	244.2	262.2	266.5	360.8	311.1	600.9	403.2
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0 0 1 0 1 0	B1-O	196.7	228.4	203.9	233.4	221.1	244.2	262.2	266.5	360.8	311.1	600.9	403.2
0 1 0 0 0 0	B1-O	197.6	275.2	204.8	280.9	222.0	293.1	263.1	317.5	361.5	364.4	601.3	458.0
0 1 0 0 0 1	B1-O	197.1	275.8	204.4	281.5	221.6	293.9	262.7	318.5	361.3	366.1	601.3	461.0
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0 1 0 1 0 1	B1-O	197.0	275.9	204.2	281.7	221.4	294.1	262.5	318.9	361.1	367.2	601.2	463.7
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1 0 0 0 0 0	B1-O	207.1	309.5	214.4	315.3	232.2	327.7	273.6	352.3	372.1	399.5	611.9	493.5
1 0 0 0 0 1	B1-O	206.5	310.1	214.0	315.9	231.8	328.4	273.2	353.3	371.9	401.2	611.9	496.5
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1 0 0 1 0 1	B1-O	206.3	310.2	213.7	316.0	231.6	328.6	272.9	353.8	371.7	402.3	611.8	499.1
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1 0 1 0 0 0	B1-O	206.8	309.7	214.1	315.6	232.0	328.1	273.3	353.0	371.9	400.8	611.9	496.3
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1 0 1 0 1 0	B1-O	206.3	310.2	213.7	316.0	231.6	328.6	272.9	353.8	371.7	402.3	611.8	499.1
0 0 0 0 0 0	B2-O	197.0	244.9	203.8	249.8	221.3	260.4	262.3	282.1	360.7	325.2	600.5	414.3
0 0 0 0 0 1	B2-O	196.5	245.4	203.4	250.3	220.8	261.1	261.9	283.2	360.5	327.3	600.4	417.8
0 0 0 0 1 0	B2-O	196.5	245.4	203.4	250.3	220.8	261.1	261.9	283.2	360.5	327.3	600.4	417.8
0 0 0 1 0 0	B2-O	196.7	245.1	203.6	250.0	221.0	260.7	262.0	282.8	360.5	326.7	600.4	417.4
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0 0 1 0 1 0	B2-O	196.3	245.5	203.2	250.4	220.6	261.3	261.7	283.7	360.3	328.5	600.4	420.8
0 1 0 0 0 0	B2-O	197.2	298.7	204.1	304.3	221.5	316.6	262.5	341.1	360.9	388.2	600.8	482.1
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1 0 0 0 0 1	B2-O	205.6	333.0	213.1	338.9	231.1	351.5	272.5	376.5	371.3	424.6	611.3	520.1
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1 0 0 1 0 1	B2-O	205.4	333.2	212.9	339.1	230.6	351.7	272.3	377.0	371.1	425.7	611.2	522.7
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1 0 1 0 0 0	B2-O	205.8	332.7	213.2	338.6	231.3	351.1	272.6	376.2	371.3	424.2	611.2	519.9
1 0 1 0 0 1	B2-O	205.4	333.2	212.9	339.1	230.6	351.7	272.3	377.0	371.1	425.7	611.2	522.7
1 0 1 0 1 0	B2-O	205.4	333.2	212.9	339.1	230.6	351.7	272.3	377.0	371.1	425.7	611.2	522.7

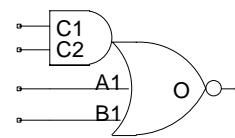
B1 B2 C1 C2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tphh	tphl										
0 0 0 0 0 0	A1-O	233.0	263.3	239.9	268.4	257.8	279.3	299.4	301.7	398.4	346.0	638.9	436.7
0 0 0 0 0 1	A1-O	232.5	263.8	239.6	268.9	257.4	280.0	299.1	302.8	398.2	347.9	638.8	440.1
0 0 0 0 1 0	A1-O	232.5	263.8	239.6	268.9	257.4	280.0	299.1	302.8	398.2	347.9	638.8	440.1
0 0 0 1 0 0	A1-O	232.7	263.5	239.7	268.6	257.6	279.6	299.2	302.3	398.2	347.4	638.8	439.7
0 0 0 1 0 1	A1-O	232.3	263.9	239.4	269.0	257.2	280.2	298.8	303.2	398.0	349.1	638.8	442.9
0 0 0 1 1 0	A1-O	232.3	263.9	239.4	269.0	257.2	280.2	298.8	303.2	398.0	349.1	638.8	442.9
0 0 1 0 0 0	A1-O	232.7	263.5	239.7	268.6	257.6	279.6	299.2	302.3	398.2	347.4	638.8	439.7
0 0 1 0 0 1	A1-O	232.3	263.9	239.4	269.0	257.2	280.2	298.8	303.2	398.0	349.1	638.8	442.9
0 0 1 0 1 0	A1-O	232.3	263.9	239.4	269.0	257.2	280.2	298.8	303.2	398.0	349.1	638.8	442.9
0 1 0 0 0 0	A1-O	227.3	309.1	234.7	314.7	252.5	326.9	294.0	351.3	393.0	398.2	633.5	491.9
0 1 0 0 0 1	A1-O	226.9	309.6	234.3	315.3	252.1	327.6	293.7	352.3	392.8	400.0	633.4	494.9
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0 1 0 1 0 0	A1-O	227.1	309.3	234.4	315.0	252.3	327.3	293.7	351.9	392.8	399.5	633.4	494.6
0 1 0 1 0 1	A1-O	226.7	309.7	234.0	315.4	251.9	327.9	293.4	352.7	392.6	401.1	633.4	497.5
0 1 0 1 1 0	A1-O	226.7	309.7	234.0	315.4	251.9	327.9	293.4	352.7	392.6	401.1	633.4	497.5
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0 1 1 0 0 1	A1-O	226.7	309.7	234.0	315.4	251.9	327.9	293.4	352.7	392.6	401.1	633.4	497.5
0 1 1 0 1 0	A1-O	226.7	309.7	234.0	315.4	251.9	327.9	293.4	352.7	392.6	401.1	633.4	497.5
1 0 0 0 0 0	A1-O	234.6	334.6	241.8	340.3	260.1	352.6	302.3	377.2	401.5	424.2	642.1	518.1
1 0 0 0 0 1	A1-O	234.1	335.1	241.4	340.9	259.7	353.3	302.0	378.2	401.4	425.9	642.1	521.1
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1 0 0 1 0 1	A1-O	233.9	335.2	241.2	341.0	259.5	353.6	301.7	378.6	401.2	427.0	642.0	523.7
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1 0 1 0 0 0	A1-O	234.3	334.8	241.6	340.6	259.9	353.0	302.0	377.8	401.4	425.5	642.1	520.8
1 0 1 0 0 1	A1-O	233.9	335.2	241.2	341.0	259.5	353.6	301.7	378.6	401.2	427.0	642.0	523.7
1 0 1 0 1 0	A1-O	233.9	335.2	241.2	341.0	259.5	353.6	301.7	378.6	401.2	427.0	642.0	523.7
0 0 0 0 0 0	A2-O	240.0	286.4	247.6	291.5	265.2	302.5	306.8	325.1	405.8	369.6	646.3	460.6
0 0 0 0 0 1	A2-O	239.6	286.8	247.2	292.0	264.8	303.2	306.5	326.1	405.7	371.5	646.3	464.0
0 0 0 0 1 0	A2-O	239.6	286.8	247.2	292.0	264.8	303.2	306.5	326.1	405.7	371.5	646.3	464.0
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0 0 0 1 0 1	A2-O	239.4	287.0	247.0	292.1	264.6	303.4	306.3	326.6	405.4	372.7	646.2	466.8
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0 0 1 0 0 1	A2-O	239.4	287.0	247.0	292.1	264.6	303.4	306.3	326.6	405.4	372.7	646.2	466.8
0 0 1 0 1 0	A2-O	239.4	287.0	247.0	292.1	264.6	303.4	306.3	326.6	405.4	372.7	646.2	466.8
0 1 0 0 0 0	A2-O	234.8	339.4	241.7	345.2	259.7	357.6	301.4	382.2	400.5	429.4	641.0	523.4
0 1 0 0 0 1	A2-O	234.3	339.9	241.4	345.8	259.3	358.3	301.0	383.2	400.3	431.0	640.9	526.4
0 1 0 0 1 0	A2-O	234.3	339.9	241.4	345.8	259.3	358.3	301.0	383.2	400.3	431.0	640.9	526.4
0 1 0 1 0 0	A2-O	234.5	339.6	241.5	345.4	259.4	357.9	301.1	382.8	400.3	430.6	640.9	526.1
0 1 0 1 0 1	A2-O	234.1	340.1	241.2	345.9	259.1	358.5	300.8	383.6	400.1	432.1	640.9	529.0

<b>0 1 0 1 1 0</b>	A2-O	234.1	340.1	241.2	345.9	259.1	358.5	300.8	383.6	400.1	432.1	640.9	529.0
<b>0 1 1 0 0 0</b>	A2-O	234.5	339.6	241.5	345.4	259.4	357.9	301.1	382.8	400.3	430.6	640.9	526.1
<b>0 1 1 0 0 1</b>	A2-O	234.1	340.1	241.2	345.9	259.1	358.5	300.8	383.6	400.1	432.1	640.9	529.0
<b>0 1 1 0 1 0</b>	A2-O	234.1	340.1	241.2	345.9	259.1	358.5	300.8	383.6	400.1	432.1	640.9	529.0
<b>1 0 0 0 0 0</b>	A2-O	241.8	364.6	249.2	370.4	267.5	382.8	309.7	407.6	409.0	455.0	649.6	549.2
<b>1 0 0 0 0 1</b>	A2-O	241.4	365.2	248.8	371.0	267.1	383.5	309.4	408.5	408.8	456.6	649.5	552.2
<b>1 0 0 0 1 0</b>	A2-O	241.4	365.2	248.8	371.0	267.1	383.5	309.4	408.5	408.8	456.6	649.5	552.2
<b>1 0 0 1 0 0</b>	A2-O	241.6	364.8	248.9	370.7	267.2	383.1	309.5	408.2	408.8	456.2	649.5	552.0
<b>1 0 0 1 0 1</b>	A2-O	241.2	365.3	248.6	371.2	266.9	383.7	309.1	409.0	408.6	457.7	649.5	554.8
<b>1 0 0 1 1 0</b>	A2-O	241.2	365.3	248.6	371.2	266.9	383.7	309.1	409.0	408.6	457.7	649.5	554.8
<b>1 0 1 0 0 0</b>	A2-O	241.6	364.8	248.9	370.7	267.2	383.1	309.5	408.2	408.8	456.2	649.5	552.0
<b>1 0 1 0 0 1</b>	A2-O	241.2	365.3	248.6	371.2	266.9	383.7	309.1	409.0	408.6	457.7	649.5	554.8
<b>1 0 1 0 1 0</b>	A2-O	241.2	365.3	248.6	371.2	266.9	383.7	309.1	409.0	408.6	457.7	649.5	554.8

Group Name : AOI112

Symbol

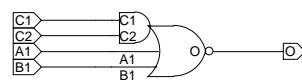
Function : AN2 into NR3



Truth Table

Schematic

A1	B1	C1	C2	O
1	X	X	X	0
X	1	X	X	0
X	X	1	1	0
OTHERS				1



Pin Order O A1 B1 C1 C2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading		Power Consumption	
	A1	B1	C1	C2	O			O
AOI112BLD	1.431	1.876	2.145	2.305	36.19			4.068
AOI112ELD	1.659	1.858	2.095	2.235	139.5			10.65
AOI112HLD	1.672	1.877	2.143	2.299	281.3			15.98
AOI112KLD	1.672	1.877	2.143	2.299	562.0			23.66

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version : AOI112BLD

Cell Unit = 8

State	Output Load													
	C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
0 0	B1-O		146.6	83.09	177.3	96.45	245.6	123.0	393.1	176.0	718.7	286.7	1433	528.1
0 1	B1-O		167.3	83.88	203.6	97.04	285.0	123.5	461.3	176.6	846.5	287.3	1696	528.7
1 0	B1-O		198.0	84.11	235.5	97.13	315.5	123.6	493.1	176.8	878.5	287.2	1728	528.2
0 0	A1-O		123.9	71.16	155.7	84.63	224.2	112.0	372.8	165.2	699.0	275.7	1414	516.4
0 1	A1-O		134.1	71.31	171.0	85.07	252.2	112.1	429.6	165.3	815.7	275.7	1665	516.5
1 0	A1-O		165.0	71.78	202.5	85.27	284.3	112.4	461.5	165.7	847.4	276.0	1698	516.3
	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
	C1-O		197.8	82.13	235.1	94.98	317.1	120.7	494.8	171.2	880.8	275.4	1731	497.9
	C2-O		226.8	81.36	263.8	93.58	345.3	118.3	521.9	168.7	908.5	272.7	1758	495.3

Version : AOI112ELD

Cell Unit = 12

State	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	B1-O	239.6	203.5	250.5	210.8	273.8	224.4	322.8	248.4	430.3	294.6
0 1	B1-O	267.4	203.1	278.4	210.5	301.4	224.0	350.9	248.3	458.9	294.5
1 0	B1-O	294.3	211.6	305.6	219.0	328.6	232.5	378.0	256.7	485.4	303.0
0 0	A1-O	214.3	187.8	225.6	195.0	248.3	208.2	297.9	232.5	405.1	278.6
0 1	A1-O	231.4	187.9	242.6	195.2	265.5	208.4	315.0	232.6	422.6	278.9
1 0	A1-O	258.9	196.1	270.1	203.5	293.0	217.0	342.5	241.2	450.0	287.4
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C1-O	296.4	211.7	307.4	219.2	330.6	232.5	380.0	257.0	487.7	303.3
	C2-O	322.4	211.1	333.4	218.8	356.9	232.0	405.8	256.5	513.3	302.8
										748.7	398.6

Version : AOI112HLD

Cell Unit = 14

State	Path	Output Load											
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	B1-O	265.3	201.8	272.7	207.0	289.2	217.6	327.4	238.1	420.7	279.7	649.1	373.2
0 1	B1-O	299.3	202.2	306.7	207.5	323.6	218.0	361.9	238.5	454.9	280.1	683.3	373.6
1 0	B1-O	329.4	210.5	336.8	215.7	353.5	226.3	391.8	246.9	484.6	288.6	713.1	382.1
0 0	A1-O	240.4	187.5	247.6	192.6	264.2	203.1	302.5	223.6	395.4	265.1	623.8	358.7
0 1	A1-O	263.0	187.6	270.5	192.8	287.3	203.2	325.5	223.7	418.4	265.3	646.9	358.9
1 0	A1-O	293.6	195.8	301.0	201.0	317.7	211.6	355.9	232.2	448.8	273.8	677.3	367.3
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C1-O	329.1	205.0	336.6	210.3	353.1	220.9	391.4	241.5	484.3	283.2	712.7	376.8
	C2-O	357.6	204.3	365.0	209.6	381.8	220.2	419.9	240.8	513.0	282.5	741.4	376.1

Version : AOI112KLD

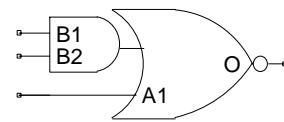
Cell Unit = 17

State	Path	Output Load											
		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	B1-O	290.7	240.4	295.9	244.9	308.6	254.8	339.2	275.7	418.5	317.9	637.4	412.8
0 1	B1-O	327.0	240.9	332.4	245.3	345.1	255.2	375.7	276.1	455.1	318.4	673.9	413.3
1 0	B1-O	357.1	249.6	362.5	254.0	375.4	264.0	406.1	284.8	485.4	327.1	704.2	422.0
0 0	A1-O	265.7	225.7	271.0	230.1	283.7	240.1	314.1	260.9	393.4	303.2	612.3	398.0
0 1	A1-O	290.6	225.8	296.0	230.3	308.8	240.2	339.4	261.1	418.9	303.3	637.7	398.2
1 0	A1-O	321.1	234.7	326.6	239.1	339.6	249.0	370.2	269.9	449.6	312.1	668.4	407.0
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C1-O	356.5	244.6	361.9	249.1	374.8	259.1	405.5	280.0	485.0	322.4	703.9	417.4
	C2-O	385.4	243.8	390.8	248.3	403.6	258.5	434.2	279.6	513.5	321.9	732.4	416.8

Group Name : AOI12

Symbol

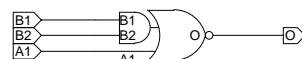
Function : AN2 into NR2



Truth Table

Schematic

A1	B1	B2	O
1	X	X	0
X	1	1	0
OTHERS			1



Pin Order O A1 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	A1	B1	B2	O		O	
AOI12CLD	1.544	2.308	2.587	54.57		4.020	
AOI12ELD	1.624	1.521	1.738	139.3		10.65	
AOI12HLD	2.121	2.037	2.328	281.4		16.77	
AOI12KLD	2.168	2.037	2.328	562.2		24.31	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version : AOI12CLD

Cell Unit = 7

State	Output Load													
	B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl								
0 0	A1-O		98.90	62.52	120.1	73.80	164.2	95.04	258.4	136.9	463.5	221.7	910.6	404.3
0 1	A1-O		112.9	62.80	139.6	74.06	196.0	95.35	317.5	137.1	582.2	221.9	1162	404.5
1 0	A1-O		141.2	62.90	167.1	74.58	222.9	95.83	344.5	137.4	609.9	222.1	1191	404.7
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
	B1-O		141.4	66.68	167.8	76.47	223.7	95.78	346.5	133.5	613.0	209.7	1193	372.6
	B2-O		168.8	68.56	194.1	77.65	249.5	95.84	371.2	132.6	637.7	208.5	1217	371.4

Version : AOI12ELD

Cell Unit = 10

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	A1-O	243.6	210.5	254.9	217.8	277.7	231.4	327.3	255.9	434.9	302.4	670.9	398.3
0 1	A1-O	269.0	204.9	280.3	212.3	303.1	226.0	352.6	250.2	459.9	296.7	696.8	392.6
1 0	A1-O	295.0	213.7	306.1	220.9	329.5	234.5	378.5	259.1	486.1	305.6	721.5	401.6
Path	B1-O	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	B2-O	240.0	183.5	251.2	190.7	274.3	204.3	323.6	228.8	431.7	275.2	666.3	371.2
		265.4	184.4	276.4	191.8	299.4	205.4	349.0	229.7	456.8	276.2	692.6	372.1

Version : AOI12HLD

Cell Unit = 12

State	Path	Output Load											
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
B1 B2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	A1-O	229.2	199.5	236.6	204.9	253.0	215.6	291.3	236.2	384.3	277.9	612.7	371.5
0 1	A1-O	254.2	193.9	261.4	199.2	278.1	209.8	316.4	230.7	409.6	272.3	637.8	365.9
1 0	A1-O	279.3	202.3	286.6	207.6	303.4	218.3	341.6	239.0	434.4	280.8	662.9	374.4
Path	B1-O	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	B2-O	229.3	170.0	236.6	175.3	253.3	186.0	291.5	206.6	384.7	248.3	613.0	341.9
		253.9	170.8	261.2	176.1	277.9	186.7	316.2	207.5	409.2	249.0	637.5	342.6

Version : AOI12KLD

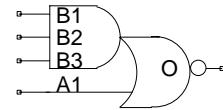
Cell Unit = 15

State	Path	Output Load												
		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
B1 B2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
0 0	A1-O	252.2	231.4	257.4	235.9	270.0	246.3	300.6	267.0	380.0	309.3	598.8	404.3	
0 1	A1-O	278.6	226.0	283.8	230.5	296.4	240.7	326.8	261.6	406.1	304.0	625.0	399.0	
1 0	A1-O	303.9	234.2	309.1	238.7	321.7	248.7	352.1	269.7	431.5	312.1	650.3	407.1	
Path	B1-O	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	B2-O	253.5	207.7	258.8	212.2	271.3	222.4	301.8	243.2	381.1	285.6	599.9	380.5	
		278.3	208.5	283.5	213.0	296.1	223.0	326.4	244.2	405.8	286.4	624.6	381.3	

Group Name : AOI13

Symbol

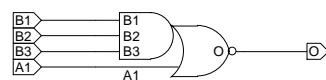
Function : AN3 into NR2



Truth Table

Schematic

A1	B1	B2	B3	O
1	X	X	X	0
X	1	1	1	0
OTHERS				1



Pin Order O A1 B1 B2 B3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	B1	B2	B3	O	
AOI13BLD	1.486	2.373	2.403	2.539	53.80	3.939
AOI13ELD	1.810	2.374	2.403	2.534	139.4	10.68
AOI13HLD	1.555	2.374	2.403	2.535	281.4	15.69
AOI13KLD	1.555	2.374	2.403	2.535	562.2	23.13

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AOI13BLD

Cell Unit = 8

State	Output Load													
	B1 B2 B3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl								
0 0 0	A1-O		90.29	67.93	110.0	81.73	150.4	108.8	234.9	161.0	419.4	269.0	822.9	503.8
0 0 1	A1-O		94.65	68.07	116.1	81.87	160.2	108.9	254.1	161.1	459.2	269.1	906.3	503.9
0 1 0	A1-O		94.65	68.07	116.1	81.87	160.2	108.9	254.1	161.1	459.2	269.1	906.3	503.9
0 1 1	A1-O		106.8	68.38	133.4	82.17	189.9	109.2	311.2	161.4	575.8	269.4	1156	504.2
1 0 0	A1-O		118.3	68.29	139.0	82.20	183.0	109.3	277.0	161.5	482.0	269.2	929.8	503.7
1 0 1	A1-O		136.0	68.56	161.8	82.46	217.7	109.6	339.3	161.7	604.5	269.5	1185	504.0
1 1 0	A1-O		159.9	68.52	186.3	82.46	242.9	109.9	364.6	161.9	630.9	269.8	1213	504.2
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
	B1-O		145.3	79.98	172.9	92.90	229.6	119.0	352.0	170.5	617.8	277.9	1199	509.3
	B2-O		174.6	85.57	200.4	97.94	255.9	122.9	378.0	174.3	643.3	281.0	1225	512.2
	B3-O		196.5	86.08	222.7	97.97	279.0	122.8	400.8	173.4	666.5	280.2	1248	511.4

Version : AOI13ELD

Cell Unit = 12

State	Output Load													
	B1 B2 B3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl								
0 0 0	A1-O		165.9	177.4	176.7	184.8	199.5	198.1	248.7	222.5	356.7	268.6	592.9	364.4
0 0 1	A1-O		173.3	177.6	184.1	185.0	206.9	198.3	256.2	222.7	364.0	268.8	600.4	364.6
0 1 0	A1-O		173.3	177.6	184.1	185.0	206.9	198.3	256.2	222.7	364.0	268.8	600.4	364.6
0 1 1	A1-O		193.5	177.9	204.6	185.5	227.4	198.7	276.7	223.0	384.2	269.2	620.8	364.9
1 0 0	A1-O		194.2	188.6	205.2	195.9	228.0	209.5	277.3	233.6	384.7	279.9	621.3	375.7
1 0 1	A1-O		221.1	188.9	232.2	196.2	255.2	209.8	304.7	233.9	412.5	280.2	648.5	376.0
1 1 0	A1-O		243.6	196.4	254.5	203.8	277.7	217.4	326.8	241.8	434.3	288.1	669.4	383.9
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
	B1-O		234.1	204.3	245.0	211.8	268.0	225.2	317.2	249.7	425.3	295.9	661.2	391.8
	B2-O		260.7	210.6	271.7	218.1	294.9	231.6	344.3	256.1	451.9	302.4	687.9	398.2
	B3-O		281.7	210.9	292.7	218.3	316.0	231.9	365.2	256.0	472.4	302.4	707.9	398.3

Version : AOI13HLD

Cell Unit = 13

State	Output Load												
	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
B1	B2	B3	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	A1-O	193.7	175.3	201.0	180.6	217.3	191.2	255.6	211.8	348.5	253.4	576.9	346.9
0 0 1	A1-O	202.2	175.4	209.3	180.7	225.7	191.3	264.1	211.9	357.3	253.5	585.5	347.0
0 1 0	A1-O	202.2	175.4	209.3	180.7	225.7	191.3	264.1	211.9	357.3	253.5	585.5	347.0
0 1 1	A1-O	226.2	175.6	233.5	180.9	250.0	191.5	288.3	212.1	381.6	253.7	609.8	347.3
1 0 0	A1-O	226.7	185.9	233.8	191.1	250.4	201.6	288.8	222.2	381.7	263.9	610.0	357.6
1 0 1	A1-O	257.8	186.1	265.0	191.3	281.8	201.9	320.0	222.4	412.8	264.1	641.3	357.8
1 1 0	A1-O	284.6	192.9	292.0	198.3	308.4	209.1	346.7	229.8	439.6	271.6	668.1	365.2
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl								
	B1-O	264.4	199.6	271.7	204.8	288.2	215.5	326.5	236.2	419.4	278.0	647.8	371.7
	B2-O	295.0	205.7	302.2	211.0	318.8	221.7	357.1	242.4	450.2	284.2	678.5	377.9
	B3-O	320.0	205.8	327.3	211.1	344.0	221.7	382.2	242.4	475.3	284.2	703.6	377.9

Version : AOI13KLD

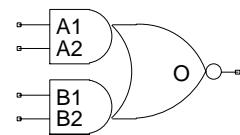
Cell Unit = 16

State	Output Load												
	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
B1	B2	B3	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	A1-O	214.1	212.1	219.1	216.5	231.4	226.7	261.7	247.4	341.3	289.7	560.0	384.5
0 0 1	A1-O	223.2	212.2	228.2	216.6	240.7	226.8	271.1	247.6	350.5	289.8	569.3	384.6
0 1 0	A1-O	223.2	212.2	228.2	216.6	240.7	226.8	271.1	247.6	350.5	289.8	569.3	384.6
0 1 1	A1-O	249.1	212.4	254.3	216.9	267.0	227.0	297.6	247.8	376.8	290.0	595.6	384.8
1 0 0	A1-O	248.0	222.9	253.1	227.4	265.5	237.7	295.8	258.3	375.2	300.5	594.0	395.4
1 0 1	A1-O	281.1	223.1	286.2	227.6	298.9	237.9	329.2	258.5	408.6	300.7	627.4	395.6
1 1 0	A1-O	308.0	231.1	313.3	235.6	326.1	245.9	356.5	266.8	435.9	309.0	654.7	403.7
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl								
	B1-O	287.4	237.6	292.6	242.1	305.2	252.3	335.6	273.2	415.1	315.6	633.9	410.5
	B2-O	318.1	243.9	323.3	248.4	336.0	258.6	366.6	279.5	445.9	321.9	664.7	416.8
	B3-O	343.7	243.8	348.9	248.3	361.5	258.8	391.9	279.7	471.3	322.0	690.1	416.8

Group Name : AOI22

Symbol

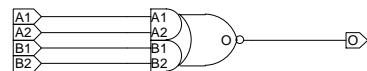
Function : 2 AN2 into NR2



Truth Table

Schematic

A1	A2	B1	B2	O
1	1	X	X	0
X	X	1	1	0
OTHERS				1



Pin Order O A1 A2 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	A2	B1	B2		
AOI22BLD	1.930	2.179	1.789	2.027	51.04	4.994
AOI22ELD	2.208	2.502	2.021	2.285	139.3	12.32
AOI22HLD	2.282	2.355	2.103	2.396	281.7	16.40
AOI22KLD	2.283	2.608	2.105	2.398	563.0	23.25

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AOI22BLD

Cell Unit = 7

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1 A2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	B1-O	100.00	67.00	120.9	78.93	164.2	102.2	256.3	148.5	456.2	243.9	890.7	450.2
0 1	B1-O	116.6	67.37	143.7	79.27	201.4	102.5	325.0	148.8	593.2	244.2	1180	450.5
1 0	B1-O	154.2	67.79	181.8	79.47	240.3	103.0	367.1	149.2	643.7	244.5	1248	450.6
0 0	B2-O	116.7	68.57	137.0	79.29	179.3	101.1	271.1	146.0	470.3	240.7	904.7	447.3
0 1	B2-O	137.9	68.88	163.9	79.60	220.5	101.4	343.1	146.3	611.8	241.0	1198	447.6
1 0	B2-O	175.3	68.99	202.4	79.84	261.3	102.1	387.1	146.4	663.3	241.1	1267	447.6
B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	A1-O	132.9	87.75	153.5	99.09	197.8	121.5	291.7	167.3	497.8	263.5	947.7	470.7
0 1	A1-O	151.3	80.70	178.0	92.26	234.4	115.7	357.8	162.0	625.7	258.5	1212	465.9
1 0	A1-O	174.4	80.57	200.4	92.32	256.8	115.6	379.9	162.2	648.5	258.6	1235	465.8
0 0	A2-O	162.5	92.50	183.2	103.1	228.3	124.6	325.8	169.8	538.7	265.1	1005	472.2
0 1	A2-O	189.4	85.98	216.0	96.81	273.9	119.0	399.2	164.5	674.3	260.3	1278	467.7
1 0	A2-O	212.1	86.35	238.3	97.01	297.0	119.3	423.4	164.6	698.9	260.4	1302	467.8

Version : AOI22ELD

Cell Unit = 11

State	Output Load												
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
A1 A2		tplh	tphl										
0 0	B1-O	184.9	153.6	198.2	161.6	229.5	177.4	305.2	211.2	490.6	287.1	946.3	471.7
0 1	B1-O	209.8	153.9	223.1	161.9	254.2	177.7	330.3	211.5	515.2	287.3	970.7	472.0
1 0	B1-O	244.3	164.7	257.9	172.8	288.9	188.8	364.5	222.8	551.0	298.7	1007	482.9
0 0	B2-O	201.2	153.9	214.4	161.9	245.6	177.6	321.5	211.5	506.9	287.3	962.8	472.0
0 1	B2-O	230.7	154.2	244.3	162.1	275.2	178.0	351.0	211.8	537.3	287.6	993.1	472.3
1 0	B2-O	264.6	164.6	278.0	172.6	309.3	188.7	385.2	222.9	570.6	298.7	1027	483.2
B1 B2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0	A1-O	219.9	177.5	233.3	185.5	264.6	201.4	340.7	235.3	525.4	311.2	981.1	495.8
0 1	A1-O	241.8	170.8	255.0	178.8	286.3	194.7	362.1	228.7	547.6	304.6	1003	489.2
1 0	A1-O	264.0	177.0	277.5	184.9	308.7	201.0	384.5	235.2	569.5	311.2	1026	495.7
0 0	A2-O	245.5	181.4	258.7	189.4	290.2	205.3	365.5	239.3	552.1	315.2	1008	499.8
0 1	A2-O	274.6	175.0	288.0	183.0	319.4	198.8	395.3	232.9	580.9	308.7	1037	493.3
1 0	A2-O	296.5	181.4	310.0	189.5	340.9	205.4	416.8	239.2	603.0	315.2	1059	499.2

Version : AOI22HLD

Cell Unit = 12

State	Output Load												
	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
A1 A2		tplh	tphl										
0 0	B1-O	195.1	162.7	203.1	168.5	222.5	180.7	271.2	205.7	398.0	260.3	731.9	395.8
0 1	B1-O	220.0	162.9	228.2	168.8	247.7	181.0	296.4	206.0	423.4	260.6	757.3	396.1
1 0	B1-O	277.3	174.3	285.5	180.3	305.2	192.4	353.7	217.4	480.7	272.1	814.6	407.7
0 0	B2-O	213.1	163.3	221.2	169.1	240.7	181.2	289.3	206.2	416.0	260.7	749.9	396.3
0 1	B2-O	243.4	163.6	251.6	169.4	271.2	181.5	319.9	206.4	446.7	261.0	780.6	396.6
1 0	B2-O	303.3	174.0	311.6	179.9	331.2	192.2	379.8	217.2	506.6	271.9	840.6	407.4
B1 B2	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
		tplh	tphl										
0 0	A1-O	225.5	183.2	233.6	189.0	253.3	201.2	301.8	226.2	428.9	280.9	762.7	416.4
0 1	A1-O	250.0	177.5	258.1	183.4	277.7	195.4	326.5	220.4	453.4	275.1	787.4	410.7
1 0	A1-O	274.5	184.1	282.6	189.9	302.4	202.2	351.1	227.2	477.9	281.9	811.7	417.4
0 0	A2-O	280.6	187.3	288.8	193.2	308.4	205.2	357.1	230.2	483.9	284.9	817.8	420.4
0 1	A2-O	313.3	181.5	321.6	187.4	341.4	199.5	390.0	224.7	516.9	279.3	850.8	414.8
1 0	A2-O	341.1	188.1	349.3	193.9	368.9	206.1	417.5	231.1	544.3	285.8	878.3	421.4

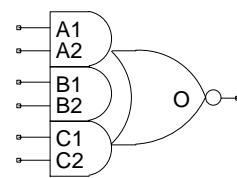
Version : AOI22KLD

Cell Unit = 15

State	Path	Output Load									
		1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff	
A1 A2	Path	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl
0 0	B1-O	211.4	197.7	217.1	202.7	231.6	214.3	269.4	239.0	377.1	292.3
0 1	B1-O	241.7	198.0	247.6	203.0	262.3	214.6	300.3	239.3	407.8	292.6
1 0	B1-O	279.8	209.7	285.6	214.7	300.5	226.4	338.4	251.2	445.8	304.3
0 0	B2-O	228.9	198.0	234.6	203.1	249.1	214.8	286.9	239.7	394.6	292.8
0 1	B2-O	265.2	198.3	271.1	203.4	285.9	215.1	323.8	239.9	431.3	293.1
1 0	B2-O	302.6	209.6	308.5	214.6	323.2	226.3	361.2	251.0	468.7	304.3
B1 B2	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff	
		tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl
0 0	A1-O	247.5	218.7	253.3	223.7	267.9	235.4	305.9	260.4	413.6	313.6
0 1	A1-O	272.8	212.9	278.7	217.9	293.6	229.7	331.4	254.6	439.0	307.8
1 0	A1-O	297.7	220.1	303.6	225.1	318.2	236.9	356.2	261.6	463.6	314.8
0 0	A2-O	275.0	223.2	280.8	228.3	295.4	240.0	333.3	264.9	440.9	318.1
0 1	A2-O	308.8	217.8	314.6	222.9	329.6	234.4	367.4	259.2	474.9	312.5
1 0	A2-O	333.0	224.6	338.9	229.6	353.7	241.2	391.7	265.9	499.2	319.2
										816.7	452.0

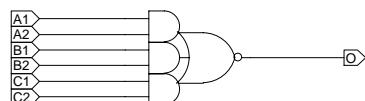
Group Name : AOI222

Symbol



Function : 3 AN2 into NR3

Schematic



Truth Table

A1	A2	B1	B2	C1	C2	O
1	1	X	X	X	X	0
X	X	1	1	X	X	0
X	X	X	X	1	1	0
OTHERS						1

Pin Order O A1 A2 B1 B2 C1 C2

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance						Maximum Loading	Power Consumption
	A1	A2	B1	B2	C1	C2		
AOI222BLD	2.087	2.304	1.999	2.226	1.943	2.098	36.73	7.314
AOI222ELD	2.208	2.537	2.027	2.293	1.914	2.210	139.3	13.46
AOI222HLD	2.283	2.635	2.101	2.391	2.022	2.353	281.1	18.03
AOI222KLD	2.283	2.640	2.100	2.394	2.085	2.410	562.1	28.96

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AOI222BLD

Cell Unit = 11

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1 A2 B1 B2		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0 0	C1-O	113.7	77.10	136.2	88.84	185.0	112.9	290.5	161.2	519.8	262.4	1019	481.6
0 0 0 1	C1-O	129.3	77.40	157.0	89.12	218.5	113.0	351.7	161.5	641.1	262.6	1275	481.8
0 0 1 0	C1-O	153.5	77.43	182.0	89.13	242.5	112.9	375.6	161.6	665.6	262.5	1301	481.6
0 1 0 0	C1-O	122.9	77.24	149.9	88.96	209.7	113.0	343.8	161.3	633.5	262.5	1268	481.7
0 1 0 1	C1-O	138.8	77.50	171.0	89.20	245.3	113.1	406.3	161.5	759.0	262.7	1528	481.9
0 1 1 0	C1-O	167.5	77.52	201.4	89.22	276.1	113.0	438.1	161.6	789.3	262.6	1559	481.6
1 0 0 0	C1-O	144.6	77.27	171.7	88.98	232.5	113.1	366.1	161.4	656.2	262.4	1292	481.4
1 0 0 1	C1-O	165.9	77.51	199.7	89.22	274.4	113.0	436.4	161.6	787.6	262.6	1557	481.6
1 0 1 0	C1-O	196.5	77.93	230.3	89.17	305.4	112.9	467.3	161.8	818.2	262.8	1589	481.9
0 0 0 0	C2-O	131.2	78.36	153.2	89.35	201.8	112.1	306.7	159.1	535.5	259.7	1035	479.4
0 0 0 1	C2-O	151.6	78.62	179.5	89.60	240.0	112.4	372.1	159.3	661.7	260.0	1296	479.6
0 0 1 0	C2-O	176.7	78.64	204.4	89.76	265.8	112.7	397.6	159.4	688.0	260.1	1322	479.3
0 1 0 0	C2-O	144.0	78.48	170.9	89.46	231.3	112.3	363.9	159.2	653.8	259.8	1289	479.5
0 1 0 1	C2-O	165.2	78.70	198.8	89.68	272.8	112.5	433.5	159.4	784.0	260.0	1553	479.7
0 1 1 0	C2-O	195.5	78.72	229.0	89.84	303.7	112.7	464.8	159.4	814.4	260.1	1585	479.4
1 0 0 0	C2-O	166.6	78.50	194.6	89.60	255.6	112.5	387.5	159.2	678.3	259.9	1313	479.2
1 0 0 1	C2-O	193.8	78.72	227.3	89.83	302.0	112.7	463.1	159.4	812.7	260.1	1583	479.4
1 0 1 0	C2-O	223.6	78.79	258.2	89.96	330.8	113.1	493.4	159.5	843.6	260.4	1615	479.8
A1 A2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0 0	B1-O	171.5	105.7	194.3	116.9	244.0	140.1	353.2	188.7	590.8	290.4	1109	511.4
0 0 0 1	B1-O	193.6	96.91	221.7	108.8	281.9	132.5	414.9	181.5	703.8	284.0	1337	505.2
0 0 1 0	B1-O	218.4	97.04	246.2	108.7	306.3	132.8	440.2	181.5	729.9	284.1	1364	505.1
0 1 0 0	B1-O	201.2	106.1	229.4	117.3	293.9	140.5	431.2	189.0	730.2	290.8	1385	511.7
0 1 0 1	B1-O	225.0	97.30	258.8	109.2	331.9	132.9	493.1	181.8	842.7	284.3	1613	505.6
0 1 1 0	B1-O	254.8	97.44	288.3	109.1	362.2	133.2	523.1	181.9	874.9	284.5	1645	505.4
1 0 0 0	B1-O	225.9	106.0	255.2	117.4	317.5	140.6	455.4	188.8	754.6	290.7	1410	511.4
1 0 0 1	B1-O	253.2	97.43	286.6	109.1	360.4	133.2	521.3	181.9	873.0	284.4	1643	505.4
1 0 1 0	B1-O	283.2	97.97	316.7	109.4	392.2	133.3	551.7	181.9	904.5	284.7	1674	505.8
0 0 0 0	B2-O	189.8	104.6	212.5	115.3	261.9	138.3	370.4	186.2	607.6	288.0	1126	508.8
0 0 0 1	B2-O	216.6	96.36	244.1	107.6	303.7	130.8	436.8	179.5	725.7	281.8	1359	503.0
0 0 1 0	B2-O	240.5	96.36	267.8	107.8	328.4	131.1	461.4	179.8	751.1	282.1	1385	503.0
0 1 0 0	B2-O	224.4	105.0	254.0	115.7	316.4	138.7	453.4	186.6	751.8	288.3	1407	509.1
0 1 0 1	B2-O	252.6	96.73	285.6	107.9	359.4	131.2	519.1	179.9	869.6	282.2	1639	503.3
0 1 1 0	B2-O	281.9	96.73	316.0	108.2	390.3	131.4	549.2	180.1	901.1	282.5	1671	503.3
1 0 0 0	B2-O	249.6	105.3	278.3	116.0	339.9	138.7	477.2	186.9	775.9	288.6	1432	509.1
1 0 0 1	B2-O	280.3	96.73	314.3	108.2	388.6	131.4	547.5	180.1	899.3	282.4	1669	503.3
1 0 1 0	B2-O	311.1	96.88	345.1	108.4	418.4	131.8	578.2	180.4	930.4	282.9	1700	503.7

B1 B2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0	A1-O	202.9	118.7	225.9	130.3	275.4	155.0	384.9	205.4	622.6	309.9	1142	533.1
0 0 0 1	A1-O	226.0	105.0	254.0	117.4	315.5	142.5	447.2	194.1	736.7	300.1	1372	525.1
0 0 1 0	A1-O	250.6	105.5	278.8	117.4	340.6	142.9	472.7	194.1	762.7	300.3	1398	525.2
0 1 0 0	A1-O	231.0	114.8	259.7	126.3	323.0	150.6	459.1	201.1	758.0	305.4	1413	528.6
0 1 0 1	A1-O	253.6	102.5	287.4	114.8	360.9	139.7	522.5	190.9	872.3	296.5	1642	521.1
0 1 1 0	A1-O	283.8	102.9	318.0	114.7	391.9	140.0	552.4	191.0	902.9	296.7	1673	521.1
1 0 0 0	A1-O	256.3	115.1	285.1	126.8	349.5	151.0	485.3	201.1	784.1	305.5	1440	528.7
1 0 0 1	A1-O	283.7	102.9	318.0	114.7	391.8	140.0	552.4	191.0	902.9	296.7	1673	521.1
1 0 1 0	A1-O	314.8	103.4	348.4	115.1	422.9	140.3	582.5	191.0	934.6	296.8	1705	521.5
0 0 0 0	A2-O	220.3	116.6	242.9	128.3	292.4	152.4	400.9	202.3	638.4	306.8	1158	530.4
0 0 0 1	A2-O	247.5	102.3	275.4	114.4	336.7	139.9	467.6	191.2	757.0	297.3	1392	522.4
0 0 1 0	A2-O	271.9	102.8	299.8	114.7	361.1	139.9	493.8	191.6	783.3	297.7	1418	522.5
0 1 0 0	A2-O	253.2	112.5	281.6	124.2	345.3	148.3	479.9	198.1	778.4	302.5	1434	525.8
0 1 0 1	A2-O	280.0	99.94	313.6	111.9	387.0	137.1	546.5	188.1	896.4	293.8	1666	518.4
0 1 1 0	A2-O	310.4	100.4	344.1	112.3	416.4	137.1	576.4	188.5	927.8	294.1	1697	518.5
1 0 0 0	A2-O	278.0	112.5	306.8	124.1	370.3	148.6	507.5	198.5	805.7	302.9	1461	526.1
1 0 0 1	A2-O	310.3	100.4	344.0	112.3	416.4	137.1	576.4	188.5	927.7	294.1	1697	518.5
1 0 1 0	A2-O	339.8	100.9	372.8	112.9	447.7	137.2	606.9	189.0	959.4	294.6	1729	518.9

Version : AOI222ELD

Cell Unit = 15

State	Path	Output Load														
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff				
A1	A2	B1	B2	tplh	tphl											
0	0	0	0	C1-O	184.7	175.9	195.9	183.6	219.2	197.0	268.6	221.5	376.1	267.8	611.1	363.7
0	0	0	1	C1-O	184.7	175.9	195.9	183.6	219.2	197.0	268.6	221.4	376.1	267.8	611.1	363.7
0	0	1	0	C1-O	184.7	175.9	195.9	183.6	219.2	197.0	268.6	221.4	376.1	267.8	611.1	363.7
0	1	0	0	C1-O	184.7	175.9	195.9	183.6	219.2	197.0	268.6	221.4	376.1	267.8	611.1	363.7
0	1	0	1	C1-O	184.7	175.8	195.9	183.5	219.2	196.9	268.6	221.4	376.1	267.8	611.1	363.7
0	1	1	0	C1-O	184.7	175.8	195.9	183.5	219.2	196.9	268.6	221.4	376.1	267.8	611.1	363.7
1	0	0	0	C1-O	184.7	175.9	195.9	183.6	219.2	197.0	268.6	221.4	376.1	267.8	611.1	363.7
1	0	0	1	C1-O	184.7	175.8	195.9	183.5	219.2	196.9	268.6	221.4	376.1	267.8	611.1	363.7
1	0	1	0	C1-O	184.7	175.8	195.9	183.5	219.2	196.9	268.6	221.4	376.1	267.8	611.1	363.7
1	0	1	1	C1-O	184.7	175.8	195.9	183.5	219.2	196.9	268.6	221.4	376.1	267.8	611.1	363.7
0	0	0	0	C2-O	201.7	178.0	212.9	185.5	236.1	199.2	285.5	223.6	393.1	270.0	627.9	365.9
0	0	0	1	C2-O	201.7	178.0	212.9	185.5	236.2	199.2	285.5	223.6	393.1	270.0	627.9	365.8
0	0	1	0	C2-O	201.7	178.0	212.9	185.5	236.2	199.2	285.5	223.6	393.1	270.0	627.9	365.8
0	1	0	0	C2-O	201.7	178.0	212.9	185.5	236.1	199.2	285.5	223.6	393.1	270.0	627.9	365.8
0	1	0	1	C2-O	201.7	178.0	212.9	185.5	236.2	199.2	285.5	223.6	393.1	270.0	627.9	365.8
0	1	1	0	C2-O	201.7	178.0	212.9	185.5	236.2	199.2	285.5	223.6	393.1	270.0	627.9	365.8
1	0	0	0	C2-O	201.7	178.0	212.9	185.5	236.1	199.2	285.5	223.6	393.1	270.0	627.9	365.8
1	0	0	1	C2-O	201.7	178.0	212.9	185.5	236.2	199.2	285.5	223.6	393.1	270.0	627.9	365.8
1	0	1	0	C2-O	201.7	178.0	212.9	185.5	236.2	199.2	285.5	223.6	393.1	270.0	627.9	365.8
A1 A2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff				
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl			
0	0	0	0	B1-O	209.9	209.5	221.1	217.1	244.6	230.7	294.3	255.6	402.1	302.4	638.0	398.6
0	0	0	1	B1-O	210.6	209.6	221.9	217.2	245.4	230.8	295.2	255.7	402.3	302.5	637.1	398.7
0	0	1	0	B1-O	210.6	209.6	221.9	217.2	245.4	230.8	295.2	255.7	402.3	302.5	637.1	398.7
0	1	0	0	B1-O	237.7	209.8	249.0	217.5	272.5	231.1	322.2	256.0	429.4	302.7	665.3	399.0
0	1	0	1	B1-O	238.0	209.9	249.5	217.6	273.2	231.2	323.0	256.1	430.3	302.9	665.8	399.1
0	1	1	0	B1-O	238.0	209.9	249.5	217.6	273.2	231.2	323.0	256.1	430.3	302.9	665.8	399.1
1	0	0	0	B1-O	272.8	221.6	284.2	229.2	307.9	243.1	357.3	267.9	464.6	314.7	699.7	410.9
1	0	0	1	B1-O	273.6	221.6	284.8	229.3	308.6	243.2	358.0	268.0	465.2	314.8	700.2	411.0
1	0	1	0	B1-O	273.6	221.6	284.8	229.3	308.6	243.2	358.0	268.0	465.2	314.8	700.2	411.0
0	0	0	0	B2-O	226.4	210.0	237.6	217.6	261.1	231.2	310.9	256.1	418.6	303.0	654.4	399.2
0	0	0	1	B2-O	227.1	210.1	238.4	217.7	261.9	231.3	311.8	256.2	418.8	303.1	653.5	399.3
0	0	1	0	B2-O	227.1	210.1	238.4	217.7	261.9	231.3	311.8	256.2	418.8	303.1	653.5	399.3
0	1	0	0	B2-O	259.6	210.3	271.0	217.9	294.5	231.6	344.1	256.5	451.3	303.3	686.4	399.5
0	1	0	1	B2-O	260.2	210.4	271.5	218.0	295.2	231.6	344.8	256.6	452.1	303.4	687.3	399.6
0	1	1	0	B2-O	260.2	210.4	271.5	218.0	295.2	231.6	344.8	256.6	452.1	303.4	687.3	399.6
1	0	0	0	B2-O	294.2	222.0	305.5	229.6	329.1	243.5	378.7	268.3	485.7	315.1	720.9	411.4
1	0	0	1	B2-O	294.7	222.1	306.0	229.7	329.6	243.6	379.0	268.5	486.5	315.3	721.6	411.5
1	0	1	0	B2-O	294.7	222.1	306.0	229.7	329.6	243.6	379.0	268.5	486.5	315.3	721.6	411.5

B1 B2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0	A1-O	246.3	233.0	257.6	240.6	281.1	254.2	330.7	279.1	437.7	326.0	672.7	422.2
0 0 0 1	A1-O	246.7	233.1	258.1	240.7	281.8	254.3	331.4	279.3	438.4	326.1	673.7	422.3
0 0 1 0	A1-O	246.7	233.1	258.1	240.7	281.8	254.3	331.4	279.3	438.4	326.1	673.7	422.3
0 1 0 0	A1-O	272.2	227.2	283.7	234.9	307.1	248.5	356.8	273.5	464.7	320.3	700.8	416.5
0 1 0 1	A1-O	272.7	227.3	284.2	235.0	307.7	248.6	357.3	273.6	464.6	320.4	701.4	416.6
0 1 1 0	A1-O	272.7	227.3	284.2	235.0	307.7	248.6	357.3	273.6	464.6	320.4	701.4	416.6
1 0 0 0	A1-O	295.7	234.6	307.0	242.2	330.6	256.1	380.3	281.0	487.2	327.8	722.3	424.1
1 0 0 1	A1-O	296.1	234.7	307.6	242.3	331.3	256.2	381.0	281.1	488.0	327.9	723.0	424.2
1 0 1 0	A1-O	296.1	234.7	307.6	242.3	331.3	256.2	381.0	281.1	488.0	327.9	723.0	424.2
0 0 0 0	A2-O	271.6	237.8	283.1	245.3	306.5	259.0	355.7	283.9	463.9	330.7	700.1	427.0
0 0 0 1	A2-O	272.4	237.8	283.7	245.4	307.2	259.1	356.7	284.0	463.8	330.9	699.0	427.1
0 0 1 0	A2-O	272.4	237.8	283.7	245.4	307.2	259.1	356.7	284.0	463.8	330.9	699.0	427.1
0 1 0 0	A2-O	305.8	232.1	317.0	239.5	340.6	253.4	390.0	278.3	497.3	325.1	732.5	421.4
0 1 0 1	A2-O	306.1	232.2	317.6	239.6	341.4	253.5	390.9	278.4	498.0	325.2	733.0	421.4
0 1 1 0	A2-O	306.1	232.2	317.6	239.6	341.4	253.5	390.9	278.4	498.0	325.2	733.0	421.4
1 0 0 0	A2-O	329.1	239.4	340.3	246.9	363.7	260.8	413.2	285.7	520.2	332.5	755.2	428.8
1 0 0 1	A2-O	329.6	239.5	340.9	246.9	364.2	260.8	413.8	285.8	520.9	332.6	756.2	428.9
1 0 1 0	A2-O	329.6	239.5	340.9	246.9	364.2	260.8	413.8	285.8	520.9	332.6	756.2	428.9

Version : AOI222HLD

Cell Unit = 16

State	Output Load													
	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff			
A1 A2 B1 B2		Path	tplh	tphl										
0 0 0 0	C1-O		208.9	166.3	217.1	171.8	234.9	182.8	274.0	204.0	367.3	246.1	595.8	340.0
0 0 0 1	C1-O		208.9	166.3	217.1	171.8	234.9	182.8	274.0	204.0	367.4	246.1	595.8	340.0
0 0 1 0	C1-O		208.9	166.3	217.1	171.8	234.9	182.8	274.0	204.0	367.4	246.1	595.8	340.0
0 1 0 0	C1-O		208.9	166.3	217.1	171.8	234.9	182.8	274.0	204.0	367.4	246.1	595.8	340.0
0 1 0 1	C1-O		208.9	166.3	217.2	171.8	234.9	182.8	274.1	204.0	367.4	246.1	595.9	340.0
0 1 1 0	C1-O		208.9	166.3	217.2	171.8	234.9	182.8	274.1	204.0	367.4	246.1	595.9	340.0
1 0 0 0	C1-O		208.9	166.3	217.1	171.8	234.9	182.8	274.0	204.0	367.4	246.1	595.8	340.0
1 0 0 1	C1-O		208.9	166.3	217.2	171.8	234.9	182.8	274.1	204.0	367.4	246.1	595.9	340.0
1 0 1 0	C1-O		208.9	166.3	217.2	171.8	234.9	182.8	274.1	204.0	367.4	246.1	595.9	340.0
0 0 0 0	C2-O		226.7	168.6	235.0	174.1	252.8	184.9	292.0	206.0	385.3	248.1	613.8	342.1
0 0 0 1	C2-O		226.8	168.6	235.0	174.1	252.9	184.9	292.1	205.9	385.4	248.1	613.8	342.1
0 0 1 0	C2-O		226.8	168.6	235.0	174.1	252.9	184.9	292.1	205.9	385.4	248.1	613.8	342.1
0 1 0 0	C2-O		226.7	168.6	235.0	174.1	252.8	184.9	292.1	205.9	385.3	248.1	613.8	342.1
0 1 0 1	C2-O		226.8	168.6	235.0	174.1	252.9	184.9	292.1	205.9	385.4	248.1	613.9	342.1
0 1 1 0	C2-O		226.8	168.6	235.0	174.1	252.9	184.9	292.1	205.9	385.4	248.1	613.9	342.1
1 0 0 0	C2-O		226.7	168.6	235.0	174.1	252.8	184.9	292.1	205.9	385.3	248.1	613.8	342.1
1 0 0 1	C2-O		226.8	168.6	235.0	174.1	252.9	184.9	292.1	205.9	385.4	248.1	613.9	342.1
1 0 1 0	C2-O		226.8	168.6	235.0	174.1	252.9	184.9	292.1	205.9	385.4	248.1	613.9	342.1
A1 A2 C1 C2		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
0 0 0 0	B1-O		234.4	190.5	242.7	196.0	260.6	206.9	299.8	228.2	393.1	270.6	621.6	364.7
0 0 0 1	B1-O		235.6	190.5	243.9	196.0	261.9	207.0	301.1	228.2	394.5	270.7	623.0	364.8
0 0 1 0	B1-O		235.6	190.5	243.9	196.0	261.9	207.0	301.1	228.2	394.5	270.7	623.0	364.8
0 1 0 0	B1-O		265.8	190.8	274.2	196.3	292.3	207.3	331.6	228.5	425.0	271.0	653.5	365.2
0 1 0 1	B1-O		266.8	190.9	275.2	196.3	293.4	207.3	332.7	228.5	426.2	271.0	654.7	365.3
0 1 1 0	B1-O		266.8	190.9	275.2	196.3	293.4	207.3	332.7	228.5	426.2	271.0	654.7	365.3
1 0 0 0	B1-O		304.2	202.2	312.6	207.8	330.8	218.7	370.1	240.1	463.5	282.7	692.0	376.9
1 0 0 1	B1-O		305.2	202.2	313.6	207.8	331.8	219.0	371.2	240.1	464.6	282.7	693.1	377.0
1 0 1 0	B1-O		305.2	202.2	313.6	207.8	331.8	219.0	371.2	240.1	464.6	282.7	693.1	377.0
0 0 0 0	B2-O		252.4	190.8	260.7	196.2	278.6	207.3	317.8	228.7	411.2	271.1	639.6	365.3
0 0 0 1	B2-O		253.6	190.8	261.9	196.3	279.9	207.4	319.2	228.8	412.6	271.2	641.0	365.4
0 0 1 0	B2-O		253.6	190.8	261.9	196.3	279.9	207.4	319.2	228.8	412.6	271.2	641.0	365.4
0 1 0 0	B2-O		290.2	191.1	298.6	196.5	316.8	207.6	356.1	229.0	449.5	271.4	678.0	365.6
0 1 0 1	B2-O		291.2	191.1	299.6	196.6	317.8	207.6	357.2	229.1	450.6	271.5	679.1	365.7
0 1 1 0	B2-O		291.2	191.1	299.6	196.6	317.8	207.6	357.2	229.1	450.6	271.5	679.1	365.7
1 0 0 0	B2-O		327.9	202.4	336.4	207.9	354.5	218.9	394.0	240.2	487.3	282.7	715.8	377.0
1 0 0 1	B2-O		328.9	202.4	337.4	207.9	355.6	219.0	394.9	240.2	488.4	282.8	716.9	377.0
1 0 1 0	B2-O		328.9	202.4	337.4	207.9	355.6	219.0	394.9	240.2	488.4	282.8	716.9	377.0

B1 B2 C1 C2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0 0	A1-O	271.9	211.8	280.2	217.3	298.3	228.3	337.5	249.6	430.9	292.1	659.3	386.4
0 0 0 1	A1-O	273.0	211.9	281.3	217.4	299.4	228.4	338.7	249.6	432.2	292.1	660.6	386.4
0 0 1 0	A1-O	273.0	211.9	281.3	217.4	299.4	228.4	338.7	249.6	432.2	292.1	660.6	386.4
0 1 0 0	A1-O	300.5	206.0	308.9	211.5	327.0	222.6	366.3	244.1	459.7	286.5	688.2	380.8
0 1 0 1	A1-O	301.5	206.1	309.9	211.6	328.1	222.7	367.4	244.1	460.9	286.6	689.4	380.9
0 1 1 0	A1-O	301.5	206.1	309.9	211.6	328.1	222.7	367.4	244.1	460.9	286.6	689.4	380.9
1 0 0 0	A1-O	326.1	213.7	334.4	219.1	352.6	230.2	392.1	251.5	485.4	294.0	713.9	388.3
1 0 0 1	A1-O	327.0	213.7	335.5	219.1	353.7	230.2	393.2	251.5	486.5	294.1	715.1	388.3
1 0 1 0	A1-O	327.0	213.7	335.5	219.1	353.7	230.2	393.2	251.5	486.5	294.1	715.1	388.3
0 0 0 0	A2-O	299.1	216.1	307.6	221.6	325.6	232.7	365.0	253.9	458.3	296.5	686.8	390.7
0 0 0 1	A2-O	300.2	216.1	308.7	221.6	326.8	232.8	366.2	254.0	459.6	296.5	688.0	390.8
0 0 1 0	A2-O	300.2	216.1	308.7	221.6	326.8	232.8	366.2	254.0	459.6	296.5	688.0	390.8
0 1 0 0	A2-O	336.6	211.0	345.0	216.4	363.2	227.4	402.5	248.7	495.9	291.2	724.4	385.5
0 1 0 1	A2-O	337.6	211.0	346.0	216.5	364.2	227.5	403.6	248.7	497.0	291.3	725.6	385.6
0 1 1 0	A2-O	337.6	211.0	346.0	216.5	364.2	227.5	403.6	248.7	497.0	291.3	725.6	385.6
1 0 0 0	A2-O	361.8	218.0	370.3	223.5	388.4	234.6	428.0	255.9	521.3	298.4	749.8	392.7
1 0 0 1	A2-O	362.7	218.1	371.3	223.5	389.4	234.6	429.1	255.9	522.4	298.5	750.9	392.8
1 0 1 0	A2-O	362.7	218.1	371.3	223.5	389.4	234.6	429.1	255.9	522.4	298.5	750.9	392.8

Version : AOI222KLD

Cell Unit = 22

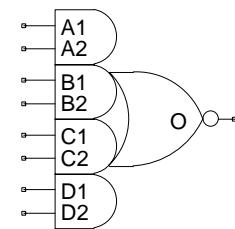
State	Output Load											
	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
A1 A2 B1 B2		Path	tplh	tphl								
0 0 0 0	C1-O		222.6	209.3	228.1	213.5	241.4	223.5	272.7	244.0	352.8	285.7
0 0 0 1	C1-O		222.7	209.3	228.1	213.5	241.4	223.5	272.7	244.0	352.9	285.7
0 0 1 0	C1-O		222.7	209.3	228.1	213.5	241.4	223.5	272.7	244.0	352.9	285.7
0 1 0 0	C1-O		222.6	209.3	228.1	213.5	241.4	223.5	272.7	244.0	352.8	285.7
0 1 0 1	C1-O		222.7	209.3	228.1	213.5	241.4	223.4	272.7	244.0	352.9	285.7
0 1 1 0	C1-O		222.7	209.3	228.1	213.5	241.4	223.4	272.7	244.0	352.9	285.7
1 0 0 0	C1-O		222.6	209.3	228.1	213.5	241.4	223.5	272.7	244.0	352.8	285.7
1 0 0 1	C1-O		222.7	209.3	228.1	213.5	241.4	223.4	272.7	244.0	352.9	285.7
1 0 1 0	C1-O		222.7	209.3	228.1	213.5	241.4	223.4	272.7	244.0	352.9	285.7
0 0 0 0	C2-O		239.0	210.9	244.4	215.3	257.6	225.2	288.9	245.6	369.0	287.3
0 0 0 1	C2-O		239.0	210.9	244.4	215.2	257.6	225.2	288.9	245.6	369.1	287.3
0 0 1 0	C2-O		239.0	210.9	244.4	215.2	257.6	225.2	288.9	245.6	369.1	287.3
0 1 0 0	C2-O		239.0	210.9	244.4	215.2	257.6	225.2	288.9	245.6	369.0	287.3
0 1 0 1	C2-O		239.0	210.9	244.4	215.2	257.6	225.2	288.9	245.6	369.1	287.3
0 1 1 0	C2-O		239.0	210.9	244.4	215.2	257.6	225.2	288.9	245.6	369.1	287.3
1 0 0 0	C2-O		239.0	210.9	244.4	215.2	257.6	225.2	288.9	245.6	369.0	287.3
1 0 0 1	C2-O		239.0	210.9	244.4	215.2	257.6	225.2	288.9	245.6	369.1	287.3
1 0 1 0	C2-O		239.0	210.9	244.4	215.2	257.6	225.2	288.9	245.6	369.1	287.3
A1 A2 C1 C2		Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff	
			tplh	tphl								
0 0 0 0	B1-O		258.1	229.9	263.7	234.2	276.9	243.9	308.4	263.9	388.5	305.1
0 0 0 1	B1-O		259.8	230.0	265.4	234.3	278.8	244.0	310.2	264.1	390.5	305.2
0 0 1 0	B1-O		259.8	230.0	265.4	234.3	278.8	244.0	310.2	264.1	390.5	305.2
0 1 0 0	B1-O		296.9	230.2	302.6	234.5	316.2	244.3	348.1	264.2	428.3	305.4
0 1 0 1	B1-O		298.3	230.3	304.0	234.6	317.7	244.4	349.6	264.4	429.9	305.5
0 1 1 0	B1-O		298.3	230.3	304.0	234.6	317.7	244.4	349.6	264.4	429.9	305.5
1 0 0 0	B1-O		335.7	242.0	341.4	246.3	355.0	255.8	386.8	276.0	467.0	317.1
1 0 0 1	B1-O		337.0	242.1	342.7	246.4	356.4	255.9	388.2	276.1	468.6	317.3
1 0 1 0	B1-O		337.0	242.1	342.7	246.4	356.4	255.9	388.2	276.1	468.6	317.3
0 0 0 0	B2-O		275.9	229.7	281.4	234.0	294.7	243.7	326.1	263.8	406.3	304.9
0 0 0 1	B2-O		277.5	230.0	283.1	234.3	296.4	244.0	327.9	264.1	408.2	305.2
0 0 1 0	B2-O		277.5	230.0	283.1	234.3	296.4	244.0	327.9	264.1	408.2	305.2
0 1 0 0	B2-O		321.3	230.0	327.0	234.2	340.5	244.0	372.3	264.0	452.5	305.2
0 1 0 1	B2-O		322.7	230.0	328.4	234.3	342.0	244.1	373.8	264.2	454.1	305.4
0 1 1 0	B2-O		322.7	230.0	328.4	234.3	342.0	244.1	373.8	264.2	454.1	305.4
1 0 0 0	B2-O		359.3	241.5	365.0	245.7	378.6	255.4	410.4	275.4	490.6	316.6
1 0 0 1	B2-O		360.6	241.5	366.3	245.8	380.0	255.5	411.9	275.5	492.2	316.7
1 0 1 0	B2-O		360.6	241.5	366.3	245.8	380.0	255.5	411.9	275.5	492.2	316.7

B1 B2 C1 C2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0 0 0	A1-O	295.0	250.6	300.6	254.9	314.0	264.6	345.5	284.6	425.8	325.8	644.7	419.6
0 0 0 1	A1-O	296.7	250.7	302.2	254.9	315.7	264.7	347.3	284.7	427.6	326.0	646.6	419.8
0 0 1 0	A1-O	296.7	250.7	302.2	254.9	315.7	264.7	347.3	284.7	427.6	326.0	646.6	419.8
0 1 0 0	A1-O	330.9	245.4	336.6	249.6	350.2	259.4	382.0	279.5	462.2	320.7	681.2	414.5
0 1 0 1	A1-O	332.2	245.4	337.9	249.7	351.5	259.5	383.5	279.6	463.8	320.8	682.8	414.6
0 1 1 0	A1-O	332.2	245.4	337.9	249.7	351.5	259.5	383.5	279.6	463.8	320.8	682.8	414.6
1 0 0 0	A1-O	356.8	252.8	362.5	257.1	376.0	266.9	407.7	287.0	487.9	328.1	706.9	421.8
1 0 0 1	A1-O	358.2	252.9	363.9	257.2	377.4	267.0	409.2	287.1	489.5	328.2	708.5	422.0
1 0 1 0	A1-O	358.2	252.9	363.9	257.2	377.4	267.0	409.2	287.1	489.5	328.2	708.5	422.0
0 0 0 0	A2-O	322.6	254.8	328.1	259.1	341.6	268.5	373.1	288.7	453.4	329.9	672.3	423.8
0 0 0 1	A2-O	324.1	254.9	329.7	259.2	343.2	268.7	374.9	288.9	455.2	330.1	674.1	423.9
0 0 1 0	A2-O	324.1	254.9	329.7	259.2	343.2	268.7	374.9	288.9	455.2	330.1	674.1	423.9
0 1 0 0	A2-O	367.0	249.6	372.7	253.9	386.3	263.5	418.2	283.6	498.4	324.9	717.4	418.6
0 1 0 1	A2-O	368.4	249.7	374.1	254.0	387.8	263.6	419.7	283.8	500.0	325.0	719.0	418.8
0 1 1 0	A2-O	368.4	249.7	374.1	254.0	387.8	263.6	419.7	283.8	500.0	325.0	719.0	418.8
1 0 0 0	A2-O	392.7	256.7	398.4	261.0	411.9	270.8	443.7	290.9	523.9	332.1	742.9	425.9
1 0 0 1	A2-O	394.0	256.8	399.8	261.1	413.3	270.9	445.1	291.0	525.5	332.2	744.4	426.1
1 0 1 0	A2-O	394.0	256.8	399.8	261.1	413.3	270.9	445.1	291.0	525.5	332.2	744.4	426.1

Group Name : AOI2222

Symbol

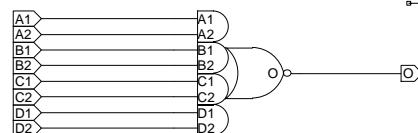
Function : 4 AN2 into NR4



Truth Table

Schematic

A1 A2	B1 B2	C1 C2	D1 D2	O
1 X	X X	X X	X X	0 0
X X	1 X	1 X	X X	0 0
X X	X X	X X	1 1	X X
X X	X X	X X	X 1	1 0
OTHERS				1



Pin Order O A1 A2 B1 B2 C1 C2 D1 D2

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance								Maximum Loading
	A1	A2	B1	B2	C1	C2	D1	D2	
AOI2222CLD	1.668	1.910	1.568	1.796	1.701	1.915	1.594	1.772	80.72
AOI2222ELD	2.280	2.374	2.086	2.405	2.338	2.622	2.146	2.405	139.6
AOI2222HLD	2.282	2.374	2.098	2.405	2.338	2.629	2.146	2.404	281.1
AOI2222KLD	2.206	2.375	2.028	2.331	2.267	2.526	2.058	2.291	562.1

#### Power Consumption (nW/MHz)

Version	Power Consumption	
	O	
AOI2222CLD	10.26	
AOI2222ELD	14.42	
AOI2222HLD	18.36	
AOI2222KLD	28.87	

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : AOI2222CLD

Cell Unit = 18

State A1 A2 B1 B2 C1 C2	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0 0 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
0 0 0 0 0 1	D1-O	247.5	212.1	266.3	224.4	305.6	245.8	390.8	284.6	576.6	361.2
0 0 0 0 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
0 0 0 1 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
0 0 0 1 0 1	D1-O	247.5	212.1	266.3	224.4	305.7	245.8	390.8	284.6	576.6	361.2
0 0 0 1 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
0 0 1 0 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
0 0 1 0 0 1	D1-O	247.5	212.1	266.3	224.4	305.7	245.8	390.8	284.6	576.6	361.2
0 0 1 0 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
0 1 0 0 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
0 1 0 0 0 1	D1-O	247.5	212.1	266.3	224.4	305.6	245.8	390.8	284.6	576.6	361.2
0 1 0 0 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
0 1 0 1 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
0 1 0 1 0 1	D1-O	247.5	212.1	266.3	224.4	305.7	245.8	390.8	284.6	576.6	361.2
0 1 0 1 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
0 1 1 0 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
0 1 1 0 0 1	D1-O	247.5	212.1	266.3	224.4	305.7	245.8	390.8	284.6	576.6	361.2
0 1 1 0 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
1 0 0 0 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
1 0 0 0 0 1	D1-O	247.5	212.1	266.3	224.4	305.6	245.8	390.8	284.6	576.6	361.2
1 0 0 0 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
1 0 0 1 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
1 0 0 1 0 1	D1-O	247.5	212.1	266.3	224.4	305.7	245.8	390.8	284.6	576.6	361.2
1 0 0 1 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
1 0 1 0 0 0	D1-O	219.6	211.7	238.2	224.1	277.3	245.4	362.1	284.3	547.8	360.8
1 0 1 0 0 1	D1-O	247.5	212.1	266.3	224.4	305.7	245.8	390.8	284.6	576.6	361.2
1 0 1 0 1 0	D1-O	287.8	225.3	306.6	237.6	346.1	259.1	431.4	298.2	617.3	374.7
0 0 0 0 0 0	D2-O	237.6	212.6	256.2	225.0	295.1	246.3	380.4	285.3	566.1	361.8
0 0 0 0 0 1	D2-O	271.4	212.9	290.5	225.2	329.8	246.6	414.7	285.6	601.0	362.1
0 0 0 0 1 0	D2-O	311.7	226.0	330.4	238.0	369.7	259.8	454.9	298.7	640.8	375.3
0 0 0 1 0 0	D2-O	237.6	212.5	256.2	225.0	295.1	246.3	380.2	285.3	566.1	361.8
0 0 0 1 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.8	285.6	601.0	362.1
0 0 0 1 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3
0 0 1 0 0 0	D2-O	237.6	212.5	256.2	225.0	295.1	246.3	380.2	285.3	566.1	361.8
0 0 1 0 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.8	285.6	601.0	362.1
0 0 1 0 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3
0 1 0 0 0 0	D2-O	237.6	212.6	256.2	225.0	295.1	246.3	380.4	285.3	566.1	361.8
0 1 0 0 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.7	285.6	601.0	362.1
0 1 0 0 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3
0 1 0 0 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.7	285.6	601.0	362.1
0 1 0 0 1 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.8	285.6	601.0	362.1

0 1 0 0 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3	1046	537.9
0 1 0 1 0 0	D2-O	237.6	212.5	256.2	225.0	295.1	246.3	380.2	285.3	566.1	361.8	971.5	524.5
0 1 0 1 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.8	285.6	601.0	362.1	1005	524.8
0 1 0 1 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3	1046	537.9
0 1 1 0 0 0	D2-O	237.6	212.5	256.2	225.0	295.1	246.3	380.2	285.3	566.1	361.8	971.5	524.5
0 1 1 0 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.8	285.6	601.0	362.1	1005	524.8
0 1 1 0 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3	1046	537.9
1 0 0 0 0 0	D2-O	237.6	212.6	256.2	225.0	295.1	246.3	380.4	285.3	566.1	361.8	971.5	524.5
1 0 0 0 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.7	285.6	601.0	362.1	1005	524.8
1 0 0 0 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3	1046	537.9
1 0 0 1 0 0	D2-O	237.6	212.5	256.2	225.0	295.1	246.3	380.2	285.3	566.1	361.8	971.5	524.5
1 0 0 1 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.8	285.6	601.0	362.1	1005	524.8
1 0 0 1 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3	1046	537.9
1 0 1 0 0 0	D2-O	237.6	212.5	256.2	225.0	295.1	246.3	380.2	285.3	566.1	361.8	971.5	524.5
1 0 1 0 0 1	D2-O	271.4	212.8	290.5	225.2	329.8	246.6	414.8	285.6	601.0	362.1	1005	524.8
1 0 1 0 1 0	D2-O	311.7	226.0	330.4	238.0	369.8	259.8	454.9	298.7	640.8	375.3	1046	537.9
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.5	587.7	384.1	992.8	546.7
0 0 0 0 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.1	378.4	1019	541.0
0 0 0 0 1 0	C1-O	311.4	236.8	330.0	249.1	369.4	270.8	454.7	309.8	640.5	386.4	1045	549.1
0 0 0 1 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.5	587.7	384.1	992.8	546.7
0 0 0 1 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.2	378.4	1019	541.0
0 0 0 1 1 0	C1-O	311.4	236.8	330.0	249.1	369.5	270.8	454.7	309.8	640.6	386.4	1045	549.1
0 0 1 0 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.5	587.7	384.1	992.8	546.7
0 0 1 0 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.2	378.4	1019	541.0
0 0 1 0 1 0	C1-O	311.4	236.8	330.0	249.1	369.5	270.8	454.7	309.8	640.6	386.4	1045	549.1
0 1 0 0 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.5	587.7	384.0	992.8	546.7
0 1 0 0 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.2	378.4	1019	541.0
0 1 0 0 1 0	C1-O	311.4	236.8	330.0	249.1	369.5	270.8	454.7	309.8	640.6	386.4	1045	549.1
0 1 0 1 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.5	587.7	384.0	992.8	546.7
0 1 0 1 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.2	378.4	1019	541.0
0 1 0 1 1 0	C1-O	311.4	236.8	330.0	249.1	369.5	270.8	454.7	309.8	640.6	386.4	1045	549.1
0 1 1 0 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.4	587.7	384.0	992.8	546.7
0 1 1 0 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.2	378.4	1019	541.0
0 1 1 0 1 0	C1-O	311.4	236.8	330.0	249.1	369.5	270.8	454.7	309.8	640.6	386.4	1045	549.1
1 0 0 0 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.5	587.7	384.0	992.8	546.7
1 0 0 0 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.2	378.4	1019	541.0
1 0 0 0 1 0	C1-O	311.4	236.8	330.0	249.1	369.4	270.8	454.7	309.8	640.5	386.4	1045	549.1
1 0 0 1 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.4	587.7	384.0	992.8	546.7
1 0 0 1 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.2	378.4	1019	541.0
1 0 0 1 1 0	C1-O	311.4	236.8	330.0	249.1	369.5	270.8	454.7	309.8	640.6	386.4	1045	549.1
1 0 1 0 0 0	C1-O	258.9	234.8	277.8	247.1	316.7	268.5	402.0	307.4	587.7	384.0	992.8	546.7

1 0 1 0 0 1	C1-O	285.1	229.0	303.7	241.1	343.1	262.7	428.4	301.8	614.2	378.4	1019	541.0
1 0 1 0 1 0	C1-O	311.4	236.8	330.0	249.1	369.5	270.8	454.7	309.8	640.6	386.4	1045	549.1
0 0 0 0 0 0	C2-O	287.5	240.1	306.5	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
0 0 0 0 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
0 0 0 0 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.3	315.3	678.7	391.9	1083	554.6
0 0 0 1 0 0	C2-O	287.5	240.1	306.6	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
0 0 0 1 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
0 0 0 1 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.4	315.3	678.7	391.9	1083	554.6
0 0 1 0 0 0	C2-O	287.5	240.1	306.6	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
0 0 1 0 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
0 0 1 0 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.4	315.3	678.7	391.9	1083	554.6
0 1 0 0 0 0	C2-O	287.5	240.1	306.5	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
0 1 0 0 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
0 1 0 0 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.3	315.3	678.7	391.9	1083	554.6
0 1 0 1 0 0	C2-O	287.5	240.1	306.6	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
0 1 0 1 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
0 1 0 1 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.4	315.3	678.7	391.9	1083	554.6
0 1 1 0 0 0	C2-O	287.5	240.1	306.6	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
0 1 1 0 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
0 1 1 0 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.4	315.3	678.7	391.9	1083	554.6
1 0 0 0 0 0	C2-O	287.5	240.1	306.5	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
1 0 0 0 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
1 0 0 0 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.3	315.3	678.7	391.9	1083	554.6
1 0 0 1 0 0	C2-O	287.5	240.1	306.6	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
1 0 0 1 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
1 0 0 1 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.4	315.3	678.7	391.9	1083	554.6
1 0 1 0 0 0	C2-O	287.5	240.1	306.6	252.4	345.9	273.9	431.1	313.0	616.9	389.5	1022	552.2
1 0 1 0 0 1	C2-O	323.7	234.8	342.6	247.1	382.1	268.5	467.4	307.5	653.3	384.1	1058	546.8
1 0 1 0 1 0	C2-O	349.3	242.7	368.4	254.6	407.5	276.3	492.4	315.3	678.7	391.9	1083	554.6
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	B1-O	239.1	244.3	257.9	256.6	297.0	278.6	382.0	318.0	567.4	395.0	973.5	558.1
0 0 0 0 0 1	B1-O	239.5	244.3	258.4	256.7	297.5	278.7	382.8	318.1	568.4	395.1	973.0	558.2
0 0 0 0 1 0	B1-O	239.5	244.3	258.4	256.7	297.5	278.7	382.8	318.1	568.4	395.1	973.0	558.2
0 0 0 1 0 0	B1-O	239.3	244.3	258.1	256.7	297.2	278.6	382.5	318.1	568.2	395.1	972.7	558.2
0 0 0 1 0 1	B1-O	239.6	244.3	258.5	256.7	297.7	278.7	382.9	318.1	568.6	395.2	973.2	558.2
0 0 0 1 1 0	B1-O	239.6	244.3	258.5	256.7	297.7	278.7	382.9	318.1	568.6	395.2	973.2	558.2
0 0 1 0 0 0	B1-O	239.3	244.3	258.1	256.7	297.2	278.6	382.5	318.1	568.2	395.1	972.7	558.2
0 0 1 0 0 1	B1-O	239.6	244.3	258.5	256.7	297.7	278.7	382.9	318.1	568.6	395.2	973.2	558.2
0 1 0 0 0 0	B1-O	271.2	244.6	290.0	257.0	329.6	278.9	414.7	318.3	598.7	395.4	1006	558.4
0 1 0 0 0 1	B1-O	271.5	244.6	290.3	257.0	330.0	279.0	415.1	318.4	600.7	395.4	1006	558.5
0 1 0 0 1 0	B1-O	271.5	244.6	290.3	257.0	330.0	279.0	415.1	318.4	600.7	395.4	1006	558.5

0 1 0 1 0 0	B1-O	271.3	244.6	290.2	257.0	329.8	279.0	414.9	318.4	599.0	395.4	1006	558.5
0 1 0 1 0 1	B1-O	271.6	244.7	290.5	257.0	330.1	279.0	415.3	318.4	600.9	395.5	1006	558.5
0 1 0 1 1 0	B1-O	271.6	244.7	290.5	257.0	330.1	279.0	415.3	318.4	600.9	395.5	1006	558.5
0 1 1 0 0 0	B1-O	271.3	244.6	290.2	257.0	329.8	279.0	414.9	318.4	599.0	395.4	1006	558.5
0 1 1 0 0 1	B1-O	271.6	244.7	290.5	257.0	330.1	279.0	415.3	318.4	600.9	395.5	1006	558.5
0 1 1 0 1 0	B1-O	271.6	244.7	290.5	257.0	330.1	279.0	415.3	318.4	600.9	395.5	1006	558.5
1 0 0 0 0 0	B1-O	310.6	257.4	329.4	269.8	368.9	291.7	453.9	331.2	639.1	408.2	1045	571.3
1 0 0 0 0 1	B1-O	310.8	257.4	329.7	269.8	369.3	291.7	454.2	331.2	639.2	408.3	1046	571.3
1 0 0 0 1 0	B1-O	310.8	257.4	329.7	269.8	369.3	291.7	454.2	331.2	639.2	408.3	1046	571.3
1 0 0 1 0 0	B1-O	310.7	257.4	329.5	269.8	369.1	291.7	454.0	331.2	639.2	408.3	1045	571.3
1 0 0 1 0 1	B1-O	310.9	257.4	329.8	269.8	369.4	291.8	454.3	331.3	639.3	408.3	1046	571.4
1 0 0 1 1 0	B1-O	310.9	257.4	329.8	269.8	369.4	291.8	454.3	331.3	639.3	408.3	1046	571.4
1 0 1 0 0 0	B1-O	310.7	257.4	329.5	269.8	369.1	291.7	454.0	331.2	639.2	408.3	1045	571.3
1 0 1 0 0 1	B1-O	310.9	257.4	329.8	269.8	369.4	291.8	454.3	331.3	639.3	408.3	1046	571.4
1 0 1 0 1 0	B1-O	310.9	257.4	329.8	269.8	369.4	291.8	454.3	331.3	639.3	408.3	1046	571.4
0 0 0 0 0 0	B2-O	256.7	244.9	275.3	257.2	314.7	279.1	399.9	318.5	585.5	395.6	990.2	558.6
0 0 0 0 0 1	B2-O	257.1	244.9	275.7	257.2	315.1	279.1	400.0	318.6	585.5	395.7	991.3	558.7
0 0 0 0 1 0	B2-O	257.1	244.9	275.7	257.2	315.1	279.1	400.0	318.6	585.5	395.7	991.3	558.7
0 0 0 1 0 0	B2-O	256.9	244.9	275.5	257.2	314.9	279.1	400.1	318.6	585.8	395.6	990.4	558.7
0 0 0 1 0 1	B2-O	257.2	244.9	275.9	257.2	315.3	279.2	400.5	318.7	585.7	395.7	991.5	558.8
0 0 0 1 1 0	B2-O	257.2	244.9	275.9	257.2	315.3	279.2	400.5	318.7	585.7	395.7	991.5	558.8
0 0 1 0 0 0	B2-O	256.9	244.9	275.5	257.2	314.9	279.1	400.1	318.6	585.8	395.6	990.4	558.7
0 0 1 0 0 1	B2-O	257.2	244.9	275.9	257.2	315.3	279.2	400.5	318.7	585.7	395.7	991.5	558.8
0 0 1 0 1 0	B2-O	257.2	244.9	275.9	257.2	315.3	279.2	400.5	318.7	585.7	395.7	991.5	558.8
0 1 0 0 0 0	B2-O	295.4	245.2	314.2	257.5	353.9	279.4	438.6	318.8	623.2	395.8	1030	558.9
0 1 0 0 0 1	B2-O	295.7	245.2	314.6	257.5	354.2	279.5	439.2	318.9	623.5	396.0	1030	559.0
0 1 0 0 1 0	B2-O	295.7	245.2	314.6	257.5	354.2	279.5	439.2	318.9	623.5	396.0	1030	559.0
0 1 0 1 0 0	B2-O	295.5	245.2	314.4	257.5	354.0	279.4	438.8	318.9	623.4	395.9	1030	559.0
0 1 0 1 0 1	B2-O	295.8	245.2	314.7	257.5	354.3	279.5	439.4	319.0	623.6	396.0	1031	559.0
0 1 0 1 1 0	B2-O	295.8	245.2	314.7	257.5	354.3	279.5	439.4	319.0	623.6	396.0	1031	559.0
0 1 1 0 0 0	B2-O	295.5	245.2	314.4	257.5	354.0	279.4	438.8	318.9	623.4	395.9	1030	559.0
0 1 1 0 0 1	B2-O	295.8	245.2	314.7	257.5	354.3	279.5	439.4	319.0	623.6	396.0	1031	559.0
0 1 1 0 1 0	B2-O	295.8	245.2	314.7	257.5	354.3	279.5	439.4	319.0	623.6	396.0	1031	559.0
1 0 0 0 0 0	B2-O	334.4	257.5	353.4	270.0	392.4	291.9	477.8	331.4	663.6	408.4	1068	571.5
1 0 0 0 0 1	B2-O	334.7	257.6	353.7	270.0	392.8	291.9	478.2	331.4	664.0	408.4	1068	571.5
1 0 0 0 1 0	B2-O	334.7	257.6	353.7	270.0	392.8	291.9	478.2	331.4	664.0	408.4	1068	571.5
1 0 0 1 0 0	B2-O	334.5	257.6	353.5	270.0	392.6	291.9	478.0	331.4	663.8	408.4	1068	571.5
1 0 0 1 0 1	B2-O	334.8	257.6	353.8	270.1	392.9	292.0	478.3	331.5	664.1	408.5	1068	571.6
1 0 0 1 1 0	B2-O	334.8	257.6	353.8	270.1	392.9	292.0	478.3	331.5	664.1	408.5	1068	571.6
1 0 1 0 0 0	B2-O	334.6	257.6	353.5	270.0	392.6	291.9	478.0	331.4	663.8	408.4	1068	571.5
1 0 1 0 0 1	B2-O	334.8	257.6	353.8	270.1	392.9	292.0	478.3	331.5	664.1	408.5	1068	571.6
1 0 1 0 1 0	B2-O	334.8	257.6	353.8	270.1	392.9	292.0	478.3	331.5	664.1	408.5	1068	571.6

B1 B2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	A1-O	276.5	266.8	295.1	279.2	334.6	301.2	419.8	340.6	605.2	417.7	1011	580.7
0 0 0 0 0 1	A1-O	276.8	266.8	295.5	279.3	335.0	301.2	420.2	340.7	605.4	417.7	1011	580.8
0 0 0 0 1 0	A1-O	276.8	266.8	295.5	279.3	335.0	301.2	420.2	340.7	605.4	417.7	1011	580.8
0 0 0 1 0 0	A1-O	276.6	266.8	295.3	279.2	334.8	301.2	419.9	340.7	605.4	417.7	1010	580.8
0 0 0 1 0 1	A1-O	276.9	266.8	295.6	279.3	335.1	301.2	420.3	340.8	605.6	417.8	1011	580.8
0 0 0 1 1 0	A1-O	276.9	266.8	295.6	279.3	335.1	301.2	420.3	340.8	605.6	417.8	1011	580.8
0 0 1 0 0 0	A1-O	276.6	266.8	295.3	279.2	334.8	301.2	419.9	340.7	605.4	417.7	1010	580.8
0 0 1 0 0 1	A1-O	276.9	266.8	295.6	279.3	335.1	301.2	420.3	340.8	605.6	417.8	1011	580.8
0 0 1 0 1 0	A1-O	276.9	266.8	295.6	279.3	335.1	301.2	420.3	340.8	605.6	417.8	1011	580.8
0 1 0 0 0 0	A1-O	307.7	261.4	326.7	273.7	365.9	295.7	451.2	335.1	636.9	412.2	1041	575.3
0 1 0 0 0 1	A1-O	308.0	261.4	327.0	273.8	366.2	295.7	451.5	335.3	637.3	412.3	1042	575.4
0 1 0 0 1 0	A1-O	308.0	261.4	327.0	273.8	366.2	295.7	451.5	335.3	637.3	412.3	1042	575.4
0 1 0 1 0 0	A1-O	307.8	261.4	326.9	273.8	366.0	295.7	451.3	335.2	637.1	412.3	1041	575.3
0 1 0 1 0 1	A1-O	308.1	261.4	327.1	273.8	366.3	295.8	451.6	335.3	637.5	412.4	1042	575.4
0 1 0 1 1 0	A1-O	308.1	261.4	327.1	273.8	366.3	295.8	451.6	335.3	637.5	412.4	1042	575.4
0 1 1 0 0 0	A1-O	307.8	261.4	326.9	273.8	366.0	295.7	451.3	335.2	637.1	412.3	1041	575.3
0 1 1 0 0 1	A1-O	308.1	261.4	327.1	273.8	366.3	295.8	451.6	335.3	637.5	412.4	1042	575.4
0 1 1 0 1 0	A1-O	308.1	261.4	327.1	273.8	366.3	295.8	451.6	335.3	637.5	412.4	1042	575.4
1 0 0 0 0 0	A1-O	333.6	269.4	352.7	281.9	391.8	303.8	477.1	343.3	662.9	420.4	1067	583.4
1 0 0 0 0 1	A1-O	333.9	269.5	353.0	281.9	392.1	303.9	477.4	343.4	663.2	420.4	1068	583.5
1 0 0 0 1 0	A1-O	333.9	269.5	353.0	281.9	392.1	303.9	477.4	343.4	663.2	420.4	1068	583.5
1 0 0 1 0 0	A1-O	333.7	269.4	352.8	281.9	391.9	303.9	477.3	343.4	663.1	420.4	1067	583.5
1 0 0 1 0 1	A1-O	334.0	269.5	353.1	281.9	392.2	303.9	477.6	343.4	663.4	420.5	1068	583.5
1 0 0 1 1 0	A1-O	334.0	269.5	353.1	281.9	392.2	303.9	477.6	343.4	663.4	420.5	1068	583.5
1 0 1 0 0 0	A1-O	333.7	269.4	352.8	281.9	391.9	303.9	477.3	343.4	663.1	420.4	1067	583.5
1 0 1 0 0 1	A1-O	334.0	269.5	353.1	281.9	392.2	303.9	477.6	343.4	663.4	420.5	1068	583.5
1 0 1 0 1 0	A1-O	334.0	269.5	353.1	281.9	392.2	303.9	477.6	343.4	663.4	420.5	1068	583.5
0 0 0 0 0 0	A2-O	304.5	271.6	323.3	283.9	362.7	305.8	447.0	345.3	632.4	422.3	1039	585.4
0 0 0 0 0 1	A2-O	304.8	271.6	323.6	283.9	363.1	305.8	447.3	345.4	632.5	422.4	1040	585.5
0 0 0 0 1 0	A2-O	304.8	271.6	323.6	283.9	363.1	305.8	447.3	345.4	632.5	422.4	1040	585.5
0 0 0 1 0 0	A2-O	304.6	271.6	323.4	283.9	362.8	305.8	447.2	345.3	632.5	422.4	1039	585.5
0 0 0 1 0 1	A2-O	304.9	271.6	323.8	284.0	363.2	305.9	447.5	345.4	632.6	422.5	1040	585.5
0 0 0 1 1 0	A2-O	304.9	271.6	323.8	284.0	363.2	305.9	447.5	345.4	632.6	422.5	1040	585.5
0 0 1 0 0 0	A2-O	304.6	271.6	323.4	283.9	362.8	305.8	447.2	345.3	632.5	422.4	1039	585.5
0 0 1 0 0 1	A2-O	304.9	271.6	323.8	284.0	363.2	305.9	447.5	345.4	632.6	422.5	1040	585.5
0 0 1 0 1 0	A2-O	304.9	271.6	323.8	284.0	363.2	305.9	447.5	345.4	632.6	422.5	1040	585.5
0 1 0 0 0 0	A2-O	344.6	266.1	363.5	278.6	403.0	300.5	487.9	340.0	672.7	417.0	1079	580.1
0 1 0 0 0 1	A2-O	344.8	266.2	363.7	278.6	403.3	300.6	488.4	340.1	672.6	417.1	1080	580.2
0 1 0 0 1 0	A2-O	344.8	266.2	363.7	278.6	403.3	300.6	488.4	340.1	672.6	417.1	1080	580.2
0 1 0 1 0 0	A2-O	344.7	266.2	363.6	278.6	403.2	300.5	488.0	340.1	672.7	417.1	1079	580.2
0 1 0 1 0 1	A2-O	344.9	266.2	363.8	278.6	403.4	300.6	488.6	340.1	674.2	417.2	1079	580.2

0 1 0 1 1 0	A2-O	344.9	266.2	363.8	278.6	403.4	300.6	488.6	340.1	674.2	417.2	1079	580.2
0 1 1 0 0 0	A2-O	344.7	266.2	363.6	278.6	403.2	300.5	488.0	340.1	672.7	417.1	1079	580.2
0 1 1 0 0 1	A2-O	344.9	266.2	363.8	278.6	403.4	300.6	488.6	340.1	674.2	417.2	1079	580.2
0 1 1 0 1 0	A2-O	344.9	266.2	363.8	278.6	403.4	300.6	488.6	340.1	674.2	417.2	1079	580.2
1 0 0 0 0 0	A2-O	370.6	274.0	389.6	286.4	428.8	308.4	514.1	347.9	699.9	424.9	1104	588.0
1 0 0 0 0 1	A2-O	370.9	274.0	389.9	286.5	429.1	308.5	514.4	348.0	700.2	425.0	1104	588.1
1 0 0 0 1 0	A2-O	370.9	274.0	389.9	286.5	429.1	308.5	514.4	348.0	700.2	425.0	1104	588.1
1 0 0 1 0 0	A2-O	370.8	274.0	389.7	286.5	429.0	308.4	514.3	347.9	700.1	425.0	1104	588.1
1 0 0 1 0 1	A2-O	371.1	274.1	390.0	286.5	429.3	308.5	514.6	348.0	700.4	425.1	1105	588.1
1 0 0 1 1 0	A2-O	371.1	274.1	390.0	286.5	429.3	308.5	514.6	348.0	700.4	425.1	1105	588.1
1 0 1 0 0 0	A2-O	370.8	274.0	389.7	286.5	429.0	308.4	514.3	347.9	700.1	425.0	1104	588.1
1 0 1 0 0 1	A2-O	371.1	274.1	390.0	286.5	429.3	308.5	514.6	348.0	700.4	425.1	1105	588.1
1 0 1 0 1 0	A2-O	371.1	274.1	390.0	286.5	429.3	308.5	514.6	348.0	700.4	425.1	1105	588.1

Version : AOI2222ELD

Cell Unit = 18

State A1 A2 B1 B2 C1 C2	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tph	tph	tph	tph	tph	tph	tph	tph	tph	tph
0 0 0 0 0 0	D1-O	202.0	193.5	213.4	201.4	236.6	215.6	286.0	241.1	393.4	288.5
0 0 0 0 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
0 0 0 0 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.4	253.2	457.2	300.7
0 0 0 1 0 0	D1-O	202.0	193.4	213.4	201.4	236.6	215.6	286.0	241.1	393.5	288.5
0 0 0 1 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
0 0 0 1 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.4	253.2	457.2	300.7
0 0 1 0 0 0	D1-O	202.0	193.4	213.4	201.4	236.6	215.6	286.0	241.1	393.5	288.5
0 0 1 0 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
0 0 1 0 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.4	253.2	457.2	300.7
0 1 0 0 0 0	D1-O	202.0	193.5	213.4	201.4	236.6	215.6	286.0	241.1	393.4	288.5
0 1 0 0 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
0 1 0 0 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.4	253.2	457.2	300.7
0 1 0 1 0 0	D1-O	202.0	193.4	213.4	201.4	236.6	215.6	286.0	241.1	393.5	288.5
0 1 0 1 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
0 1 0 1 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.5	253.2	457.2	300.7
0 1 1 0 0 0	D1-O	202.0	193.4	213.4	201.4	236.6	215.6	286.0	241.1	393.5	288.5
0 1 1 0 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
0 1 1 0 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.5	253.2	457.2	300.7
1 0 0 0 0 0	D1-O	202.0	193.5	213.4	201.4	236.6	215.6	286.0	241.1	393.4	288.5
1 0 0 0 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
1 0 0 0 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.4	253.2	457.2	300.7
1 0 0 1 0 0	D1-O	202.0	193.4	213.4	201.4	236.6	215.6	286.0	241.1	393.5	288.5
1 0 0 1 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
1 0 0 1 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.5	253.2	457.2	300.7
1 0 1 0 0 0	D1-O	202.0	193.4	213.4	201.4	236.6	215.6	286.0	241.1	393.5	288.5
1 0 1 0 0 1	D1-O	228.3	193.8	239.8	201.7	263.1	215.9	312.6	241.4	420.4	288.9
1 0 1 0 1 0	D1-O	265.2	205.4	276.7	213.2	299.9	227.6	349.5	253.2	457.2	300.7
0 0 0 0 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.5	411.9	289.9
0 0 0 0 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1
0 0 0 0 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5
0 0 0 1 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.5	412.0	289.9
0 0 0 1 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1
0 0 0 1 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5
0 0 1 0 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.5	412.0	289.9
0 0 1 0 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1
0 0 1 0 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5
0 1 0 0 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.5	411.9	289.9
0 1 0 0 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1
0 1 0 0 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5

0 1 0 1 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.4	412.0	289.9	647.1	386.3
0 1 0 1 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1	680.2	386.6
0 1 0 1 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5	716.3	397.9
0 1 1 0 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.4	412.0	289.9	647.1	386.3
0 1 1 0 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1	680.2	386.6
0 1 1 0 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5	716.3	397.9
1 0 0 0 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.5	411.9	289.9	647.1	386.4
1 0 0 0 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1	680.2	386.6
1 0 0 0 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5	716.3	397.9
1 0 0 1 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.4	412.0	289.9	647.1	386.3
1 0 0 1 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1	680.2	386.6
1 0 0 1 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5	716.3	397.9
1 0 1 0 0 0	D2-O	220.1	194.5	231.7	202.5	255.0	217.1	304.4	242.4	412.0	289.9	647.1	386.3
1 0 1 0 0 1	D2-O	252.1	194.8	263.9	202.8	287.4	217.3	336.9	242.7	444.8	290.1	680.2	386.6
1 0 1 0 1 0	D2-O	288.4	206.2	299.8	214.2	323.6	228.8	372.9	254.0	480.8	301.5	716.3	397.9
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	C1-O	239.8	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
0 0 0 0 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.1	348.2	257.5	455.8	305.0	691.1	401.5
0 0 0 0 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.0	408.9
0 0 0 1 0 0	C1-O	239.9	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
0 0 0 1 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.0	348.2	257.5	455.9	304.9	691.1	401.5
0 0 0 1 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.0	408.9
0 0 1 0 0 0	C1-O	239.9	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
0 0 1 0 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.0	348.2	257.5	455.9	304.9	691.1	401.5
0 0 1 0 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.0	408.9
0 1 0 0 0 0	C1-O	239.8	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
0 1 0 0 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.0	348.2	257.5	455.8	304.9	691.1	401.5
0 1 0 0 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.0	408.9
0 1 0 1 0 0	C1-O	239.9	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
0 1 0 1 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.0	348.2	257.5	455.9	304.9	691.1	401.5
0 1 0 1 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.1	408.9
0 1 1 0 0 0	C1-O	239.9	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
0 1 1 0 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.0	348.2	257.5	455.9	304.9	691.1	401.5
0 1 1 0 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.1	408.9
1 0 0 0 0 0	C1-O	239.8	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
1 0 0 0 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.0	348.2	257.5	455.8	304.9	691.1	401.5
1 0 0 0 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.0	408.9
1 0 0 1 0 0	C1-O	239.9	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
1 0 0 1 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.0	348.2	257.5	455.9	304.9	691.1	401.5
1 0 0 1 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.1	408.9
1 0 1 0 0 0	C1-O	239.9	215.0	251.2	223.0	274.8	237.6	324.4	263.0	432.1	310.5	667.3	407.0
1 0 1 0 0 1	C1-O	263.9	209.4	275.4	217.4	298.6	232.0	348.2	257.5	455.9	304.9	691.1	401.5

1 0 1 0 1 0	C1-O	289.6	217.2	300.9	225.2	324.1	239.8	373.7	265.2	481.6	312.6	717.1	408.9
0 0 0 0 0 0	C2-O	266.0	219.6	277.4	227.6	301.2	242.2	350.4	267.6	458.1	315.1	693.3	411.6
0 0 0 0 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.3	262.2	491.4	309.6	727.0	406.1
0 0 0 0 1 0	C2-O	323.8	221.7	335.4	229.5	359.1	243.9	408.4	269.6	516.7	317.0	752.3	413.6
0 0 0 1 0 0	C2-O	266.1	219.6	277.4	227.6	301.3	242.2	350.4	267.6	458.1	315.1	693.3	411.6
0 0 0 1 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.4	262.2	491.4	309.6	727.0	406.1
0 0 0 1 1 0	C2-O	323.8	221.7	335.5	229.5	359.1	243.9	408.4	269.5	516.7	317.0	752.3	413.6
0 0 1 0 0 0	C2-O	266.1	219.6	277.4	227.6	301.3	242.2	350.4	267.6	458.1	315.1	693.3	411.6
0 0 1 0 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.4	262.2	491.4	309.6	727.0	406.1
0 0 1 0 1 0	C2-O	323.8	221.7	335.5	229.5	359.1	243.9	408.4	269.5	516.7	317.0	752.3	413.6
0 1 0 0 0 0	C2-O	266.1	219.6	277.4	227.6	301.2	242.2	350.4	267.6	458.1	315.1	693.3	411.6
0 1 0 0 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.4	262.2	491.4	309.6	727.0	406.1
0 1 0 0 1 0	C2-O	323.8	221.7	335.4	229.5	359.1	243.9	408.4	269.5	516.7	317.0	752.3	413.6
0 1 0 1 0 0	C2-O	266.1	219.6	277.4	227.6	301.3	242.2	350.4	267.6	458.1	315.1	693.3	411.6
0 1 0 1 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.4	262.2	491.4	309.6	727.0	406.1
0 1 0 1 1 0	C2-O	323.8	221.7	335.5	229.5	359.1	243.9	408.4	269.5	516.7	317.0	752.3	413.6
0 1 1 0 0 0	C2-O	266.1	219.6	277.4	227.6	301.3	242.2	350.4	267.6	458.1	315.1	693.3	411.6
0 1 1 0 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.4	262.2	491.4	309.6	727.0	406.1
0 1 1 0 1 0	C2-O	323.8	221.7	335.5	229.5	359.1	243.9	408.4	269.5	516.7	317.0	752.3	413.6
1 0 0 0 0 0	C2-O	266.1	219.6	277.4	227.6	301.2	242.2	350.4	267.6	458.1	315.1	693.3	411.6
1 0 0 0 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.4	262.2	491.4	309.6	727.0	406.1
1 0 0 0 1 0	C2-O	323.8	221.7	335.4	229.5	359.1	243.9	408.4	269.5	516.7	317.0	752.3	413.6
1 0 0 1 0 0	C2-O	266.1	219.6	277.4	227.6	301.3	242.2	350.4	267.6	458.1	315.1	693.3	411.6
1 0 0 1 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.4	262.2	491.4	309.6	727.0	406.1
1 0 0 1 1 0	C2-O	323.8	221.7	335.5	229.5	359.1	243.9	408.4	269.5	516.7	317.0	752.3	413.6
1 0 1 0 0 0	C2-O	266.1	219.6	277.4	227.6	301.3	242.2	350.4	267.6	458.1	315.1	693.3	411.6
1 0 1 0 0 1	C2-O	299.0	214.1	310.3	222.1	333.8	236.7	383.4	262.2	491.4	309.6	727.0	406.1
1 0 1 0 1 0	C2-O	323.8	221.7	335.5	229.5	359.1	243.9	408.4	269.5	516.7	317.0	752.3	413.6
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	B1-O	214.0	219.3	225.4	227.5	249.0	242.1	298.7	267.9	406.1	315.8	642.0	412.4
0 0 0 0 0 1	B1-O	214.5	219.4	225.9	227.6	249.4	242.1	299.2	268.0	406.1	315.7	641.3	412.5
0 0 0 0 1 0	B1-O	214.5	219.4	225.9	227.6	249.4	242.1	299.2	268.0	406.1	315.7	641.3	412.5
0 0 0 1 0 0	B1-O	214.2	219.4	225.6	227.5	249.1	242.1	298.9	268.0	405.8	315.7	641.0	412.5
0 0 0 1 0 1	B1-O	214.7	219.4	226.0	227.6	249.6	242.2	299.4	268.0	406.3	315.7	641.5	412.6
0 0 0 1 1 0	B1-O	214.7	219.4	226.0	227.6	249.6	242.2	299.4	268.0	406.3	315.7	641.5	412.6
0 0 1 0 0 0	B1-O	214.2	219.4	225.6	227.5	249.1	242.1	298.9	267.9	405.8	315.7	641.0	412.5
0 0 1 0 0 1	B1-O	214.7	219.4	226.0	227.6	249.6	242.2	299.4	268.0	406.3	315.7	641.5	412.6
0 0 1 0 1 0	B1-O	214.7	219.4	226.0	227.6	249.6	242.2	299.4	268.0	406.3	315.7	641.5	412.6
0 1 0 0 0 0	B1-O	242.4	219.7	254.0	227.8	277.8	242.4	327.3	268.2	434.5	315.9	669.4	412.8
0 1 0 0 0 1	B1-O	242.8	219.7	254.3	227.9	278.1	242.5	327.8	268.3	435.0	316.0	669.8	412.8
0 1 0 0 1 0	B1-O	242.8	219.7	254.3	227.9	278.1	242.5	327.8	268.3	435.0	316.0	669.8	412.8
0 1 0 1 0 0	B1-O	242.6	219.7	254.1	227.9	277.9	242.4	327.5	268.3	434.7	316.0	669.7	412.8

0 1 0 1 0 1	B1-O	242.9	219.7	254.5	227.9	278.3	242.5	327.9	268.3	435.1	316.0	670.8	412.9
0 1 0 1 1 0	B1-O	242.9	219.7	254.5	227.9	278.3	242.5	327.9	268.3	435.1	316.0	670.8	412.9
0 1 1 0 0 0	B1-O	242.6	219.7	254.1	227.9	277.9	242.4	327.5	268.3	434.7	316.0	669.7	412.8
0 1 1 0 0 1	B1-O	242.9	219.7	254.5	227.9	278.3	242.5	327.9	268.3	435.1	316.0	670.8	412.9
0 1 1 0 1 0	B1-O	242.9	219.7	254.5	227.9	278.3	242.5	327.9	268.3	435.1	316.0	670.8	412.9
1 0 0 0 0 0	B1-O	276.7	230.2	288.4	238.4	312.0	252.8	361.6	278.6	468.8	326.4	704.2	423.3
1 0 0 0 0 1	B1-O	277.1	230.3	288.5	238.4	312.3	252.9	361.6	278.7	469.2	326.5	704.4	423.4
1 0 0 0 1 0	B1-O	277.1	230.3	288.5	238.4	312.3	252.9	361.6	278.7	469.2	326.5	704.4	423.4
1 0 0 1 0 0	B1-O	276.9	230.2	288.5	238.4	312.2	252.9	361.8	278.7	469.0	326.5	704.5	423.3
1 0 0 1 0 1	B1-O	277.2	230.3	288.7	238.4	312.5	252.9	361.8	278.7	469.4	326.5	704.6	423.4
1 0 0 1 1 0	B1-O	277.2	230.3	288.7	238.4	312.5	252.9	361.8	278.7	469.4	326.5	704.6	423.4
1 0 1 0 0 0	B1-O	276.9	230.2	288.5	238.4	312.2	252.9	361.8	278.7	469.0	326.5	704.5	423.3
1 0 1 0 0 1	B1-O	277.2	230.3	288.7	238.4	312.5	252.9	361.8	278.7	469.4	326.5	704.6	423.4
1 0 1 0 1 0	B1-O	277.2	230.3	288.7	238.4	312.5	252.9	361.8	278.7	469.4	326.5	704.6	423.4
0 0 0 0 0 0	B2-O	232.1	220.0	243.5	228.2	267.0	242.9	316.7	268.7	424.0	316.5	659.8	413.4
0 0 0 0 0 1	B2-O	232.5	220.1	243.9	228.2	267.4	242.9	317.2	268.7	424.5	316.6	660.4	413.5
0 0 0 0 1 0	B2-O	232.5	220.1	243.9	228.2	267.4	242.9	317.2	268.7	424.5	316.6	660.4	413.5
0 0 0 1 0 0	B2-O	232.2	220.1	243.7	228.2	267.2	242.9	316.9	268.7	424.2	316.6	660.1	413.5
0 0 0 1 0 1	B2-O	232.7	220.1	244.1	228.3	267.6	243.0	317.4	268.8	424.4	316.7	659.6	413.5
0 0 0 1 1 0	B2-O	232.7	220.1	244.1	228.3	267.6	243.0	317.4	268.8	424.4	316.7	659.6	413.5
0 0 1 0 0 0	B2-O	232.2	220.1	243.7	228.2	267.2	242.9	316.9	268.7	424.2	316.6	660.1	413.5
0 0 1 0 0 1	B2-O	232.7	220.1	244.1	228.3	267.6	243.0	317.4	268.8	424.4	316.7	659.6	413.5
0 0 1 0 1 0	B2-O	232.7	220.1	244.1	228.3	267.6	243.0	317.4	268.8	424.4	316.7	659.6	413.5
0 1 0 0 0 0	B2-O	266.7	220.3	278.2	228.5	302.0	243.2	351.5	268.9	458.8	316.8	694.2	413.7
0 1 0 0 0 1	B2-O	267.0	220.4	278.7	228.5	302.3	243.2	352.0	269.0	459.2	316.9	694.6	413.8
0 1 0 0 1 0	B2-O	267.0	220.4	278.7	228.5	302.3	243.2	352.0	269.0	459.2	316.9	694.6	413.8
0 1 0 1 0 0	B2-O	266.8	220.4	278.4	228.5	302.1	243.2	351.7	269.0	459.0	316.9	694.4	413.8
0 1 0 1 0 1	B2-O	267.2	220.4	278.8	228.6	302.5	243.2	352.1	269.1	459.4	316.9	694.8	413.8
0 1 0 1 1 0	B2-O	267.2	220.4	278.8	228.6	302.5	243.2	352.1	269.1	459.4	316.9	694.8	413.8
0 1 1 0 0 0	B2-O	266.8	220.4	278.4	228.5	302.1	243.2	351.7	269.0	459.0	316.9	694.4	413.8
0 1 1 0 0 1	B2-O	267.2	220.4	278.8	228.6	302.5	243.2	352.1	269.1	459.4	316.9	694.8	413.8
0 1 1 0 1 0	B2-O	267.2	220.4	278.8	228.6	302.5	243.2	352.1	269.1	459.4	316.9	694.8	413.8
1 0 0 0 0 0	B2-O	300.4	230.9	312.0	238.9	335.5	253.5	385.2	279.4	492.7	327.3	727.8	424.0
1 0 0 0 0 1	B2-O	300.7	230.9	312.4	238.9	335.9	253.5	385.6	279.5	493.3	327.2	728.8	424.1
1 0 0 0 1 0	B2-O	300.7	230.9	312.4	238.9	335.9	253.5	385.6	279.5	493.3	327.2	728.8	424.1
1 0 0 1 0 0	B2-O	300.5	230.9	312.2	238.9	335.7	253.5	385.4	279.4	493.0	327.2	728.3	424.1
1 0 0 1 0 1	B2-O	300.8	230.9	312.5	239.0	336.0	253.6	385.8	279.5	493.5	327.2	729.1	424.1
1 0 0 1 1 0	B2-O	300.8	230.9	312.5	239.0	336.0	253.6	385.8	279.5	493.5	327.2	729.1	424.1
1 0 1 0 0 0	B2-O	300.5	230.9	312.2	238.9	335.7	253.5	385.4	279.4	493.0	327.2	728.3	424.1
1 0 1 0 0 1	B2-O	300.8	230.9	312.5	239.0	336.0	253.6	385.8	279.5	493.5	327.2	729.1	424.1
1 0 1 0 1 0	B2-O	300.8	230.9	312.5	239.0	336.0	253.6	385.8	279.5	493.5	327.2	729.1	424.1

B1 B2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	A1-O	250.1	250.4	261.5	258.5	285.2	273.0	334.7	298.9	441.9	346.7	677.0	443.5
0 0 0 0 0 1	A1-O	250.4	250.4	261.9	258.6	285.7	273.1	335.1	298.9	442.4	346.7	677.4	443.6
0 0 0 0 1 0	A1-O	250.4	250.4	261.9	258.6	285.7	273.1	335.1	298.9	442.4	346.7	677.4	443.6
0 0 0 1 0 0	A1-O	250.2	250.4	261.7	258.6	285.4	273.1	334.8	298.9	442.1	346.7	677.2	443.6
0 0 0 1 0 1	A1-O	250.6	250.4	262.0	258.6	285.8	273.1	335.3	299.0	442.6	346.8	677.6	443.7
0 0 0 1 1 0	A1-O	250.6	250.4	262.0	258.6	285.8	273.1	335.3	299.0	442.6	346.8	677.6	443.7
0 0 1 0 0 0	A1-O	250.2	250.4	261.7	258.6	285.4	273.1	334.8	298.9	442.1	346.7	677.2	443.6
0 0 1 0 0 1	A1-O	250.6	250.4	262.0	258.6	285.8	273.1	335.3	299.0	442.6	346.8	677.6	443.7
0 0 1 0 1 0	A1-O	250.6	250.4	262.0	258.6	285.8	273.1	335.3	299.0	442.6	346.8	677.6	443.7
0 1 0 0 0 0	A1-O	276.9	244.6	288.5	252.8	312.0	267.3	361.7	293.1	469.7	340.9	705.7	437.8
0 1 0 0 0 1	A1-O	277.2	244.6	288.8	252.8	312.4	267.3	362.0	293.2	469.2	341.0	706.2	437.9
0 1 0 0 1 0	A1-O	277.2	244.6	288.8	252.8	312.4	267.3	362.0	293.2	469.2	341.0	706.2	437.9
0 1 0 1 0 0	A1-O	277.1	244.6	288.7	252.8	312.2	267.3	361.8	293.2	469.1	341.0	706.0	437.9
0 1 0 1 0 1	A1-O	277.4	244.6	288.9	252.8	312.5	267.4	362.2	293.2	469.3	341.1	706.4	437.9
0 1 0 1 1 0	A1-O	277.4	244.6	288.9	252.8	312.5	267.4	362.2	293.2	469.3	341.1	706.4	437.9
0 1 1 0 0 0	A1-O	277.1	244.6	288.7	252.8	312.2	267.3	361.8	293.2	469.1	341.0	706.0	437.9
0 1 1 0 0 1	A1-O	277.4	244.6	288.9	252.8	312.5	267.4	362.2	293.2	469.3	341.1	706.4	437.9
0 1 1 0 1 0	A1-O	277.4	244.6	288.9	252.8	312.5	267.4	362.2	293.2	469.3	341.1	706.4	437.9
1 0 0 0 0 0	A1-O	302.6	253.1	314.1	261.2	337.8	275.9	387.5	301.8	494.5	349.7	729.8	446.7
1 0 0 0 0 1	A1-O	303.0	253.1	314.5	261.2	338.2	275.9	387.9	301.8	494.8	349.8	730.2	446.7
1 0 0 0 1 0	A1-O	303.0	253.1	314.5	261.2	338.2	275.9	387.9	301.8	494.8	349.8	730.2	446.7
1 0 0 1 0 0	A1-O	302.7	253.1	314.3	261.2	338.0	275.9	387.7	301.8	494.7	349.8	730.0	446.7
1 0 0 1 0 1	A1-O	303.1	253.1	314.6	261.3	338.3	276.0	388.1	301.9	495.0	349.8	730.4	446.8
1 0 0 1 1 0	A1-O	303.1	253.1	314.6	261.3	338.3	276.0	388.1	301.9	495.0	349.8	730.4	446.8
1 0 1 0 0 0	A1-O	302.7	253.1	314.3	261.2	338.0	275.9	387.7	301.8	494.7	349.8	730.0	446.7
1 0 1 0 0 1	A1-O	303.1	253.1	314.6	261.3	338.3	276.0	388.1	301.9	495.0	349.8	730.4	446.8
1 0 1 0 1 0	A1-O	303.1	253.1	314.6	261.3	338.3	276.0	388.1	301.9	495.0	349.8	730.4	446.8
0 0 0 0 0 0	A2-O	274.0	258.5	285.5	266.6	308.9	281.3	358.4	307.1	466.2	355.1	702.6	452.0
0 0 0 0 0 1	A2-O	274.4	258.5	285.9	266.7	309.4	281.4	359.0	307.2	466.8	355.1	703.1	452.0
0 0 0 0 1 0	A2-O	274.4	258.5	285.9	266.7	309.4	281.4	359.0	307.2	466.8	355.1	703.1	452.0
0 0 0 1 0 0	A2-O	274.2	258.5	285.7	266.7	309.1	281.3	358.5	307.2	465.8	355.1	702.9	452.0
0 0 0 1 0 1	A2-O	274.5	258.5	286.1	266.7	309.5	281.4	359.1	307.3	467.1	355.2	703.4	451.9
0 0 0 1 1 0	A2-O	274.5	258.5	286.1	266.7	309.5	281.4	359.1	307.3	467.1	355.2	703.4	451.9
0 0 1 0 0 0	A2-O	274.2	258.5	285.7	266.7	309.1	281.3	358.5	307.2	465.8	355.1	702.9	452.0
0 0 1 0 0 1	A2-O	274.5	258.5	286.1	266.7	309.5	281.4	359.1	307.3	467.1	355.2	703.4	451.9
0 0 1 0 1 0	A2-O	274.5	258.5	286.1	266.7	309.5	281.4	359.1	307.3	467.1	355.2	703.4	451.9
0 1 0 0 0 0	A2-O	308.3	252.8	319.7	260.9	343.4	275.4	392.6	301.3	500.3	349.1	735.7	446.0
0 1 0 0 0 1	A2-O	308.6	252.8	320.1	260.9	343.9	275.5	393.1	301.4	500.7	349.3	735.9	446.1
0 1 0 0 1 0	A2-O	308.6	252.8	320.1	260.9	343.9	275.5	393.1	301.4	500.7	349.3	735.9	446.1
0 1 0 1 0 0	A2-O	308.4	252.8	319.9	260.9	343.6	275.5	392.9	301.3	500.6	349.2	736.0	446.1
0 1 0 1 0 1	A2-O	308.7	252.9	320.2	260.9	344.0	275.5	393.3	301.4	500.8	349.3	736.0	446.2

0 1 0 1 1 0	A2-O	308.7	252.9	320.2	260.9	344.0	275.5	393.3	301.4	500.8	349.3	736.0	446.2
0 1 1 0 0 0	A2-O	308.4	252.8	319.9	260.9	343.6	275.5	392.9	301.3	500.6	349.2	736.0	446.1
0 1 1 0 0 1	A2-O	308.7	252.9	320.2	260.9	344.0	275.5	393.3	301.4	500.8	349.3	736.0	446.2
0 1 1 0 1 0	A2-O	308.7	252.9	320.2	260.9	344.0	275.5	393.3	301.4	500.8	349.3	736.0	446.2
1 0 0 0 0 0	A2-O	333.6	261.1	345.2	269.2	368.7	283.9	418.3	309.8	525.8	357.7	760.8	454.6
1 0 0 0 0 1	A2-O	333.9	261.1	345.5	269.2	369.0	284.0	418.8	309.8	526.4	357.8	762.0	454.5
1 0 0 0 1 0	A2-O	333.9	261.1	345.5	269.2	369.0	284.0	418.8	309.8	526.4	357.8	762.0	454.5
1 0 0 1 0 0	A2-O	333.7	261.1	345.3	269.2	368.8	284.0	418.5	309.8	526.1	357.8	761.1	454.5
1 0 0 1 0 1	A2-O	334.0	261.1	345.6	269.3	369.2	284.0	418.9	309.9	526.5	357.8	762.4	454.6
1 0 0 1 1 0	A2-O	334.0	261.1	345.6	269.3	369.2	284.0	418.9	309.9	526.5	357.8	762.4	454.6
1 0 1 0 0 0	A2-O	333.7	261.1	345.3	269.2	368.8	284.0	418.5	309.8	526.1	357.8	761.1	454.5
1 0 1 0 0 1	A2-O	334.0	261.1	345.6	269.3	369.2	284.0	418.9	309.9	526.5	357.8	762.4	454.6
1 0 1 0 1 0	A2-O	334.0	261.1	345.6	269.3	369.2	284.0	418.9	309.9	526.5	357.8	762.4	454.6

Version : AOI2222HLD

Cell Unit = 19

State A1 A2 B1 B2 C1 C2	Path	Output Load									
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff	
		tph	tph	tph	tph	tph	tph	tph	tph	tph	tph
0 0 0 0 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.2	231.8	379.5	275.6
0 0 0 0 0 1	D1-O	250.3	191.4	258.7	197.5	276.7	209.5	316.1	232.1	409.4	276.0
0 0 0 0 1 0	D1-O	288.0	203.1	296.4	209.2	314.4	221.0	353.7	243.6	446.9	287.4
0 0 0 1 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.3	231.7	379.6	275.6
0 0 0 1 0 1	D1-O	250.4	191.4	258.8	197.5	276.7	209.5	316.1	232.1	409.4	276.0
0 0 0 1 1 0	D1-O	288.1	203.1	296.4	209.2	314.4	221.0	353.8	243.6	447.0	287.4
0 0 1 0 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.3	231.7	379.6	275.6
0 0 1 0 0 1	D1-O	250.4	191.4	258.8	197.5	276.7	209.5	316.1	232.1	409.4	276.0
0 0 1 0 1 0	D1-O	288.1	203.1	296.4	209.2	314.4	221.0	353.8	243.6	447.0	287.4
0 1 0 0 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.2	231.7	379.5	275.6
0 1 0 0 0 1	D1-O	250.3	191.4	258.7	197.5	276.7	209.5	316.1	232.1	409.4	276.0
0 1 0 0 1 0	D1-O	288.0	203.1	296.4	209.2	314.4	221.0	353.8	243.6	447.0	287.4
0 1 0 1 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.3	231.7	379.6	275.6
0 1 0 1 0 1	D1-O	250.4	191.4	258.8	197.5	276.8	209.5	316.1	232.1	409.4	276.0
0 1 0 1 1 0	D1-O	288.1	203.1	296.5	209.2	314.4	221.0	353.8	243.6	447.0	287.4
0 1 1 0 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.3	231.7	379.6	275.6
0 1 1 0 0 1	D1-O	250.4	191.4	258.8	197.5	276.8	209.5	316.1	232.1	409.4	276.0
0 1 1 0 1 0	D1-O	288.1	203.1	296.5	209.2	314.4	221.0	353.8	243.6	447.0	287.4
1 0 0 0 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.2	231.7	379.5	275.6
1 0 0 0 0 1	D1-O	250.3	191.4	258.7	197.5	276.7	209.5	316.1	232.1	409.4	276.0
1 0 0 0 1 0	D1-O	288.0	203.1	296.4	209.2	314.4	221.0	353.8	243.6	447.0	287.4
1 0 0 1 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.3	231.7	379.6	275.6
1 0 0 1 0 1	D1-O	250.4	191.4	258.8	197.5	276.8	209.5	316.1	232.1	409.4	276.0
1 0 0 1 1 0	D1-O	288.1	203.1	296.5	209.2	314.4	221.0	353.8	243.6	447.0	287.4
1 0 1 0 0 0	D1-O	221.0	191.1	229.2	197.1	247.1	209.2	286.3	231.7	379.6	275.6
1 0 1 0 0 1	D1-O	250.4	191.4	258.8	197.5	276.8	209.5	316.1	232.1	409.4	276.0
1 0 1 0 1 0	D1-O	288.1	203.1	296.5	209.2	314.4	221.0	353.8	243.6	447.0	287.4
0 0 0 0 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.8	276.6
0 0 0 0 0 1	D2-O	275.1	192.4	283.3	198.4	301.4	210.4	340.8	233.1	434.0	276.9
0 0 0 0 1 0	D2-O	311.8	203.6	320.3	209.7	338.3	221.7	377.6	244.2	470.9	287.9
0 0 0 1 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.9	276.6
0 0 0 1 0 1	D2-O	275.1	192.4	283.3	198.4	301.5	210.4	340.8	233.1	434.0	276.9
0 0 0 1 1 0	D2-O	311.9	203.6	320.3	209.7	338.3	221.7	377.7	244.2	470.9	287.9
0 0 1 0 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.9	276.6
0 0 1 0 0 1	D2-O	275.1	192.4	283.3	198.4	301.5	210.4	340.8	233.1	434.0	276.9
0 0 1 0 1 0	D2-O	311.9	203.6	320.3	209.7	338.3	221.7	377.7	244.2	470.9	287.9
0 1 0 0 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.8	276.6
0 1 0 0 0 1	D2-O	275.1	192.4	283.3	198.4	301.4	210.4	340.8	233.1	434.0	276.9
0 1 0 0 1 0	D2-O	311.9	203.6	320.3	209.7	338.3	221.7	377.7	244.2	470.9	287.9

0 1 0 1 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.9	276.6	626.4	371.7
0 1 0 1 0 1	D2-O	275.2	192.4	283.3	198.4	301.5	210.4	340.9	233.1	434.0	276.9	662.7	372.0
0 1 0 1 1 0	D2-O	311.9	203.6	320.3	209.7	338.3	221.7	377.7	244.1	470.9	287.9	699.6	383.1
0 1 1 0 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.9	276.6	626.4	371.7
0 1 1 0 0 1	D2-O	275.2	192.4	283.3	198.4	301.5	210.4	340.9	233.1	434.0	276.9	662.7	372.0
0 1 1 0 1 0	D2-O	311.9	203.6	320.3	209.7	338.3	221.7	377.7	244.1	470.9	287.9	699.6	383.1
1 0 0 0 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.8	276.6	626.4	371.7
1 0 0 0 0 1	D2-O	275.1	192.4	283.3	198.4	301.4	210.4	340.8	233.1	434.0	276.9	662.6	372.0
1 0 0 0 1 0	D2-O	311.9	203.6	320.3	209.7	338.3	221.7	377.7	244.2	470.9	287.9	699.6	383.1
1 0 0 1 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.9	276.6	626.4	371.7
1 0 0 1 0 1	D2-O	275.2	192.4	283.3	198.4	301.5	210.4	340.9	233.1	434.0	276.9	662.7	372.0
1 0 0 1 1 0	D2-O	311.9	203.6	320.3	209.7	338.3	221.7	377.7	244.1	470.9	287.9	699.6	383.1
1 0 1 0 0 0	D2-O	239.3	192.1	247.5	198.1	265.4	210.1	304.5	232.8	397.9	276.6	626.4	371.7
1 0 1 0 0 1	D2-O	275.2	192.4	283.3	198.4	301.5	210.4	340.9	233.1	434.0	276.9	662.7	372.0
1 0 1 0 1 0	D2-O	311.9	203.6	320.3	209.7	338.3	221.7	377.7	244.1	470.9	287.9	699.6	383.1
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0 0 0 0	C1-O	260.3	212.7	268.6	218.8	286.5	230.9	325.8	253.5	419.1	297.3	647.7	392.5
0 0 0 0 0 1	C1-O	286.1	207.3	294.4	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
0 0 0 0 1 0	C1-O	311.7	215.0	320.1	221.0	338.0	233.0	377.3	255.4	470.6	299.4	699.2	394.6
0 0 0 1 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.2	297.3	647.8	392.5
0 0 0 1 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
0 0 0 1 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.3	255.4	470.6	299.3	699.2	394.6
0 0 1 0 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.2	297.3	647.8	392.5
0 0 1 0 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
0 0 1 0 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.3	255.4	470.6	299.3	699.2	394.6
0 0 1 0 1 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
0 1 0 0 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.1	297.3	647.7	392.5
0 1 0 0 0 1	C1-O	286.1	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
0 1 0 0 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.3	255.4	470.6	299.3	699.2	394.6
0 1 0 1 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.2	297.3	647.8	392.5
0 1 0 1 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
0 1 0 1 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.3	255.4	470.6	299.3	699.3	394.6
0 1 1 0 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.2	297.3	647.8	392.5
0 1 1 0 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
0 1 1 0 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.3	255.4	470.6	299.3	699.3	394.6
1 0 0 0 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.1	297.3	647.7	392.5
1 0 0 0 0 1	C1-O	286.1	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
1 0 0 0 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.3	255.4	470.6	299.3	699.2	394.6
1 0 0 1 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.2	297.3	647.8	392.5
1 0 0 1 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
1 0 0 1 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.4	255.4	470.6	299.3	699.3	394.6
1 0 1 0 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.1	297.3	647.7	392.5
1 0 1 0 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
1 0 1 0 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.4	255.4	470.6	299.3	699.2	394.6
1 0 1 1 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.2	297.3	647.8	392.5
1 0 1 1 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
1 0 1 1 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.4	255.4	470.6	299.3	699.3	394.6
1 0 1 0 0 1	C1-O	286.1	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
1 0 1 0 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.3	255.4	470.6	299.3	699.2	394.6
1 0 0 1 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.2	297.3	647.8	392.5
1 0 0 1 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
1 0 0 1 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.4	255.4	470.6	299.3	699.3	394.6
1 0 1 0 0 0	C1-O	260.3	212.7	268.6	218.9	286.5	230.9	325.8	253.5	419.1	297.3	647.7	392.5
1 0 1 0 0 1	C1-O	286.2	207.3	294.5	213.4	312.4	225.2	351.7	248.0	444.9	291.7	673.5	386.9
1 0 1 0 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.4	255.4	470.6	299.3	699.2	394.6

1 0 1 0 1 0	C1-O	311.8	215.0	320.1	221.0	338.0	233.0	377.4	255.4	470.6	299.3	699.3	394.6
0 0 0 0 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.6	257.9	446.0	301.7	674.5	396.9
0 0 0 0 0 1	C2-O	321.2	212.0	329.6	218.1	347.7	230.2	387.1	252.6	480.3	296.4	709.0	391.7
0 0 0 0 1 0	C2-O	346.8	219.1	355.1	225.2	373.1	237.2	412.5	259.7	505.6	303.7	734.3	398.9
0 0 0 1 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.6	257.9	446.0	301.7	674.6	396.9
0 0 0 1 0 1	C2-O	321.3	212.0	329.6	218.1	347.8	230.2	387.1	252.6	480.4	296.4	709.0	391.7
0 0 0 1 1 0	C2-O	346.8	219.1	355.1	225.2	373.1	237.2	412.5	259.7	505.7	303.7	734.3	398.9
0 0 1 0 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.6	257.9	446.0	301.7	674.6	396.9
0 0 1 0 0 1	C2-O	321.3	212.0	329.6	218.1	347.8	230.2	387.1	252.6	480.4	296.4	709.0	391.7
0 0 1 0 1 0	C2-O	346.8	219.1	355.1	225.2	373.1	237.2	412.5	259.7	505.6	303.7	734.3	398.9
0 1 0 0 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.6	257.9	446.0	301.7	674.6	396.9
0 1 0 0 0 1	C2-O	321.3	212.0	329.6	218.1	347.7	230.2	387.1	252.6	480.3	296.4	709.0	391.7
0 1 0 0 1 0	C2-O	346.8	219.1	355.1	225.2	373.1	237.2	412.5	259.7	505.6	303.7	734.3	398.9
0 1 0 1 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.7	257.9	446.1	301.7	674.6	396.9
0 1 0 1 0 1	C2-O	321.3	212.0	329.7	218.1	347.8	230.2	387.1	252.6	480.4	296.4	709.1	391.7
0 1 0 1 1 0	C2-O	346.8	219.1	355.1	225.2	373.2	237.2	412.5	259.7	505.7	303.7	734.3	398.9
0 1 1 0 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.7	257.9	446.1	301.7	674.6	396.9
0 1 1 0 0 1	C2-O	321.3	212.0	329.7	218.1	347.8	230.2	387.1	252.6	480.4	296.4	709.1	391.7
0 1 1 0 1 0	C2-O	346.8	219.1	355.1	225.2	373.2	237.2	412.5	259.7	505.7	303.7	734.3	398.9
1 0 0 0 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.6	257.9	446.0	301.7	674.6	396.9
1 0 0 0 0 1	C2-O	321.3	212.0	329.6	218.1	347.7	230.2	387.1	252.6	480.3	296.4	709.0	391.7
1 0 0 0 1 0	C2-O	346.8	219.1	355.1	225.2	373.1	237.2	412.5	259.7	505.6	303.7	734.3	398.9
1 0 0 1 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.7	257.9	446.1	301.7	674.6	396.9
1 0 0 1 0 1	C2-O	321.3	212.0	329.7	218.1	347.8	230.2	387.1	252.6	480.4	296.4	709.1	391.7
1 0 0 1 1 0	C2-O	346.8	219.1	355.1	225.2	373.2	237.2	412.5	259.7	505.7	303.7	734.3	398.9
1 0 1 0 0 0	C2-O	287.3	217.3	295.5	223.2	313.4	235.2	352.7	257.9	446.1	301.7	674.6	396.9
1 0 1 0 0 1	C2-O	321.3	212.0	329.7	218.1	347.8	230.2	387.1	252.6	480.4	296.4	709.1	391.7
1 0 1 0 1 0	C2-O	346.8	219.1	355.1	225.2	373.2	237.2	412.5	259.7	505.7	303.7	734.3	398.9
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0 0 0 0	B1-O	232.2	209.6	240.5	215.5	258.3	227.5	297.5	250.4	390.9	294.6	619.3	390.2
0 0 0 0 0 1	B1-O	232.9	209.6	241.2	215.5	259.1	227.6	298.3	250.5	391.7	294.7	620.1	390.2
0 0 0 0 1 0	B1-O	232.9	209.6	241.2	215.5	259.1	227.6	298.3	250.5	391.7	294.7	620.1	390.2
0 0 0 1 0 0	B1-O	232.6	209.6	240.9	215.5	258.8	227.6	298.0	250.4	391.4	294.6	619.8	390.2
0 0 0 1 0 1	B1-O	233.3	209.6	241.6	215.5	259.5	227.6	298.7	250.5	392.1	294.7	620.5	390.2
0 0 0 1 1 0	B1-O	233.3	209.6	241.6	215.5	259.5	227.6	298.7	250.5	392.1	294.7	620.5	390.2
0 0 1 0 0 0	B1-O	232.6	209.6	240.9	215.5	258.8	227.6	298.0	250.4	391.4	294.6	619.8	390.2
0 0 1 0 0 1	B1-O	233.3	209.6	241.6	215.5	259.5	227.6	298.7	250.5	392.1	294.7	620.5	390.2
0 0 1 0 1 0	B1-O	233.3	209.6	241.6	215.5	259.5	227.6	298.7	250.5	392.1	294.7	620.5	390.2
0 1 0 0 0 0	B1-O	263.2	209.9	271.6	215.8	289.6	227.9	328.9	250.8	422.3	294.9	650.8	390.5
0 1 0 0 0 1	B1-O	263.8	209.9	272.2	215.8	290.3	227.9	329.6	250.8	423.0	295.0	651.5	390.5
0 1 0 0 1 0	B1-O	263.8	209.9	272.2	215.8	290.3	227.9	329.6	250.8	423.0	295.0	651.5	390.5
0 1 0 1 0 0	B1-O	263.6	209.9	271.9	215.8	290.0	227.9	329.3	250.8	422.7	295.0	651.2	390.5

0 1 0 1 0 1	B1-O	264.1	209.9	272.5	215.8	290.6	227.9	329.9	250.8	423.3	295.0	651.8	390.6
0 1 0 1 1 0	B1-O	264.1	209.9	272.5	215.8	290.6	227.9	329.9	250.8	423.3	295.0	651.8	390.6
0 1 1 0 0 0	B1-O	263.6	209.9	271.9	215.8	290.0	227.9	329.3	250.8	422.7	295.0	651.2	390.5
0 1 1 0 0 1	B1-O	264.1	209.9	272.5	215.8	290.6	227.9	329.9	250.8	423.3	295.0	651.8	390.6
0 1 1 0 1 0	B1-O	264.1	209.9	272.5	215.8	290.6	227.9	329.9	250.8	423.3	295.0	651.8	390.6
1 0 0 0 0 0	B1-O	297.9	220.5	306.2	226.6	324.4	238.5	363.8	261.3	457.1	305.6	685.6	401.0
1 0 0 0 0 1	B1-O	298.5	220.5	306.7	226.6	325.0	238.5	364.4	261.3	457.8	305.6	686.3	401.1
1 0 0 0 1 0	B1-O	298.5	220.5	306.7	226.6	325.0	238.5	364.4	261.3	457.8	305.6	686.3	401.1
1 0 0 1 0 0	B1-O	298.2	220.5	306.6	226.6	324.7	238.5	364.2	261.3	457.5	305.6	686.0	401.1
1 0 0 1 0 1	B1-O	298.7	220.5	307.0	226.6	325.3	238.5	364.8	261.3	458.1	305.5	686.7	401.1
1 0 0 1 1 0	B1-O	298.7	220.5	307.0	226.6	325.3	238.5	364.8	261.3	458.1	305.5	686.7	401.1
1 0 1 0 0 0	B1-O	298.2	220.5	306.6	226.6	324.7	238.5	364.2	261.3	457.5	305.6	686.0	401.1
1 0 1 0 0 1	B1-O	298.7	220.5	307.0	226.6	325.3	238.5	364.8	261.3	458.1	305.5	686.7	401.1
1 0 1 0 1 0	B1-O	298.7	220.5	307.0	226.6	325.3	238.5	364.8	261.3	458.1	305.5	686.7	401.1
0 0 0 0 0 0	B2-O	250.2	210.1	258.5	216.2	276.4	228.1	315.6	250.9	408.9	295.2	637.3	390.8
0 0 0 0 0 1	B2-O	250.9	210.1	259.2	216.3	277.1	228.1	316.4	251.0	409.7	295.2	638.2	390.8
0 0 0 0 1 0	B2-O	250.9	210.1	259.2	216.3	277.1	228.1	316.4	251.0	409.7	295.2	638.2	390.8
0 0 0 1 0 0	B2-O	250.6	210.1	258.9	216.2	276.8	228.1	316.0	251.0	409.4	295.2	637.8	390.8
0 0 0 1 0 1	B2-O	251.2	210.1	259.6	216.3	277.5	228.1	316.7	251.0	410.1	295.2	638.6	390.8
0 0 0 1 1 0	B2-O	251.2	210.1	259.6	216.3	277.5	228.1	316.7	251.0	410.1	295.2	638.6	390.8
0 0 1 0 0 0	B2-O	250.6	210.1	258.9	216.2	276.8	228.1	316.0	251.0	409.4	295.2	637.8	390.8
0 0 1 0 0 1	B2-O	251.2	210.1	259.6	216.3	277.5	228.1	316.7	251.0	410.1	295.2	638.6	390.8
0 0 1 0 1 0	B2-O	251.2	210.1	259.6	216.3	277.5	228.1	316.7	251.0	410.1	295.2	638.6	390.8
0 1 0 0 0 0	B2-O	287.7	210.4	296.0	216.5	314.1	228.4	353.4	251.2	446.8	295.5	675.3	391.0
0 1 0 0 0 1	B2-O	288.3	210.4	296.6	216.6	314.8	228.4	354.0	251.3	447.5	295.5	675.9	391.1
0 1 0 0 1 0	B2-O	288.3	210.4	296.6	216.6	314.8	228.4	354.0	251.3	447.5	295.5	675.9	391.1
0 1 0 1 0 0	B2-O	288.0	210.4	296.4	216.5	314.5	228.4	353.8	251.3	447.2	295.5	675.7	391.1
0 1 0 1 0 1	B2-O	288.6	210.4	296.9	216.6	315.1	228.4	354.4	251.3	447.8	295.5	676.3	391.1
0 1 0 1 1 0	B2-O	288.6	210.4	296.9	216.6	315.1	228.4	354.4	251.3	447.8	295.5	676.3	391.1
0 1 1 0 0 0	B2-O	288.0	210.4	296.4	216.5	314.5	228.4	353.8	251.3	447.2	295.5	675.7	391.1
0 1 1 0 0 1	B2-O	288.6	210.4	296.9	216.6	315.1	228.4	354.4	251.3	447.8	295.5	676.3	391.1
0 1 1 0 1 0	B2-O	288.6	210.4	296.9	216.6	315.1	228.4	354.4	251.3	447.8	295.5	676.3	391.1
1 0 0 0 0 0	B2-O	321.8	220.5	330.2	226.6	348.3	238.7	387.6	261.4	481.0	305.5	709.5	401.1
1 0 0 0 0 1	B2-O	322.4	220.5	330.8	226.6	348.9	238.8	388.2	261.4	481.6	305.6	710.1	401.1
1 0 0 0 1 0	B2-O	322.4	220.5	330.8	226.6	348.9	238.8	388.2	261.4	481.6	305.6	710.1	401.1
1 0 0 1 0 0	B2-O	322.2	220.5	330.5	226.6	348.7	238.7	388.0	261.4	481.4	305.6	709.9	401.1
1 0 0 1 0 1	B2-O	322.7	220.5	331.1	226.6	349.2	238.8	388.5	261.4	482.0	305.6	710.5	401.2
1 0 0 1 1 0	B2-O	322.7	220.5	331.1	226.6	349.2	238.8	388.5	261.4	482.0	305.6	710.5	401.2
1 0 1 0 0 0	B2-O	322.2	220.5	330.5	226.6	348.7	238.7	388.0	261.4	481.4	305.6	709.9	401.1
1 0 1 0 0 1	B2-O	322.7	220.5	331.1	226.6	349.2	238.8	388.5	261.4	482.0	305.6	710.5	401.2
1 0 1 0 1 0	B2-O	322.7	220.5	331.1	226.6	349.2	238.8	388.5	261.4	482.0	305.6	710.5	401.2

B1 B2 C1 C2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0 0 0 0	A1-O	269.3	240.5	277.6	246.5	295.6	258.7	334.8	281.6	428.2	325.8	656.7	421.4
0 0 0 0 0 1	A1-O	269.9	240.5	278.3	246.6	296.3	258.8	335.5	281.6	429.0	325.9	657.4	421.4
0 0 0 0 1 0	A1-O	269.9	240.5	278.3	246.6	296.3	258.8	335.5	281.6	429.0	325.9	657.4	421.4
0 0 0 1 0 0	A1-O	269.7	240.5	278.0	246.6	296.0	258.7	335.2	281.6	428.7	325.9	657.1	421.4
0 0 0 1 0 1	A1-O	270.3	240.5	278.6	246.6	296.6	258.8	335.9	281.6	429.3	325.9	657.8	421.5
0 0 0 1 1 0	A1-O	270.3	240.5	278.6	246.6	296.6	258.8	335.9	281.6	429.3	325.9	657.8	421.5
0 0 1 0 0 0	A1-O	269.7	240.5	278.0	246.6	296.0	258.7	335.2	281.6	428.7	325.9	657.1	421.4
0 0 1 0 0 1	A1-O	270.3	240.5	278.6	246.6	296.6	258.8	335.9	281.6	429.3	325.9	657.8	421.5
0 0 1 0 1 0	A1-O	270.3	240.5	278.6	246.6	296.6	258.8	335.9	281.6	429.3	325.9	657.8	421.5
0 1 0 0 0 0	A1-O	297.6	234.7	306.0	240.9	324.1	252.8	363.4	275.7	456.7	319.9	685.2	415.6
0 1 0 0 0 1	A1-O	298.2	234.8	306.6	240.9	324.7	252.8	364.0	275.7	457.4	320.0	685.9	415.6
0 1 0 0 1 0	A1-O	298.2	234.8	306.6	240.9	324.7	252.8	364.0	275.7	457.4	320.0	685.9	415.6
0 1 0 1 0 0	A1-O	297.9	234.7	306.3	240.9	324.4	252.8	363.7	275.7	457.1	320.0	685.7	415.6
0 1 0 1 0 1	A1-O	298.5	234.8	306.9	240.9	325.0	252.8	364.3	275.7	457.8	320.0	686.3	415.6
0 1 0 1 1 0	A1-O	298.5	234.8	306.9	240.9	325.0	252.8	364.3	275.7	457.8	320.0	686.3	415.6
0 1 1 0 0 0	A1-O	297.9	234.7	306.3	240.9	324.4	252.8	363.7	275.7	457.1	320.0	685.7	415.6
0 1 1 0 0 1	A1-O	298.5	234.8	306.9	240.9	325.0	252.8	364.3	275.7	457.8	320.0	686.3	415.6
0 1 1 0 1 0	A1-O	298.5	234.8	306.9	240.9	325.1	252.8	364.3	275.7	457.8	320.0	686.3	415.6
1 0 0 0 0 0	A1-O	323.3	243.1	331.7	249.2	349.8	261.3	389.2	284.3	482.5	328.5	711.0	424.0
1 0 0 0 0 1	A1-O	323.9	243.2	332.3	249.2	350.3	261.4	389.8	284.3	483.2	328.6	711.7	424.0
1 0 0 0 1 0	A1-O	323.9	243.2	332.3	249.2	350.3	261.4	389.8	284.3	483.2	328.6	711.7	424.0
1 0 0 1 0 0	A1-O	323.7	243.1	332.1	249.2	350.2	261.3	389.6	284.3	482.9	328.6	711.4	424.0
1 0 0 1 0 1	A1-O	324.2	243.2	332.6	249.2	350.6	261.4	390.2	284.3	483.5	328.6	712.1	424.0
1 0 0 1 1 0	A1-O	324.2	243.2	332.6	249.2	350.6	261.4	390.2	284.3	483.5	328.6	712.1	424.0
1 0 1 0 0 0	A1-O	323.7	243.1	332.1	249.2	350.2	261.3	389.6	284.3	482.9	328.6	711.4	424.0
1 0 1 0 0 1	A1-O	324.2	243.2	332.6	249.2	350.6	261.4	390.2	284.3	483.5	328.6	712.1	424.0
1 0 1 0 1 0	A1-O	324.2	243.2	332.6	249.2	350.6	261.4	390.2	284.3	483.5	328.6	712.1	424.0
0 0 0 0 0 0	A2-O	293.3	248.9	301.6	254.9	319.6	267.0	358.8	289.7	452.2	334.0	680.7	429.5
0 0 0 0 0 1	A2-O	293.9	248.8	302.2	254.9	320.3	267.0	359.5	289.7	452.9	334.0	681.4	429.5
0 0 0 0 1 0	A2-O	293.9	248.8	302.2	254.9	320.3	267.0	359.5	289.7	452.9	334.0	681.4	429.5
0 0 0 1 0 0	A2-O	293.6	248.8	301.9	254.9	320.0	267.0	359.2	289.7	452.6	334.0	681.1	429.5
0 0 0 1 0 1	A2-O	294.2	248.8	302.5	254.9	320.6	267.0	359.9	289.7	453.3	334.1	681.8	429.5
0 0 0 1 1 0	A2-O	294.2	248.8	302.5	254.9	320.6	267.0	359.9	289.7	453.3	334.1	681.8	429.5
0 0 1 0 0 0	A2-O	293.6	248.8	301.9	254.9	320.0	267.0	359.2	289.7	452.6	334.0	681.1	429.5
0 0 1 0 0 1	A2-O	294.2	248.8	302.5	254.9	320.6	267.0	359.9	289.7	453.3	334.1	681.8	429.5
0 0 1 0 1 0	A2-O	294.2	248.8	302.5	254.9	320.6	267.0	359.9	289.7	453.3	334.1	681.8	429.5
0 1 0 0 0 0	A2-O	329.0	242.8	337.4	249.0	355.5	261.1	394.7	283.9	488.1	328.2	716.6	423.7
0 1 0 0 0 1	A2-O	329.6	242.8	338.0	249.0	356.1	261.2	395.4	283.9	488.8	328.2	717.3	423.8
0 1 0 0 1 0	A2-O	329.6	242.8	338.0	249.0	356.1	261.2	395.4	283.9	488.8	328.2	717.3	423.8
0 1 0 1 0 0	A2-O	329.4	242.8	337.7	249.0	355.8	261.1	395.1	283.9	488.5	328.2	717.0	423.8
0 1 0 1 0 1	A2-O	329.9	242.8	338.3	249.0	356.4	261.2	395.7	284.0	489.2	328.3	717.7	423.8

0 1 0 1 1 0	A2-O	329.9	242.8	338.3	249.0	356.4	261.2	395.7	283.9	489.2	328.3	717.7	423.8
0 1 1 0 0 0	A2-O	329.4	242.8	337.7	249.0	355.8	261.1	395.1	283.9	488.5	328.2	717.0	423.8
0 1 1 0 0 1	A2-O	329.9	242.8	338.3	249.0	356.4	261.2	395.7	283.9	489.2	328.3	717.7	423.8
0 1 1 0 1 0	A2-O	329.9	242.8	338.3	249.0	356.4	261.2	395.7	283.9	489.2	328.3	717.7	423.8
1 0 0 0 0 0	A2-O	354.2	251.2	362.6	257.4	380.8	269.3	420.1	292.2	513.5	336.4	742.0	432.0
1 0 0 0 0 1	A2-O	354.8	251.3	363.2	257.4	381.4	269.3	420.7	292.3	514.1	336.4	742.6	432.0
1 0 0 0 1 0	A2-O	354.8	251.3	363.2	257.4	381.4	269.3	420.7	292.3	514.1	336.4	742.6	432.0
1 0 0 1 0 0	A2-O	354.5	251.2	363.0	257.4	381.1	269.3	420.5	292.2	513.9	336.4	742.4	432.0
1 0 0 1 0 1	A2-O	355.1	251.3	363.5	257.4	381.7	269.3	421.0	292.3	514.4	336.5	743.0	432.1
1 0 0 1 1 0	A2-O	355.1	251.3	363.5	257.4	381.7	269.3	421.0	292.3	514.4	336.5	743.0	432.1
1 0 1 0 0 0	A2-O	354.5	251.2	363.0	257.4	381.1	269.3	420.5	292.2	513.9	336.4	742.4	432.0
1 0 1 0 0 1	A2-O	355.1	251.3	363.5	257.4	381.7	269.3	421.0	292.3	514.4	336.5	743.0	432.1
1 0 1 0 1 0	A2-O	355.1	251.3	363.5	257.4	381.7	269.3	421.0	292.3	514.4	336.5	743.0	432.1

Version : AOI2222KLD

Cell Unit = 25

State A1 A2 B1 B2 C1 C2	Path	Output Load									
		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff	
		tph	tph	tph	tph	tph	tph	tph	tph	tph	tph
0 0 0 0 0 0	D1-O	247.2	232.3	252.7	236.9	265.9	247.1	297.4	268.2	377.5	310.5
0 0 0 0 0 1	D1-O	285.4	232.1	291.0	236.6	304.4	246.8	335.8	268.0	416.0	310.0
0 0 0 0 1 0	D1-O	320.4	243.7	326.0	248.3	339.2	258.5	370.8	279.7	450.9	321.8
0 0 0 1 0 0	D1-O	247.2	232.3	252.7	236.8	265.9	247.1	297.5	268.2	377.5	310.5
0 0 0 1 0 1	D1-O	285.5	232.1	291.0	236.6	304.5	246.8	335.9	267.9	416.0	310.0
0 0 0 1 1 0	D1-O	320.4	243.7	326.0	248.3	339.3	258.4	370.8	279.7	451.0	321.8
0 0 1 0 0 0	D1-O	247.2	232.3	252.7	236.8	265.9	247.1	297.5	268.2	377.5	310.5
0 0 1 0 0 1	D1-O	285.5	232.1	291.0	236.6	304.5	246.8	335.9	267.9	416.0	310.0
0 0 1 0 1 0	D1-O	320.4	243.7	326.0	248.3	339.3	258.4	370.8	279.7	451.0	321.8
0 1 0 0 0 0	D1-O	247.2	232.3	252.7	236.8	265.9	247.1	297.4	268.2	377.5	310.5
0 1 0 0 0 1	D1-O	285.5	232.1	291.0	236.6	304.5	246.8	335.9	267.9	416.0	310.0
0 1 0 0 1 0	D1-O	320.4	243.7	326.0	248.3	339.3	258.4	370.8	279.7	450.9	321.8
0 1 0 1 0 0	D1-O	247.2	232.3	252.7	236.8	266.0	247.1	297.5	268.2	377.5	310.5
0 1 0 1 0 1	D1-O	285.5	232.1	291.0	236.6	304.5	246.8	335.9	267.9	416.0	310.1
0 1 0 1 1 0	D1-O	320.4	243.7	326.0	248.2	339.3	258.4	370.8	279.7	451.0	321.8
0 1 1 0 0 0	D1-O	247.2	232.3	252.7	236.8	266.0	247.1	297.5	268.2	377.5	310.5
0 1 1 0 0 1	D1-O	285.5	232.1	291.0	236.6	304.5	246.8	335.9	267.9	416.0	310.1
0 1 1 0 1 0	D1-O	320.4	243.7	326.0	248.2	339.3	258.4	370.8	279.7	451.0	321.8
1 0 0 0 0 0	D1-O	247.2	232.3	252.7	236.8	265.9	247.1	297.4	268.2	377.5	310.5
1 0 0 0 0 1	D1-O	285.5	232.1	291.0	236.6	304.5	246.8	335.9	267.9	416.0	310.0
1 0 0 0 1 0	D1-O	320.4	243.7	326.0	248.3	339.3	258.4	370.8	279.7	450.9	321.8
1 0 0 1 0 0	D1-O	247.2	232.3	252.7	236.8	266.0	247.1	297.5	268.2	377.5	310.5
1 0 0 1 0 1	D1-O	285.5	232.1	291.0	236.6	304.5	246.8	335.9	267.9	416.0	310.1
1 0 0 1 1 0	D1-O	320.4	243.7	326.0	248.2	339.3	258.4	370.8	279.7	451.0	321.8
1 0 1 0 0 0	D1-O	247.2	232.3	252.7	236.8	266.0	247.1	297.5	268.2	377.5	310.5
1 0 1 0 0 1	D1-O	285.5	232.1	291.0	236.6	304.5	246.8	335.9	267.9	416.0	310.1
1 0 1 0 1 0	D1-O	320.4	243.7	326.0	248.2	339.3	258.4	370.8	279.7	451.0	321.8
0 0 0 0 0 0	D2-O	263.5	232.2	268.9	236.5	282.2	246.7	313.5	267.7	393.6	310.1
0 0 0 0 0 1	D2-O	307.3	232.5	312.9	236.8	326.5	247.0	357.8	268.1	438.0	310.4
0 0 0 0 1 0	D2-O	341.8	243.6	347.4	248.1	360.7	258.4	392.2	279.5	472.3	321.9
0 0 0 1 0 0	D2-O	263.5	232.2	269.0	236.5	282.3	246.7	313.6	267.7	393.6	310.1
0 0 0 1 0 1	D2-O	307.4	232.5	313.0	236.8	326.5	247.0	357.9	268.0	438.0	310.4
0 0 0 1 1 0	D2-O	341.8	243.6	347.4	248.1	360.7	258.4	392.2	279.4	472.4	321.9
0 0 1 0 0 0	D2-O	263.5	232.2	269.0	236.5	282.3	246.7	313.6	267.7	393.6	310.1
0 0 1 0 0 1	D2-O	307.4	232.5	313.0	236.8	326.5	247.0	357.9	268.0	438.0	310.4
0 0 1 0 1 0	D2-O	341.8	243.6	347.4	248.1	360.7	258.4	392.2	279.4	472.4	321.9
0 1 0 0 0 0	D2-O	263.5	232.2	268.9	236.5	282.2	246.7	313.5	267.7	393.6	310.1
0 1 0 0 0 1	D2-O	307.4	232.5	312.9	236.8	326.5	247.0	357.9	268.0	438.0	310.4
0 1 0 0 1 0	D2-O	341.8	243.6	347.4	248.1	360.7	258.4	392.2	279.4	472.4	321.9

0 1 0 1 0 0	D2-O	263.5	232.1	269.0	236.5	282.3	246.7	313.6	267.7	393.6	310.1	612.7	405.0
0 1 0 1 0 1	D2-O	307.4	232.5	313.0	236.8	326.5	247.0	357.9	268.0	438.0	310.4	657.2	405.3
0 1 0 1 1 0	D2-O	341.9	243.6	347.4	248.1	360.7	258.4	392.3	279.4	472.4	321.9	691.6	416.7
0 1 1 0 0 0	D2-O	263.5	232.1	269.0	236.5	282.3	246.7	313.6	267.7	393.6	310.1	612.7	405.0
0 1 1 0 0 1	D2-O	307.4	232.5	313.0	236.8	326.5	247.0	357.9	268.0	438.0	310.4	657.2	405.3
0 1 1 0 1 0	D2-O	341.9	243.6	347.4	248.1	360.7	258.4	392.3	279.4	472.4	321.9	691.6	416.7
1 0 0 0 0 0	D2-O	263.5	232.2	268.9	236.5	282.2	246.7	313.5	267.7	393.6	310.1	612.6	405.0
1 0 0 0 0 1	D2-O	307.4	232.5	312.9	236.8	326.5	247.0	357.9	268.0	438.0	310.4	657.1	405.3
1 0 0 0 1 0	D2-O	341.8	243.6	347.4	248.1	360.7	258.4	392.2	279.4	472.4	321.9	691.6	416.7
1 0 0 1 0 0	D2-O	263.5	232.1	269.0	236.5	282.3	246.7	313.6	267.7	393.6	310.1	612.7	405.0
1 0 0 1 0 1	D2-O	307.4	232.5	313.0	236.8	326.5	247.0	357.9	268.0	438.0	310.4	657.2	405.3
1 0 0 1 1 0	D2-O	341.9	243.6	347.4	248.1	360.7	258.4	392.3	279.4	472.4	321.9	691.6	416.7
1 0 1 0 0 0	D2-O	263.5	232.1	269.0	236.5	282.3	246.7	313.6	267.7	393.6	310.1	612.7	405.0
1 0 1 0 0 1	D2-O	307.4	232.5	313.0	236.8	326.5	247.0	357.9	268.0	438.0	310.4	657.2	405.3
1 0 1 0 1 0	D2-O	341.9	243.6	347.4	248.1	360.7	258.4	392.3	279.4	472.4	321.9	691.6	416.7
A1 A2 B1 B2 D1 D2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0 0 0 0 0	C1-O	285.8	255.3	291.3	259.8	304.5	270.2	335.9	291.0	415.9	333.5	635.0	428.3
0 0 0 0 0 1	C1-O	320.0	249.5	325.6	254.1	338.9	264.3	370.6	285.5	450.7	327.9	669.8	422.7
0 0 0 0 1 0	C1-O	343.4	257.0	348.9	261.6	362.4	271.8	394.0	293.0	474.1	335.4	693.3	430.2
0 0 0 1 0 0	C1-O	285.8	255.3	291.3	259.8	304.6	270.2	336.0	291.0	416.0	333.5	635.1	428.3
0 0 0 1 0 1	C1-O	320.0	249.5	325.6	254.1	339.0	264.3	370.6	285.5	450.7	327.9	669.9	422.7
0 0 0 1 1 0	C1-O	343.4	257.0	349.0	261.5	362.4	271.8	394.1	293.0	474.2	335.4	693.3	430.2
0 0 1 0 0 0	C1-O	285.8	255.3	291.3	259.8	304.6	270.2	336.0	291.0	416.0	333.5	635.1	428.3
0 0 1 0 0 1	C1-O	320.0	249.5	325.6	254.1	339.0	264.3	370.6	285.5	450.7	327.9	669.9	422.7
0 0 1 0 1 0	C1-O	343.4	257.0	349.0	261.5	362.4	271.8	394.1	293.0	474.2	335.4	693.3	430.2
0 1 0 0 0 0	C1-O	285.8	255.3	291.3	259.8	304.5	270.2	335.9	291.0	416.0	333.5	635.1	428.3
0 1 0 0 0 1	C1-O	320.0	249.5	325.6	254.1	338.9	264.3	370.6	285.5	450.7	327.9	669.8	422.7
0 1 0 0 1 0	C1-O	343.4	257.0	348.9	261.5	362.4	271.8	394.0	293.0	474.1	335.4	693.3	430.2
0 1 0 1 0 0	C1-O	285.8	255.3	291.3	259.8	304.6	270.2	336.0	291.0	416.0	333.4	635.1	428.3
0 1 0 1 0 1	C1-O	320.0	249.5	325.7	254.0	339.0	264.3	370.6	285.5	450.7	327.9	669.9	422.7
0 1 0 1 1 0	C1-O	343.4	257.0	349.0	261.5	362.4	271.8	394.1	293.0	474.2	335.4	693.4	430.2
0 1 1 0 0 0	C1-O	285.8	255.3	291.3	259.8	304.6	270.2	336.0	291.0	416.0	333.4	635.1	428.3
0 1 1 0 0 1	C1-O	320.0	249.5	325.7	254.0	339.0	264.3	370.6	285.5	450.7	327.9	669.9	422.7
0 1 1 0 1 0	C1-O	343.4	257.0	349.0	261.5	362.4	271.8	394.1	293.0	474.2	335.4	693.4	430.2
1 0 0 0 0 0	C1-O	285.8	255.3	291.3	259.8	304.5	270.2	335.9	291.0	416.0	333.5	635.1	428.3
1 0 0 0 0 1	C1-O	320.0	249.5	325.6	254.1	338.9	264.3	370.6	285.5	450.7	327.9	669.8	422.7
1 0 0 0 1 0	C1-O	343.4	257.0	348.9	261.5	362.4	271.8	394.0	293.0	474.1	335.4	693.3	430.2
1 0 0 1 0 0	C1-O	285.8	255.3	291.3	259.8	304.6	270.2	336.0	291.0	416.0	333.4	635.1	428.3
1 0 0 1 0 1	C1-O	320.0	249.5	325.7	254.0	339.0	264.3	370.6	285.5	450.7	327.9	669.9	422.7
1 0 1 0 0 0	C1-O	285.8	255.3	291.3	259.8	304.6	270.2	336.0	291.0	416.0	333.4	635.1	428.3
1 0 1 0 0 1	C1-O	320.0	249.5	325.7	254.0	339.0	264.3	370.6	285.5	450.7	327.9	669.9	422.7

1 0 1 0 1 0	C1-O	343.4	257.0	349.0	261.5	362.4	271.8	394.1	293.0	474.2	335.4	693.4	430.2
0 0 0 0 0 0	C2-O	310.6	259.2	316.1	263.8	329.4	274.1	360.7	294.9	440.7	337.3	659.8	432.2
0 0 0 0 0 1	C2-O	352.8	253.6	358.3	258.1	371.8	268.4	403.1	289.6	483.3	331.8	702.4	426.7
0 0 0 0 1 0	C2-O	375.8	260.8	381.4	265.4	395.0	275.7	426.3	296.9	506.5	339.3	725.6	434.1
0 0 0 1 0 0	C2-O	310.6	259.2	316.1	263.8	329.4	274.1	360.7	294.9	440.8	337.3	659.9	432.2
0 0 0 1 0 1	C2-O	352.8	253.6	358.3	258.1	371.8	268.4	403.2	289.6	483.3	331.8	702.5	426.7
0 0 0 1 1 0	C2-O	375.9	260.8	381.5	265.4	395.1	275.7	426.4	296.9	506.5	339.2	725.7	434.1
0 0 1 0 0 0	C2-O	310.6	259.2	316.1	263.8	329.4	274.1	360.7	294.9	440.8	337.3	659.9	432.2
0 0 1 0 0 1	C2-O	352.8	253.6	358.3	258.1	371.8	268.4	403.2	289.6	483.3	331.8	702.5	426.7
0 0 1 0 1 0	C2-O	375.9	260.8	381.5	265.4	395.1	275.7	426.4	296.9	506.5	339.2	725.7	434.1
0 1 0 0 0 0	C2-O	310.6	259.2	316.1	263.8	329.4	274.1	360.7	294.9	440.8	337.3	659.9	432.2
0 1 0 0 0 1	C2-O	352.8	253.6	358.3	258.1	371.8	268.4	403.2	289.6	483.3	331.8	702.5	426.7
0 1 0 0 1 0	C2-O	375.8	260.8	381.4	265.4	395.0	275.7	426.4	296.9	506.5	339.2	725.6	434.1
0 1 0 1 0 0	C2-O	310.6	259.2	316.1	263.7	329.4	274.1	360.8	294.9	440.8	337.3	659.9	432.2
0 1 0 1 0 1	C2-O	352.8	253.6	358.4	258.1	371.8	268.4	403.2	289.6	483.4	331.8	702.5	426.7
0 1 0 1 1 0	C2-O	375.9	260.8	381.5	265.3	395.1	275.6	426.4	296.9	506.6	339.2	725.7	434.1
0 1 1 0 0 0	C2-O	310.6	259.2	316.1	263.7	329.4	274.1	360.8	294.9	440.8	337.3	659.9	432.2
0 1 1 0 0 1	C2-O	352.8	253.6	358.4	258.1	371.8	268.4	403.2	289.6	483.4	331.8	702.5	426.7
0 1 1 0 1 0	C2-O	375.9	260.8	381.5	265.3	395.1	275.6	426.4	296.9	506.6	339.2	725.7	434.1
1 0 0 0 0 0	C2-O	310.6	259.2	316.1	263.8	329.4	274.1	360.7	294.9	440.8	337.3	659.9	432.2
1 0 0 0 0 1	C2-O	352.8	253.6	358.3	258.1	371.8	268.4	403.2	289.6	483.3	331.8	702.5	426.7
1 0 0 0 1 0	C2-O	375.8	260.8	381.4	265.4	395.0	275.7	426.4	296.9	506.5	339.2	725.6	434.1
1 0 0 1 0 0	C2-O	310.6	259.2	316.1	263.7	329.4	274.1	360.8	294.9	440.8	337.3	659.9	432.2
1 0 0 1 0 1	C2-O	352.8	253.6	358.4	258.1	371.8	268.4	403.2	289.6	483.4	331.8	702.5	426.7
1 0 0 1 1 0	C2-O	375.9	260.8	381.5	265.3	395.1	275.6	426.4	296.9	506.6	339.2	725.7	434.1
1 0 1 0 0 0	C2-O	310.6	259.2	316.1	263.7	329.4	274.1	360.8	294.9	440.8	337.3	659.9	432.2
1 0 1 0 0 1	C2-O	352.8	253.6	358.4	258.1	371.8	268.4	403.2	289.6	483.4	331.8	702.5	426.7
1 0 1 0 1 0	C2-O	375.9	260.8	381.5	265.3	395.1	275.6	426.4	296.9	506.6	339.2	725.7	434.1
A1 A2 C1 C2 D1 D2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0 0 0 0 0	B1-O	252.2	249.8	257.7	254.4	270.9	264.6	302.3	285.7	382.5	328.4	601.4	423.7
0 0 0 0 0 1	B1-O	253.3	249.9	258.8	254.4	272.0	264.7	303.5	285.8	383.7	328.5	602.6	423.8
0 0 0 0 1 0	B1-O	253.3	249.9	258.8	254.4	272.0	264.7	303.5	285.8	383.7	328.5	602.6	423.8
0 0 0 1 0 0	B1-O	252.8	249.8	258.3	254.4	271.6	264.6	303.0	285.8	383.2	328.5	602.1	423.8
0 0 0 1 0 1	B1-O	253.8	249.9	259.3	254.4	272.6	264.7	304.0	285.9	384.3	328.6	603.3	423.9
0 0 0 1 1 0	B1-O	253.8	249.9	259.3	254.4	272.6	264.7	304.0	285.9	384.3	328.6	603.3	423.9
0 0 1 0 0 0	B1-O	252.8	249.8	258.3	254.4	271.6	264.6	303.0	285.8	383.2	328.5	602.1	423.8
0 0 1 0 0 1	B1-O	253.8	249.9	259.3	254.4	272.6	264.7	304.0	285.9	384.3	328.6	603.3	423.9
0 0 1 0 1 0	B1-O	253.8	249.9	259.3	254.4	272.6	264.7	304.0	285.8	384.3	328.6	603.3	423.9
0 1 0 0 0 0	B1-O	289.5	250.2	295.1	254.7	308.6	264.9	340.3	286.1	420.5	328.7	639.5	424.0
0 1 0 0 0 1	B1-O	290.3	250.2	296.0	254.8	309.6	265.0	341.2	286.1	421.5	328.8	640.5	424.1
0 1 0 0 1 0	B1-O	290.3	250.2	296.0	254.8	309.6	265.0	341.2	286.1	421.5	328.8	640.5	424.1
0 1 0 1 0 0	B1-O	290.0	250.2	295.6	254.7	309.2	265.0	340.9	286.1	421.1	328.8	640.1	424.1

0 1 0 1 0 1	B1-O	290.8	250.2	296.4	254.8	310.1	265.0	341.8	286.2	422.1	328.9	641.1	424.2
0 1 0 1 1 0	B1-O	290.8	250.2	296.4	254.8	310.1	265.0	341.8	286.2	422.1	328.9	641.1	424.2
0 1 1 0 0 0	B1-O	290.0	250.2	295.6	254.7	309.2	265.0	340.9	286.1	421.1	328.8	640.1	424.1
0 1 1 0 0 1	B1-O	290.8	250.2	296.4	254.8	310.1	265.0	341.8	286.2	422.1	328.9	641.1	424.2
0 1 1 0 1 0	B1-O	290.8	250.2	296.4	254.8	310.1	265.0	341.8	286.2	422.1	328.9	641.1	424.2
1 0 0 0 0 0	B1-O	322.4	261.2	328.0	265.8	341.5	276.0	373.2	297.2	453.4	339.9	672.4	435.2
1 0 0 0 0 1	B1-O	323.2	261.3	328.8	265.8	342.5	276.1	374.2	297.2	454.4	339.9	673.4	435.3
1 0 0 0 1 0	B1-O	323.2	261.3	328.8	265.8	342.5	276.1	374.2	297.2	454.4	339.9	673.4	435.3
1 0 0 1 0 0	B1-O	322.9	261.2	328.5	265.8	342.1	276.1	373.8	297.2	454.0	339.9	673.1	435.3
1 0 0 1 0 1	B1-O	323.7	261.3	329.3	265.8	343.0	276.1	374.7	297.3	455.0	340.0	674.0	435.4
1 0 0 1 1 0	B1-O	323.7	261.3	329.3	265.8	343.0	276.1	374.7	297.3	455.0	340.0	674.0	435.4
1 0 1 0 0 0	B1-O	322.9	261.2	328.5	265.8	342.1	276.1	373.8	297.2	454.0	339.9	673.1	435.3
1 0 1 0 0 1	B1-O	323.7	261.3	329.3	265.8	343.0	276.1	374.7	297.3	455.0	340.0	674.0	435.4
1 0 1 0 1 0	B1-O	323.7	261.3	329.3	265.8	343.0	276.1	374.7	297.3	455.0	340.0	674.0	435.4
0 0 0 0 0 0	B2-O	268.4	250.1	273.8	254.5	287.1	264.8	318.5	286.0	398.7	328.6	617.6	423.9
0 0 0 0 0 1	B2-O	269.4	250.1	274.9	254.6	288.2	264.9	319.7	286.1	399.9	328.8	618.8	424.1
0 0 0 0 1 0	B2-O	269.4	250.1	274.9	254.6	288.2	264.9	319.7	286.1	399.9	328.8	618.8	424.1
0 0 0 1 0 0	B2-O	269.0	250.1	274.5	254.6	287.7	264.8	319.2	286.1	399.4	328.7	618.3	424.0
0 0 0 1 0 1	B2-O	269.9	250.1	275.4	254.6	288.7	264.9	320.2	286.2	400.5	328.8	619.5	424.1
0 0 0 1 1 0	B2-O	269.9	250.1	275.4	254.6	288.7	264.9	320.2	286.2	400.5	328.8	619.5	424.1
0 0 1 0 0 0	B2-O	269.0	250.1	274.5	254.6	287.7	264.8	319.2	286.1	399.4	328.7	618.3	424.0
0 0 1 0 0 1	B2-O	269.9	250.1	275.4	254.6	288.7	264.9	320.2	286.2	400.5	328.8	619.5	424.1
0 0 1 0 1 0	B2-O	269.9	250.1	275.4	254.6	288.7	264.9	320.2	286.2	400.5	328.8	619.5	424.1
0 1 0 0 0 0	B2-O	311.4	250.4	317.1	254.8	330.7	265.1	362.3	286.3	442.5	329.0	661.5	424.3
0 1 0 0 0 1	B2-O	312.3	250.4	318.0	254.9	331.6	265.2	363.3	286.4	443.5	329.1	662.5	424.4
0 1 0 0 1 0	B2-O	312.3	250.4	318.0	254.9	331.6	265.2	363.3	286.4	443.5	329.1	662.5	424.4
0 1 0 1 0 0	B2-O	312.0	250.4	317.6	254.9	331.2	265.1	362.9	286.4	443.1	329.0	662.2	424.3
0 1 0 1 0 1	B2-O	312.8	250.4	318.4	254.9	332.1	265.2	363.8	286.5	444.1	329.1	663.1	424.4
0 1 0 1 1 0	B2-O	312.8	250.4	318.4	254.9	332.1	265.2	363.8	286.5	444.1	329.1	663.1	424.4
0 1 1 0 0 0	B2-O	312.0	250.4	317.6	254.9	331.2	265.1	362.9	286.4	443.1	329.0	662.2	424.3
0 1 1 0 0 1	B2-O	312.8	250.4	318.4	254.9	332.1	265.2	363.8	286.5	444.1	329.1	663.1	424.4
0 1 1 0 1 0	B2-O	312.8	250.4	318.4	254.9	332.1	265.2	363.8	286.5	444.1	329.1	663.1	424.4
1 0 0 0 0 0	B2-O	344.0	261.0	349.6	265.5	363.0	275.9	394.6	297.1	474.8	339.8	693.8	435.0
1 0 0 0 0 1	B2-O	344.8	261.0	350.4	265.6	363.9	276.0	395.6	297.2	475.9	339.9	694.9	435.1
1 0 0 0 1 0	B2-O	344.8	261.0	350.4	265.6	363.9	276.0	395.6	297.2	475.9	339.9	694.9	435.1
1 0 0 1 0 0	B2-O	344.5	261.0	350.1	265.6	363.6	275.9	395.2	297.1	475.5	339.9	694.5	435.1
1 0 0 1 0 1	B2-O	345.3	261.0	350.9	265.6	364.4	276.0	396.1	297.2	476.5	339.9	695.5	435.2
1 0 0 1 1 0	B2-O	345.3	261.0	350.9	265.6	364.4	276.0	396.1	297.2	476.5	339.9	695.5	435.2
1 0 1 0 0 0	B2-O	344.5	261.0	350.1	265.6	363.6	275.9	395.2	297.1	475.5	339.9	694.5	435.1
1 0 1 0 0 1	B2-O	345.3	261.0	350.9	265.6	364.4	276.0	396.1	297.2	476.5	339.9	695.5	435.2
1 0 1 0 1 0	B2-O	345.3	261.0	350.9	265.6	364.4	276.0	396.1	297.2	476.5	339.9	695.5	435.2

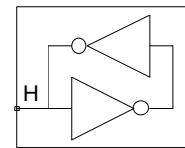
B1 B2 C1 C2 D1 D2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0 0 0 0 0	A1-O	288.9	280.4	294.5	284.9	307.8	295.1	339.2	316.4	419.5	359.1	638.4	454.4
0 0 0 0 0 1	A1-O	289.9	280.4	295.5	285.0	308.9	295.2	340.3	316.4	420.6	359.2	639.6	454.5
0 0 0 0 1 0	A1-O	289.9	280.4	295.5	285.0	308.9	295.2	340.3	316.4	420.6	359.2	639.6	454.5
0 0 0 1 0 0	A1-O	289.5	280.4	295.1	285.0	308.4	295.2	339.9	316.4	420.2	359.1	639.2	454.5
0 0 0 1 0 1	A1-O	290.4	280.4	296.0	285.0	309.4	295.2	340.9	316.5	421.2	359.2	640.2	454.6
0 0 0 1 1 0	A1-O	290.4	280.4	296.0	285.0	309.4	295.2	340.9	316.5	421.2	359.2	640.2	454.6
0 0 1 0 0 0	A1-O	289.5	280.4	295.1	285.0	308.4	295.2	339.9	316.4	420.2	359.1	639.2	454.5
0 0 1 0 0 1	A1-O	290.4	280.4	296.0	285.0	309.4	295.2	340.9	316.5	421.2	359.2	640.2	454.6
0 0 1 0 1 0	A1-O	290.4	280.4	296.0	285.0	309.4	295.2	340.9	316.5	421.2	359.2	640.2	454.6
0 1 0 0 0 0	A1-O	323.5	274.2	329.1	278.8	342.6	289.2	374.2	310.3	454.5	353.1	673.4	448.4
0 1 0 0 0 1	A1-O	324.4	274.3	330.0	278.9	343.5	289.3	375.2	310.4	455.5	353.2	674.5	448.5
0 1 0 0 1 0	A1-O	324.4	274.3	330.0	278.9	343.5	289.3	375.2	310.4	455.5	353.2	674.5	448.5
0 1 0 1 0 0	A1-O	324.0	274.3	329.6	278.8	343.1	289.2	374.8	310.4	455.1	353.2	674.1	448.5
0 1 0 1 0 1	A1-O	324.8	274.3	330.4	278.9	344.0	289.3	375.7	310.5	456.0	353.3	675.1	448.6
0 1 0 1 1 0	A1-O	324.8	274.3	330.4	278.9	344.0	289.3	375.7	310.5	456.0	353.3	675.1	448.6
0 1 1 0 0 0	A1-O	324.0	274.3	329.6	278.8	343.1	289.2	374.8	310.4	455.1	353.2	674.1	448.5
0 1 1 0 0 1	A1-O	324.8	274.3	330.4	278.9	344.0	289.3	375.7	310.5	456.0	353.3	675.1	448.6
0 1 1 0 1 0	A1-O	324.8	274.3	330.4	278.9	344.0	289.3	375.7	310.5	456.0	353.3	675.1	448.6
1 0 0 0 0 0	A1-O	346.8	282.4	352.5	286.9	365.9	297.2	397.7	318.5	477.9	361.2	696.8	456.6
1 0 0 0 0 1	A1-O	347.7	282.4	353.4	287.0	366.9	297.3	398.6	318.6	478.9	361.3	697.9	456.7
1 0 0 0 1 0	A1-O	347.7	282.4	353.4	287.0	366.9	297.3	398.6	318.6	478.9	361.3	697.9	456.7
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1 0 0 1 0 1	A1-O	348.2	282.5	353.9	287.0	367.4	297.3	399.1	318.6	479.4	361.4	698.5	456.8
1 0 0 1 1 0	A1-O	348.2	282.5	353.9	287.0	367.4	297.3	399.1	318.6	479.4	361.4	698.5	456.8
1 0 1 0 0 0	A1-O	347.4	282.4	353.0	286.9	366.6	297.2	398.3	318.6	478.6	361.3	697.6	456.7
1 0 1 0 0 1	A1-O	348.2	282.5	353.9	287.0	367.4	297.3	399.1	318.6	479.4	361.4	698.5	456.8
1 0 1 0 1 0	A1-O	348.2	282.5	353.9	287.0	367.4	297.3	399.1	318.6	479.4	361.4	698.5	456.8
0 0 0 0 0 0	A2-O	311.6	286.2	317.2	290.7	330.6	301.0	362.1	322.3	442.3	365.0	661.3	460.3
0 0 0 0 0 1	A2-O	312.6	286.2	318.1	290.8	331.6	301.1	363.2	322.4	443.4	365.1	662.4	460.4
0 0 0 0 1 0	A2-O	312.6	286.2	318.1	290.8	331.6	301.1	363.2	322.4	443.4	365.1	662.4	460.4
0 0 0 1 0 0	A2-O	312.2	286.2	317.7	290.8	331.2	301.1	362.7	322.4	443.0	365.1	662.0	460.4
0 0 0 1 0 1	A2-O	313.1	286.3	318.6	290.8	332.1	301.1	363.7	322.5	444.0	365.2	663.0	460.5
0 0 0 1 1 0	A2-O	313.1	286.3	318.6	290.8	332.1	301.1	363.7	322.5	444.0	365.2	663.0	460.5
0 0 1 0 0 0	A2-O	312.2	286.2	317.7	290.8	331.2	301.1	362.7	322.4	443.0	365.1	662.0	460.4
0 0 1 0 0 1	A2-O	313.1	286.3	318.6	290.8	332.1	301.1	363.7	322.5	444.0	365.2	663.0	460.5
0 0 1 0 1 0	A2-O	313.1	286.3	318.6	290.8	332.1	301.1	363.7	322.5	444.0	365.2	663.0	460.5
0 1 0 0 0 0	A2-O	353.2	280.5	358.9	285.0	372.4	295.3	404.2	316.5	484.4	359.2	703.4	454.6
0 1 0 0 0 1	A2-O	354.1	280.6	359.7	285.1	373.3	295.4	405.2	316.6	485.4	359.3	704.4	454.7
0 1 0 0 1 0	A2-O	354.1	280.6	359.7	285.1	373.3	295.4	405.2	316.6	485.4	359.3	704.4	454.7
0 1 0 1 0 0	A2-O	353.8	280.5	359.4	285.1	373.0	295.3	404.8	316.5	485.0	359.3	704.0	454.7
0 1 0 1 0 1	A2-O	354.6	280.6	360.2	285.1	373.8	295.4	405.7	316.6	486.0	359.4	705.0	454.8

<b>0 1 0 1 1 0</b>	A2-O	354.6	280.6	360.2	285.1	373.8	295.4	405.7	316.6	486.0	359.4	705.0	454.8
<b>0 1 1 0 0 0</b>	A2-O	353.8	280.5	359.4	285.1	373.0	295.3	404.8	316.5	485.0	359.3	704.0	454.7
<b>0 1 1 0 0 1</b>	A2-O	354.6	280.6	360.2	285.1	373.8	295.4	405.7	316.6	486.0	359.4	705.0	454.8
<b>0 1 1 0 1 0</b>	A2-O	354.6	280.6	360.2	285.1	373.8	295.4	405.7	316.6	486.0	359.4	705.0	454.8
<b>1 0 0 0 0 0</b>	A2-O	376.5	288.4	382.2	293.0	395.6	303.3	427.4	324.6	507.6	367.3	726.5	462.6
<b>1 0 0 0 0 1</b>	A2-O	377.4	288.5	383.1	293.0	396.6	303.4	428.3	324.6	508.6	367.4	727.6	462.7
<b>1 0 0 0 1 0</b>	A2-O	377.4	288.5	383.1	293.0	396.6	303.4	428.3	324.6	508.6	367.4	727.6	462.7
<b>1 0 0 1 0 0</b>	A2-O	377.1	288.4	382.7	293.0	396.2	303.3	427.9	324.6	508.2	367.4	727.2	462.7
<b>1 0 0 1 0 1</b>	A2-O	377.9	288.5	383.6	293.0	397.1	303.4	428.8	324.7	509.1	367.5	728.2	462.8
<b>1 0 0 1 1 0</b>	A2-O	377.9	288.5	383.6	293.0	397.1	303.4	428.8	324.7	509.1	367.5	728.2	462.8
<b>1 0 1 0 0 0</b>	A2-O	377.1	288.4	382.7	293.0	396.2	303.3	427.9	324.6	508.2	367.4	727.2	462.7
<b>1 0 1 0 0 1</b>	A2-O	377.9	288.5	383.6	293.0	397.1	303.4	428.8	324.7	509.1	367.5	728.2	462.8
<b>1 0 1 0 1 0</b>	A2-O	377.9	288.5	383.6	293.0	397.1	303.4	428.8	324.7	509.1	367.5	728.2	462.8

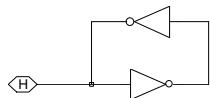
Group Name : BHD1

Symbol

Function : Bus Holder Cell



Schematic



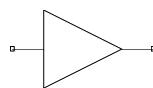
Pin Order H

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance	Maximum Loading	Power Consumption
	H	H	
BHD1LD	17.45	1720.0	

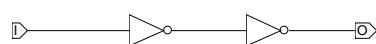
Group Name : BUF Symbol

Function : Buffer



Truth Table Schematic

I	O
0	0
1	1



Pin Order O I

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I	O	O	I	O	I
BUFCLD	1.073		81.06		3.712	
BUFDLD	1.068		110.2		4.451	
BUFELD	1.076		139.5		5.054	
BUFFLD	1.733		177.1		6.591	
BUFGLD	1.466		221.6		7.437	
BUFHLD	1.671		281.2		8.988	
BUFILD	2.177		348.6		11.53	
BUFJLD	2.614		421.7		13.69	
BUFKLD	3.588		562.8		17.44	
BUFLLD	4.237		703.0		21.77	
BUFMLD	4.999		844.1		25.82	
BUFNLD	6.775		1125.3		34.79	
BUFOLD	11.77		1688.1		53.28	
BUFPPLD	15.13		2250.8		70.50	
BUFQLD	17.31		2812.8		87.62	

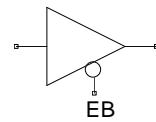
#### AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load															
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff				
BUFCLD	4		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl					
			I-O		108.6	148.4	127.1	159.6	165.9	179.9	250.4	217.3	435.6	291.8	842.4	451.2	
			1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff				
BUFDLD	4	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl			
			I-O		109.6	158.4	123.8	168.2	152.8	185.6	215.5	216.3	352.5	275.0	652.2	396.5	

BUFELD	4	Path	1.500 ff	3.306 ff	7.287 ff	16.06 ff	35.40 ff	78.03 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	112.9	166.4	124.4	175.0	147.9	190.3
BUFFLD	5	Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	102.3	132.7	113.6	140.4	138.9	155.8
BUFGLD	5	Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	109.9	156.3	119.3	164.1	140.4	178.4
BUFHLD	5	Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	111.7	153.3	119.4	159.6	136.7	171.9
BUFILED	7	Path	1.500 ff	3.971 ff	10.51 ff	27.82 ff	73.64 ff	194.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	104.4	147.2	111.1	152.8	127.4	164.6
BUFJLD	8	Path	1.500 ff	3.971 ff	10.51 ff	27.82 ff	73.64 ff	194.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	102.3	142.1	107.9	146.7	121.5	156.8
BUFKLD	9	Path	1.500 ff	4.166 ff	11.57 ff	32.12 ff	89.21 ff	247.7 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	97.62	138.7	102.4	142.6	114.2	151.6
BUFLLD	11	Path	1.500 ff	4.323 ff	12.46 ff	35.92 ff	103.5 ff	298.4 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	97.83	139.8	101.8	143.2	112.3	151.4
BUFMILD	13	Path	1.500 ff	4.323 ff	12.46 ff	35.92 ff	103.5 ff	298.4 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	96.90	138.1	100.4	141.0	109.3	148.2
BUFNLD	16	Path	1.500 ff	4.573 ff	13.94 ff	42.50 ff	129.6 ff	394.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	97.29	139.6	100.2	142.0	108.0	148.5
BUFOLD	24	Path	1.500 ff	4.853 ff	15.70 ff	50.79 ff	164.3 ff	531.6 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	93.29	130.9	95.41	132.7	101.6	137.7
BUFPLD	30	Path	3.000 ff	9.146 ff	27.88 ff	84.99 ff	259.1 ff	789.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	94.54	131.2	97.41	133.5	105.1	139.7
BUFQLD	38	Path	3.000 ff	9.537 ff	30.32 ff	96.37 ff	306.4 ff	973.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	97.82	137.6	100.3	139.7	107.3	145.4

Group Name : BUFB

Symbol

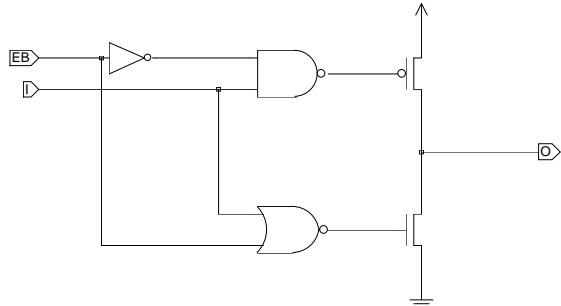


Function : 3 State BUFFER, EB

Truth Table

I	EB	O
X	1	Z
0	0	0
1	0	1

Schematic



Pin Order O I EB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	O	I	EB	O		O	
BUFBELD	2.868	1.843	3.937	131.7		12.28	
BUFBHLD	2.849	3.667	2.951	281.6		13.27	
BUFBILD	4.162	3.653	2.949	345.5		15.99	
BUFBKLD	5.584	3.635	2.948	562.5		20.68	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

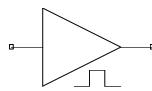
Version	Cell Unit	Output Load												
		Path	4.035 ff		5.841 ff		9.822 ff		18.60 ff		37.94 ff		80.57 ff	
BUFBELD	9		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
	EB-O	67.10	126.3	79.58	133.4	105.7	147.2	161.9	173.0	276.3	223.7	528.3	331.1	
	EB-O	L>>Z 393.2							H>>Z 429.8					
	Path	4.368 ff		6.174 ff		10.16 ff		18.93 ff		38.27 ff		80.90 ff		
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl			
	I-O	159.0	173.6	170.2	180.1	194.3	193.3	247.3	219.2	362.3	271.0	612.9	379.0	
BUFBHLD	11	Path	4.019 ff		6.230 ff		11.70 ff		25.23 ff		58.72 ff		141.6 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
		EB-O	208.7	142.9	216.2	150.1	233.1	164.6	270.9	192.9	362.9	249.0	590.4	372.2
		EB-O	L>>Z 383.0							H>>Z 552.3				
		Path	4.349 ff		6.560 ff		12.03 ff		25.57 ff		59.05 ff		141.9 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
		I-O	90.46	132.7	98.09	139.7	114.8	154.2	153.4	182.6	246.3	238.7	474.5	362.0

BUFBILD	13	Path	5.190 ff		7.661 ff		14.20 ff		31.51 ff		77.33 ff		198.6 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		EB-O	214.4	154.5	221.4	160.6	238.1	173.8	277.8	200.2	380.4	252.9	651.8	368.8
		Path	L>>Z 464.2						H>>Z 622.6					
			5.662 ff		8.133 ff		14.67 ff		31.98 ff		77.80 ff		199.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
BUFBKLD	14	I-O	97.81	144.2	104.7	150.2	121.1	163.3	161.2	189.7	264.8	242.3	537.2	358.0
		Path	6.381 ff		9.047 ff		16.45 ff		37.01 ff		94.09 ff		252.6 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		EB-O	223.1	169.3	228.6	174.9	241.9	187.6	272.9	213.4	351.8	265.7	569.6	379.4
		Path	L>>Z 542.2						H>>Z 767.1					
			7.084 ff		9.750 ff		17.15 ff		37.71 ff		94.80 ff		253.3 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
		I-O	106.6	162.9	112.0	167.7	125.0	179.2	155.9	204.2	235.6	256.1	454.4	369.6

Group Name : BUFCK

Symbol

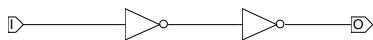
Function : Clock Tree Buffer



Truth Table

Schematic

I	O
0	0
1	1



Pin Order O I

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I	O	O		O	
BUFCKCLD	1.657		110.7		4.018	
BUFCKELD	1.526		140.3		4.510	
BUFCKFLD	1.656		177.1		5.520	
BUFCKGLD	2.895		222.4		6.853	
BUFCKHLD	3.474		282.1		8.358	
BUFCKILD	2.897		346.3		9.951	
BUFCKJLD	3.332		398.5		11.48	
BUFCKKLD	4.711		563.8		15.41	
BUFCKLLD	5.930		674.4		18.97	
BUFCKMLD	7.150		845.7		23.28	
BUFCKNLD	9.559		1127.5		30.57	
BUFCKOLD	12.35		1709.0		42.44	
BUFCKPLD	16.25		2286.1		56.85	
BUFCKQLD	14.91		2534.6		63.90	

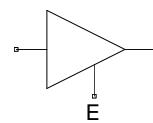
**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load														
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff			
BUFCKCLD	4		tplh	tphl												
			I-O	105.8	114.9	119.8	129.1	148.8	157.6	211.1	216.3	347.4	343.3	646.7	623.4	
BUFCKELD	4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff			
			tplh	tphl												
			I-O	105.3	123.4	116.9	136.3	140.3	162.2	189.0	214.5	296.0	326.9	530.9	573.8	

BUFCKFLD	5	Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	112.8 123.8	124.7 136.0	151.1 161.5	211.1 217.9	357.8 353.6
BUFCKGLD	7	Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	88.44 103.5	97.72 113.0	118.5 133.7	166.6 179.9	283.9 290.2
BUFCKHLD	7	Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	88.34 99.25	95.86 107.4	112.7 124.8	150.9 163.5	243.1 255.0
BUFCKILD	8	Path	1.500 ff	3.971 ff	10.51 ff	27.82 ff	73.64 ff	194.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	116.1 110.6	123.8 117.8	141.2 134.9	181.7 173.7	284.6 270.9
BUFCKJLD	9	Path	1.500 ff	3.971 ff	10.51 ff	27.82 ff	73.64 ff	194.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	113.9 108.6	120.7 115.1	136.1 130.3	171.5 164.8	261.2 249.9
BUFCKKLD	13	Path	1.500 ff	4.166 ff	11.57 ff	32.12 ff	89.21 ff	247.7 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	110.4 104.5	116.1 109.8	129.1 122.5	159.9 152.5	239.1 227.9
BUFCKLLD	13	Path	1.500 ff	4.166 ff	11.57 ff	32.12 ff	89.21 ff	247.7 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	108.4 103.6	113.0 107.9	124.1 118.7	150.4 144.0	216.8 207.1
BUFCKMLD	16	Path	1.500 ff	4.323 ff	12.46 ff	35.92 ff	103.5 ff	298.4 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	108.9 103.6	113.1 107.5	123.3 117.2	147.7 141.1	210.8 201.4
BUFCKNLD	22	Path	1.500 ff	4.573 ff	13.94 ff	42.50 ff	129.6 ff	394.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	107.4 102.0	110.8 105.2	119.9 113.8	142.6 136.0	203.8 194.4
BUFCKOLD	23	Path	1.500 ff	4.853 ff	15.70 ff	50.79 ff	164.3 ff	531.6 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	101.5 108.5	104.1 111.0	111.4 118.1	130.4 137.8	183.5 190.4
BUFCKPLD	29	Path	3.000 ff	9.146 ff	27.88 ff	84.99 ff	259.1 ff	789.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	102.2 109.1	105.6 112.4	114.6 121.3	136.7 144.1	196.7 203.4
BUFCKQLD	39	Path	3.000 ff	9.351 ff	29.15 ff	90.86 ff	283.2 ff	882.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
			I-O	121.4 114.7	124.8 117.9	134.1 126.6	157.3 149.3	218.0 208.4

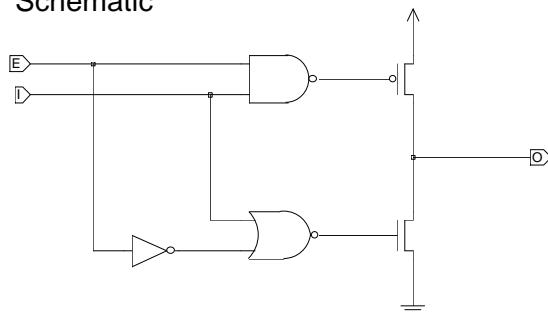
Group Name : BUFT

Symbol



Function : 3-State Buffer, E

Schematic



Truth Table

I	E	O
X	0	Z
0	1	0
1	1	1

Pin Order O I E

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

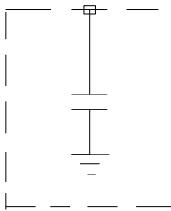
Version	Input Capacitance			Maximum Loading		Power Consumption	
	O	I	E	O		O	
BUFTELD	2.878	1.841	3.428	131.4		9.501	
BUFTHLD	2.956	3.643	2.941	281.5		10.83	
BUFTILD	4.197	3.630	2.941	345.5		13.48	
BUFTJLD	4.587	3.728	2.984	413.9		15.11	
BUFTKLD	5.584	3.749	2.983	562.6		18.02	
BUFTMLD	10.65	7.071	6.066	837.6		30.24	
BUFTNLD	13.98	7.045	6.066	1114.9		38.04	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	4.050 ff		5.856 ff		9.837 ff		18.61 ff		37.95 ff		80.59 ff
BUFTELD	9		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	E-O	113.7	41.14	124.9	48.44	149.4	62.63	201.1	90.44	315.9	144.4	566.0	252.7
	E-O	L>>Z 236.7								H>>Z 536.3			
	Path	4.378 ff		6.184 ff		10.17 ff		18.94 ff		38.28 ff		80.91 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
	I-O	162.2	170.1	173.3	176.4	197.9	189.1	250.8	214.3	365.1	265.2	616.4	372.8

BUFTHLD	11	Path	4.126 ff	6.337 ff	11.81 ff	25.34 ff	58.83 ff	141.7 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		E-O	94.58	186.3	102.1	192.9	118.6	207.2
		E-O	L>>Z 485.2					
		Path	4.456 ff	6.667 ff	12.14 ff	25.67 ff	59.16 ff	142.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl
BUFTILD	13	I-O	93.64	130.7	101.3	137.3	118.3	151.2
		Path	5.225 ff	7.696 ff	14.23 ff	31.55 ff	77.37 ff	198.7 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		E-O	99.66	197.5	106.6	203.6	123.1	216.3
		E-O	L>>Z 569.8					
		Path	5.697 ff	8.168 ff	14.71 ff	32.02 ff	77.84 ff	199.1 ff
BUFTJLD	14		tplh	tphl	tplh	tphl	tplh	tphl
	I-O	99.96	142.0	107.0	147.7	123.5	160.4	
	Path	5.525 ff	7.996 ff	14.54 ff	31.85 ff	77.67 ff	199.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	
	E-O	102.7	206.2	108.9	211.9	123.4	223.9	
	E-O	L>>Z 608.4						
BUFTKLD	14	Path	6.087 ff	8.558 ff	15.10 ff	32.41 ff	78.23 ff	199.5 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	103.4	150.1	109.6	155.5	124.2	167.4
		Path	6.382 ff	9.048 ff	16.45 ff	37.01 ff	94.09 ff	252.6 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		E-O	107.9	215.0	113.4	220.6	126.7	232.9
BUFTMLD	23	E-O	L>>Z 652.4					
		Path	7.084 ff	9.750 ff	17.15 ff	37.71 ff	94.80 ff	253.3 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		I-O	108.9	161.6	114.3	166.4	127.6	178.0
		Path	12.15 ff	14.97 ff	23.11 ff	46.56 ff	114.2 ff	309.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		E-O	101.9	223.4	105.7	226.9	115.2	235.5
BUFTNLD	26	E-O	L>>Z 885.7					
		E-O	99.59	146.4	103.3	149.5	112.7	157.5
		Path	15.48 ff	18.55 ff	27.92 ff	56.48 ff	143.5 ff	408.9 ff
			tplh	tphl	tplh	tphl	tplh	tphl
		E-O	109.4	238.2	112.6	241.2	121.5	249.7
		E-O	L>>Z 1043					
		I-O	107.6	163.1	110.7	165.8	119.5	173.3
		I-O	142.1	191.8	204.0	232.8	389.1	323.9

Group Name : CKLD    Symbol

Function : Clock Load Cell    

Pin Order : I

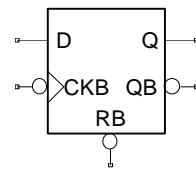
**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance	Maximum Loading	Power Consumption
	I		
CKLDLD	2.104		

Group Name : DBFRB

## Symbol

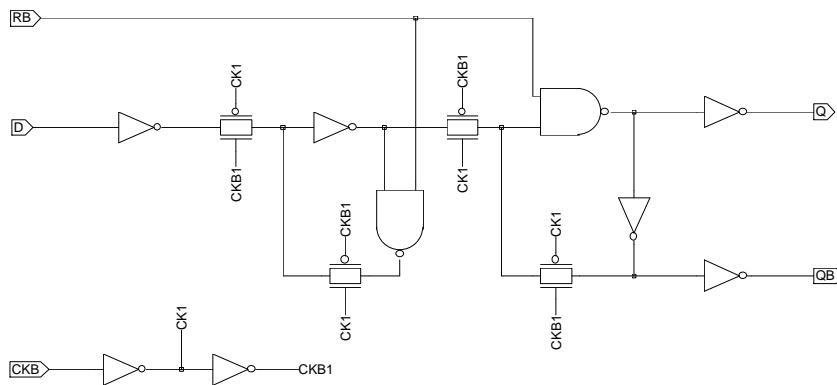
Function : D Flip-Flop with CKB and RB



## Truth Table

CK	D	RB	Q	QB
	0	1	0	1
	1	1	1	0
	X	1	Q	QB
X	X	0	0	1

## Schematic



Pin Order Q QB D CKB RB

### **Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption		
	D	CKB	RB	Q	QB	Q	D	CKB
DBFRBELD	1.356	1.600	2.645	139.8	139.7	25.95	6.531	6.678
DBFRBHLD	1.349	1.548	3.829	282.1	282.4	34.38	6.702	6.568

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load													
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
				tplh	tphl										
DBFRBELD	25	RB-Q		-	154.8	-	163.2	-	177.8	-	204.2	-	252.8	-	350.7
		CKB-Q		381.3	327.3	394.1	335.4	419.4	350.0	470.2	376.5	577.8	424.9	813.5	522.6
		RB-QB		265.2	-	277.4	-	301.0	-	349.4	-	454.6	-	691.0	-
		CKB-QB		437.6	533.1	449.8	543.2	473.3	562.1	522.2	593.4	628.4	647.8	862.4	751.5
				Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff	
DBFRBHLD	28	RB-Q		tplh	tphl										
		CKB-Q		-	144.2	-	151.0	-	163.5	-	187.0	-	232.1	-	328.6
		RB-QB		387.7	329.8	397.3	336.5	416.8	349.3	457.4	372.5	551.7	417.6	780.8	513.9
		CKB-QB		230.8	-	238.2	-	253.9	-	289.6	-	380.0	-	607.4	-
				416.4	497.5	423.8	504.3	439.5	516.8	475.2	540.0	565.6	584.8	793.0	681.1

### Timing Constraint (ps)

Item \ Version	DBFRBELD	DBFRBHLD
Setup Timing D / CKB \	82.81	92.67
Setup Timing D \ CKB \	256.6	254.2
Hold Timing D / CKB \	53.11	48.18
Hold Timing D \ CKB \	-83.74	-54.15
Minimum H-pulse Width CKB	322.4	322.4
Minimum L-pulse Width CKB	384.0	416.0
Minimum L-pulse Width RB	337.2	278.0
Recovery Timing RB / CKB \	-82.40	-73.77
Removal Timing RB / CKB \	238.1	235.6

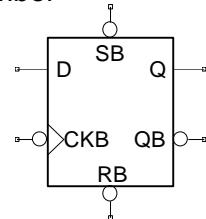
Group Name : DBFRSB

Function : D Flip-Flop with CKB, Clear/Set

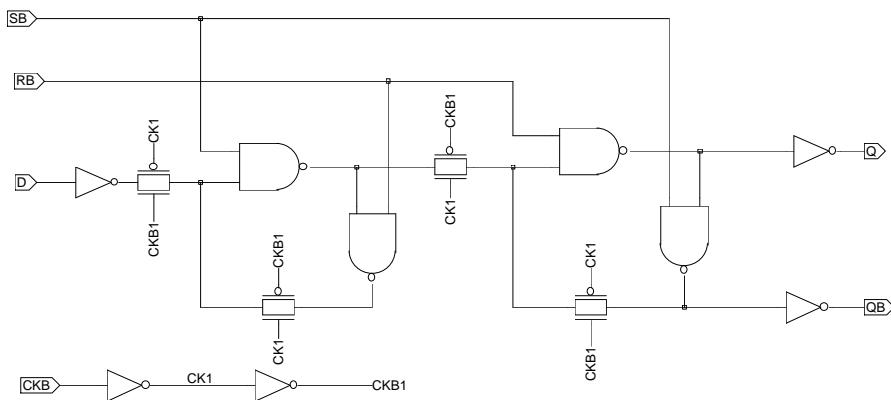
Truth Table

CKB	D	RB	SB	Q	QB
0	1	1	1	0	1
1	1	1	1	1	0
X	X	1	0	1	0
X	X	0	1	0	1
X	X	0	0	0	0

Symbol



Schematic



Pin Order Q QB D CKB RB SB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading		Power Consumption		
	D	CKB	RB	SB	Q	QB	Q	D	CKB
DBFRSBE LD	1.453	1.603	2.203	2.995	139.4	139.3	26.39	5.260	6.581
DBFRSBH LD	1.454	1.588	3.329	4.264	281.9	282.2	35.81	5.354	6.648

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load													
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
DBFRSBELD	27	RB-Q	-	210.3	-	220.3	-	237.9	-	268.8	-	322.7	-	426.0	
		SB-Q	489.5	-	503.8	-	530.6	-	583.0	-	691.9	-	927.2	-	
		CKB-Q	471.0	429.7	485.6	439.9	512.9	457.8	566.0	488.6	675.0	543.2	910.7	646.4	
		RB-QB	381.7	-	396.3	-	423.8	-	474.9	-	580.4	-	814.2	-	
		SB-QB	-	247.3	-	259.4	-	280.1	-	314.5	-	372.5	-	478.9	
		CKB-QB	601.6	655.5	616.2	666.2	644.0	685.9	695.7	718.7	802.7	775.3	1037	881.2	
		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
DBFRSBHLD	30	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-Q	-	189.3	-	197.5	-	212.8	-	240.1	-	290.5	-	393.6	
		SB-Q	500.7	-	511.2	-	531.5	-	572.4	-	665.9	-	894.6	-	
		CKB-Q	482.4	430.0	493.1	438.5	513.9	454.4	555.3	482.3	649.8	533.2	879.3	636.5	
		RB-QB	307.3	-	315.7	-	333.0	-	369.0	-	458.3	-	685.1	-	
		SB-QB	-	201.5	-	210.1	-	225.9	-	253.9	-	304.2	-	405.5	
		CKB-QB	550.4	627.7	558.6	635.1	575.7	649.6	611.6	675.4	700.6	723.4	927.3	822.7	

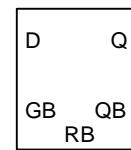
## Timing Constraint (ps)

Item \ Version	DBFRSBELD	DBFRSBHLD
Setup Timing D / CKB \	171.6	182.7
Setup Timing D \ CKB \	301.0	296.1
Hold Timing D / CKB \	58.04	58.04
Hold Timing D \ CKB \	19.82	37.08
Minimum H-pulse Width CKB	317.5	317.5
Minimum L-pulse Width CKB	521.9	573.6
Minimum L-pulse Width RB	494.8	396.3
Minimum L-pulse Width SB	553.9	598.3
Recovery Timing RB / CKB \	-84.86	-79.93
Recovery Timing SB / CKB \	84.04	74.18
Removal Timing RB / CKB \	299.7	289.8
Removal Timing SB / CKB \	45.71	45.71

Group Name : DBAHRB

Symbol

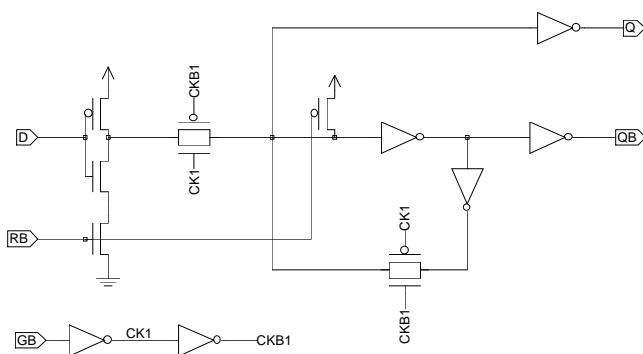
Function : D Latch with Clr, Active Low



Truth Table

GB	D	RB	Q	QB
0	0	1	0	1
0	1	1	1	0
X	X	0	0	1
1	X	1	Q	QB

Schematic



Pin Order Q QB D GB RB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption		
	D	GB	RB	Q	QB	Q	D	GB
DBAHRBELD	1.959	1.338	2.407	139.2	139.4	20.01	2.460	5.561
DBAHRBHLD	2.125	1.625	2.464	279.8	281.2	28.11	2.718	6.318

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load													
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
DBAHRBELD	19	RB-Q		198.0	180.2	213.5	189.2	242.3	206.5	296.0	238.2	405.9	294.5	642.6	398.2
		D-Q		193.0	282.5	208.4	296.2	237.3	319.8	291.0	359.8	400.8	426.7	637.7	541.9
		GB-Q		289.9	348.9	305.4	362.6	334.1	386.9	387.8	427.0	497.7	493.8	734.7	609.1
		RB-QB		275.4	296.1	286.5	303.4	308.9	317.8	357.6	343.1	464.1	390.7	699.3	487.4
		D-QB		401.0	291.0	411.2	298.3	431.2	312.8	477.1	338.0	581.2	385.7	815.6	482.5
		GB-QB		468.4	388.0	478.5	395.4	498.6	409.4	543.9	434.8	648.9	482.5	883.3	579.4
DBAHRBHLD	22	Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh		tphl		tplh									
		RB-Q		214.5	205.0	226.8	213.0	251.1	228.7	298.7	258.6	398.3	315.2	629.1	423.4
		D-Q		210.9	305.1	223.2	317.1	247.6	339.9	295.1	380.1	394.7	450.3	625.5	574.8
		GB-Q		291.0	362.2	303.3	374.2	327.6	397.0	375.2	437.1	474.8	507.3	705.7	631.7
		RB-QB		312.2	350.5	319.2	356.2	334.4	367.2	369.2	388.3	458.7	432.2	685.5	528.0
		D-QB		453.4	346.9	459.6	352.7	471.6	363.6	499.6	384.8	584.0	428.6	808.5	524.4
		GB-QB		510.5	427.0	516.6	432.7	528.6	443.8	556.6	464.8	641.0	508.7	865.5	604.6

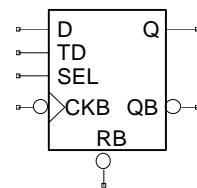
#### Timing Constraint (ps)

Item	Version	DBAHRBELD	DBAHRBHLD
Setup Timing D / GB /		200.2	208.8
Setup Timing D \ GB /		270.4	275.4
Hold Timing D / GB /		-88.91	-106.2
Hold Timing D \ GB /		-124.7	-150.5
Minimum L-pulse Width GB		450.9	515.0
Minimum L-pulse Width RB		396.7	416.4
Recovery Timing RB / GB /		207.2	215.8
Removal Timing RB / GB /		-95.96	-113.2

Group Name : DBZRB

Symbol

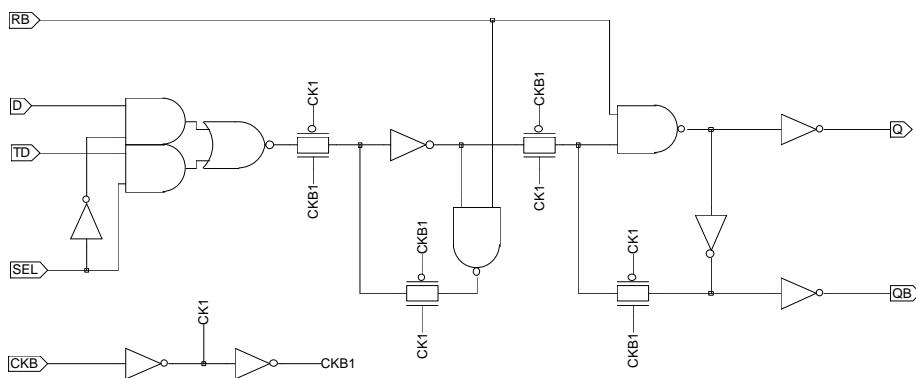
Function : D Flip-Flop with CKB, Scan and RB



Truth Table

CKB	D	RB	TD	SEL	Q	QB
0	1	X	0	0	0	1
1	1	X	0	0	1	0
X	1	0	1	1	0	1
X	1	1	1	1	1	0
X	1	X	X	X	Q	QB
X	X	0	X	X	0	1

Schematic



Pin Order Q QB D TD CKB SEL RB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance					Maximum Loading		Power Consumption				
	D	TD	CKB	SEL	RB	Q	QB	Q	D	TD	CKB	SEL
DBZRBELD	2.032	1.395	1.605	3.124	2.650	139.8	139.7	26.18	7.845	8.935	6.581	13.90
DBZRBHLD	2.033	1.405	1.607	3.124	3.791	282.1	282.4	34.46	7.908	8.982	6.663	13.95

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

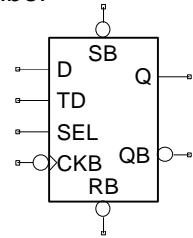
Version	Cell Unit	Output Load													
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
DBZRBELD	30	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
		RB-Q	-	154.7	-	163.0	-	177.6	-	203.9	-	252.5	-	350.5	
		CKB-Q	378.2	325.2	391.1	333.3	416.5	347.9	467.2	374.5	574.9	422.9	810.5	520.5	
		RB-QB	266.0	-	278.3	-	302.0	-	350.4	-	455.6	-	691.3	-	
		CKB-QB	436.6	532.0	448.8	542.5	472.6	561.4	521.3	592.7	627.1	647.2	861.5	752.1	
DBZRBHLD	33	Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
		RB-Q	-	144.4	-	151.1	-	163.7	-	187.1	-	232.3	-	328.8	
		CKB-Q	389.5	331.2	399.2	337.9	418.9	350.6	459.5	373.8	553.8	419.0	782.9	515.3	
		RB-QB	231.1	-	238.5	-	254.2	-	289.9	-	380.3	-	607.7	-	
		CKB-QB	417.9	499.6	425.5	506.5	441.1	519.2	476.7	542.5	567.2	587.2	794.6	683.5	

## Timing Constraint (ps)

Item \ Version	DBZRBELD	DBZRBHLD
Setup Timing D / CKB \	137.1	140.8
Setup Timing D \ CKB \	286.2	281.3
Setup Timing TD / CKB \	218.4	222.1
Setup Timing TD \ CKB \	846.0	836.1
Setup Timing SEL / CKB \	823.8	813.9
Setup Timing SEL \ CKB \	291.2	286.2
Hold Timing D / CKB \	16.12	11.19
Hold Timing D \ CKB \	-93.60	-73.88
Hold Timing TD / CKB \	-43.06	-40.59
Hold Timing TD \ CKB \	-341.4	-302.0
Hold Timing SEL / CKB \	-30.73	-30.73
Hold Timing SEL \ CKB \	-77.58	-68.95
Minimum H-pulse Width CKB	435.7	435.7
Minimum L-pulse Width CKB	381.5	420.9
Minimum L-pulse Width RB	337.2	278.0
Recovery Timing RB / CKB \	-82.40	-75.00
Removal Timing RB / CKB \	235.6	235.6

Group Name : DBZRSB

Symbol

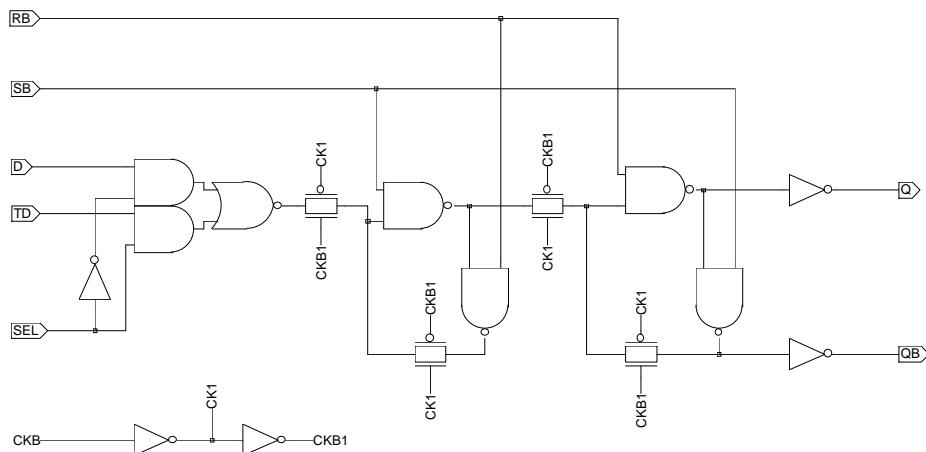


Function : D Flip-Flop with CKB, Clear/Set and Scan

Truth Table

CKB	D	RB	SB	TD	SEL	Q	QB
0	1	1	X	0	0	0	1
1	1	1	X	0	0	1	0
X	1	1	0	1	0	0	1
X	1	1	1	1	0	1	0
X	1	1	X	X	0	Q	QB
X	X	0	1	X	X	0	1
X	X	1	0	X	X	1	0
X	X	0	0	X	X	0	0

Schematic



Pin Order Q QB D TD CKB SEL RB SB

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance						Maximum Loading	
	D	TD	CKB	SEL	RB	SB	Q	QB
DBZRSBELD	2.075	1.190	1.561	3.218	2.219	3.007	139.4	139.4
DBZRSBHLD	2.033	1.331	1.606	3.247	3.281	4.203	281.9	282.2

**Power Consumption (nW/MHz)**

Version	Power Consumption				
	Q	D	TD	CKB	SEL
DBZRSBELD	26.50	6.380	7.351	6.597	12.02
DBZRSBHLD	36.14	6.554	7.581	6.668	12.36

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

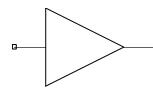
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
DBZRSBELD	31		tplh	tphl										
	RB-Q	-	210.1	-	220.2	-	237.8	-	268.9	-	322.8	-	426.1	
	SB-Q	486.2	-	500.5	-	527.4	-	580.0	-	688.9	-	924.1	-	
	CKB-Q	469.3	428.2	484.0	438.6	511.3	456.5	564.4	487.5	673.5	542.2	909.2	645.3	
	RB-QB	382.9	-	397.4	-	425.2	-	476.4	-	581.8	-	815.7	-	
	SB-QB	-	248.7	-	260.8	-	281.4	-	316.1	-	374.2	-	480.7	
	CKB-QB	601.9	655.7	616.4	666.4	644.1	686.2	696.0	719.1	803.0	775.9	1037	881.9	
DBZRSBHLD	35	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		RB-Q	-	191.7	-	199.9	-	215.3	-	242.8	-	293.4	-	396.8
		SB-Q	502.7	-	513.3	-	533.6	-	574.5	-	668.0	-	896.8	-
		CKB-Q	484.8	432.7	495.5	441.3	516.4	457.2	557.8	485.3	652.3	536.4	881.8	639.9
		RB-QB	311.1	-	319.5	-	337.0	-	373.2	-	462.4	-	689.2	-
		SB-QB	-	203.4	-	212.0	-	228.0	-	256.1	-	306.7	-	408.3
		CKB-QB	554.3	631.9	562.8	639.4	580.0	654.1	615.9	680.0	705.0	728.2	931.7	827.8

**Timing Constraint (ps)**

Item	Version	DBZRSBELD	DBZRSBHLD
Setup Timing D / CKB \	219.7	235.7	
Setup Timing D \ CKB \	320.8	323.2	
Setup Timing TD / CKB \	294.9	314.6	
Setup Timing TD \ CKB \	880.5	966.8	
Setup Timing SEL / CKB \	858.3	915.0	
Setup Timing SEL \ CKB \	323.2	333.1	
Hold Timing D / CKB \	23.52	23.52	
Hold Timing D \ CKB \	7.493	23.52	
Hold Timing TD / CKB \	-13.47	-11.00	
Hold Timing TD \ CKB \	-162.6	-123.2	
Hold Timing SEL / CKB \	-8.534	-8.534	
Hold Timing SEL \ CKB \	5.028	22.29	
Minimum H-pulse Width CKB	405.5	416.0	
Minimum L-pulse Width CKB	519.5	578.6	
Minimum L-pulse Width RB	494.8	401.2	
Minimum L-pulse Width SB	542.9	598.3	
Recovery Timing RB / CKB \	-84.86	-79.93	
Recovery Timing SB / CKB \	79.11	88.97	
Removal Timing RB / CKB \	294.8	289.8	
Removal Timing SB / CKB \	45.71	45.71	

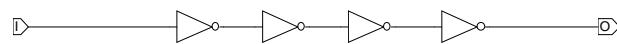
Group Name : DEL Symbol

Function : Delay Cell



Truth Table Schematic

I	O
1	1
0	0



Pin Order O I

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I	O	I	O	I	O
DELAKLD	1.441		561.7		22.79	
DELBKLD	1.413		561.5		23.67	
DELCKLD	1.447		561.5		31.38	
DELDKLD	1.419		561.3		35.69	

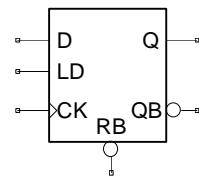
#### AC Characteristics (Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load											
		Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff
DELAKLD	23		tplh	tphl									
	I-O	401.6	452.1	408.1	458.0	422.8	471.6	455.6	501.9	535.7	571.0	754.0	749.6
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
DELBKLD		23		tplh	tphl								
	I-O	713.1	759.5	720.3	765.5	736.4	779.6	770.7	810.3	851.4	879.9	1070	1059
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
DELCKLD		23		tplh	tphl								
	I-O	1130	1144	1137	1150	1153	1164	1187	1195	1268	1265	1486	1444
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
DELDKLD		23		tplh	tphl								
	I-O	1897	1959	1905	1965	1922	1980	1958	2012	2040	2082	2258	2261

Group Name : DFCLRB

Symbol

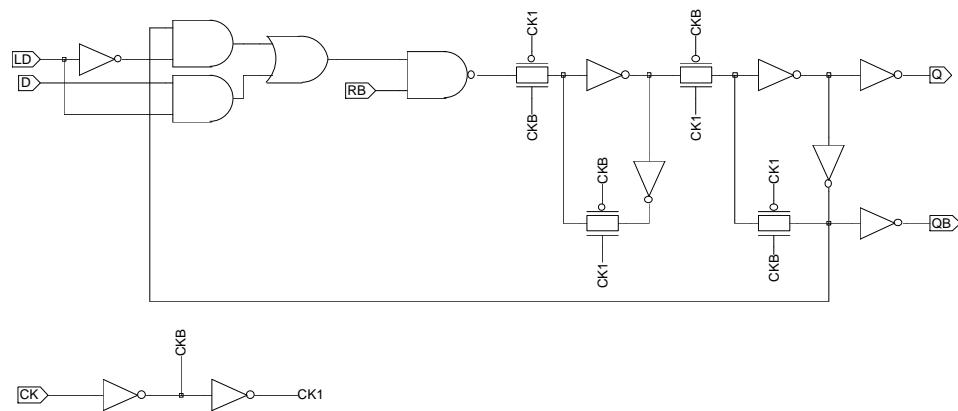
Function : D Flip-Flop with Synchronous Clear and Load



Truth Table

CK	D	RB	LD	Q	QB
/	X	0	X	0	1
/	0	X	1	0	1
/	1	1	1	1	0
/	X	1	0	Q	QB

Schematic



Pin Order Q QB D CK RB LD

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading		Power Consumption			
	D	CK	RB	LD	Q	QB	Q	D	CK	RB
DFCLRBE LD	2.298	1.603	2.335	4.192	139.8	139.7	24.81	7.683	6.477	9.248
DFCLRBH LD	2.299	1.604	2.344	4.226	282.4	282.2	32.36	7.676	6.477	9.236

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff
DFCLRBE LD	29		tplh	tphl									
	CK-Q	311.7	320.4	323.3	328.6	347.1	343.7	396.1	370.9	503.7	420.2	739.2	518.7
	CK-QB	462.2	513.3	476.1	526.5	501.8	548.9	552.6	585.2	658.0	646.0	892.0	755.0

DFCLRBHLD	32	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		CK-Q	331.1	313.2	339.5	319.6	357.1	331.7	395.9	354.2	489.0	398.1	717.7	494.0
		CK-QB	434.4	477.2	443.8	485.7	462.8	502.2	501.6	530.6	591.7	581.5	818.1	683.4

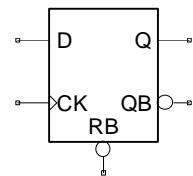
**Timing Constraint (ps)**

Item	Version	DFCLRBELD	DFCLRBHLD
Setup Timing D / CK /		240.6	240.6
Setup Timing D \ CK /		269.0	266.5
Setup Timing RB / CK /		255.4	253.0
Setup Timing RB \ CK /		202.4	199.9
Setup Timing LD / CK /		310.9	313.4
Setup Timing LD \ CK /		261.6	259.1
Hold Timing D / CK /		-67.71	-67.71
Hold Timing D \ CK /		-33.19	-31.96
Hold Timing RB / CK /		-92.37	-89.91
Hold Timing RB \ CK /		-17.16	-13.47
Hold Timing LD / CK /		-149.1	-151.5
Hold Timing LD \ CK /		-34.43	-36.89
Minimum H-pulse Width CK		278.0	322.4
Minimum L-pulse Width CK		416.0	420.9

Group Name : DFCRB

Symbol

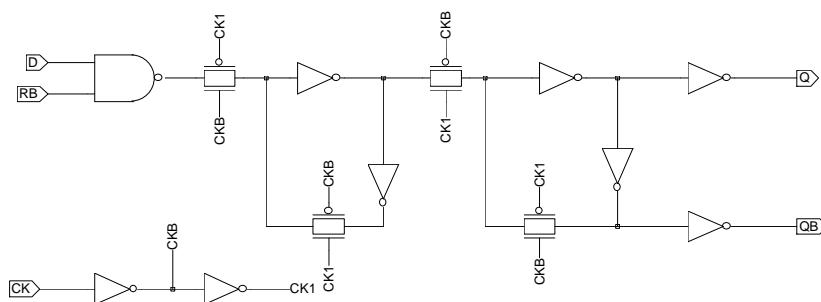
Function : D Flip-Flop with Synchronous Clear



Truth Table

CK	D	RB	Q	QB
1	X	0	0	1
1	0	X	0	1
1	1	1	1	0
0	X	X	Q	QB

Schematic



Pin Order Q QB D CK RB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption			
	D	CK	RB	Q	QB	Q	D	CK	RB
DFCRBE LD	1.517	1.580	1.793	139.5	139.8	22.14	5.626	6.373	6.084
DFCRBH LD	1.517	1.581	1.793	282.4	282.3	30.30	5.634	6.367	6.082

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
DFCRBE LD	23		tplh	tphl										
	CK-Q	311.2	319.4	322.8	327.5	346.6	342.6	395.9	369.9	503.3	419.2	738.6	517.4	
	CK-QB	428.6	451.3	440.5	462.0	463.7	480.0	512.0	511.1	617.7	565.7	852.7	668.4	
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
DFCRBH LD	26	Path	tplh	tphl										
		CK-Q	330.8	313.0	339.2	319.4	356.9	331.8	395.8	354.7	488.9	399.1	717.6	494.9
		CK-QB	406.4	438.3	414.5	445.3	430.7	458.7	466.8	483.0	557.0	528.8	784.2	625.8

**Timing Constraint (ps)**

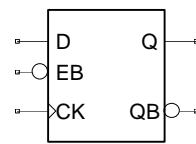
Item	Version	DFCRBELD	DFCRBHLD
Setup Timing D / CK /		174.1	180.2
Setup Timing D \ CK /		222.1	219.7
Setup Timing RB / CK /		176.5	180.2
Setup Timing RB \ CK /		234.5	234.5
Hold Timing D / CK /		-35.66	-33.19
Hold Timing D \ CK /		-22.10	-20.86
Hold Timing RB / CK /		-40.59	-38.12
Hold Timing RB \ CK /		-27.03	-22.10
Minimum H-pulse Width CK		265.7	317.5
Minimum L-pulse Width CK		423.4	425.2

Group Name : DFE

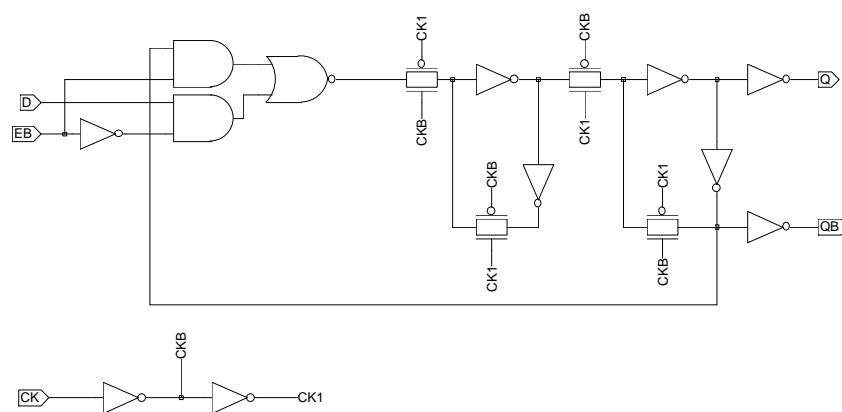
## Symbol

Function : Enabled Flip-Flops, Enabled Low, Dual Outputs

## Truth Table



## Schematic



Pin Order Q QB D CK EB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption		
	D	CK	EB	Q	QB	Q	D	CK
DFECLD	1.568	1.340	3.255	80.84	81.61	19.74	5.873	5.932
DFEELD	1.568	1.566	3.261	139.9	139.9	23.88	5.874	6.456
DFEHLD	1.568	1.565	3.170	282.5	282.5	32.41	5.876	6.446
DFEKLD	1.570	2.796	3.198	564.1	564.4	46.77	5.818	8.606

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
DFECLD	26	Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
		CK-Q	336.5	350.2	355.6	363.1	395.0	386.4	479.7	428.2	665.2	507.6	1072	672.1
		CK-QB	483.3	515.9	503.7	534.0	543.0	563.8	625.6	613.0	810.6	700.2	1214	869.2
		Path		1.500 ff	3.306 ff	7.287 ff	16.06 ff	35.40 ff	78.03 ff	tplh	tphl	tplh	tphl	
DFEELD	27	CK-Q	338.7	329.0	350.7	337.7	374.9	353.3	424.3	381.6	532.0	431.8	767.4	531.2
		CK-QB	442.0	488.7	453.9	499.5	476.5	518.7	524.5	549.8	629.9	604.6	865.4	707.7
DFEHLD	29	Path		1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff	tplh	tphl	tplh	tphl	
		CK-Q	367.9	326.9	376.8	333.8	394.9	346.7	434.0	370.2	527.5	415.9	756.2	512.6
		CK-QB	413.7	470.4	421.2	476.8	436.7	489.6	472.2	513.3	562.5	558.5	789.8	654.8
		Path		1.500 ff	4.166 ff	11.57 ff	32.12 ff	89.21 ff	247.7 ff	tplh	tphl	tplh	tphl	
DFEKLD	34	CK-Q	367.5	327.5	374.3	333.1	389.0	345.3	421.4	369.0	501.4	414.7	720.6	514.2
		CK-QB	453.3	514.6	459.0	519.8	471.3	531.3	498.9	554.3	570.2	599.1	784.8	697.6

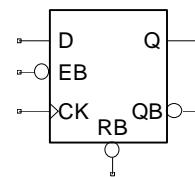
## Timing Constraint (ps)

Item \ Version	DFECLD	DFEELD	DFEHLD	DFEKLD
Setup Timing D / CK /	211.0	213.5	208.6	208.6
Setup Timing D \ CK /	308.4	315.8	323.2	372.5
Setup Timing EB / CK /	249.2	254.2	251.7	266.5
Setup Timing EB \ CK /	306.0	315.8	320.8	375.0
Hold Timing D / CK /	-62.78	-65.25	-47.99	-13.47
Hold Timing D \ CK /	-49.22	-54.15	-54.15	-65.25
Hold Timing EB / CK /	-72.65	-67.71	-65.25	-13.47
Hold Timing EB \ CK /	-203.3	-205.8	-208.3	-218.1
Minimum H-pulse Width CK	283.0	317.5	364.3	381.5
Minimum L-pulse Width CK	482.5	455.4	460.3	396.3

Group Name : DFERB

Symbol

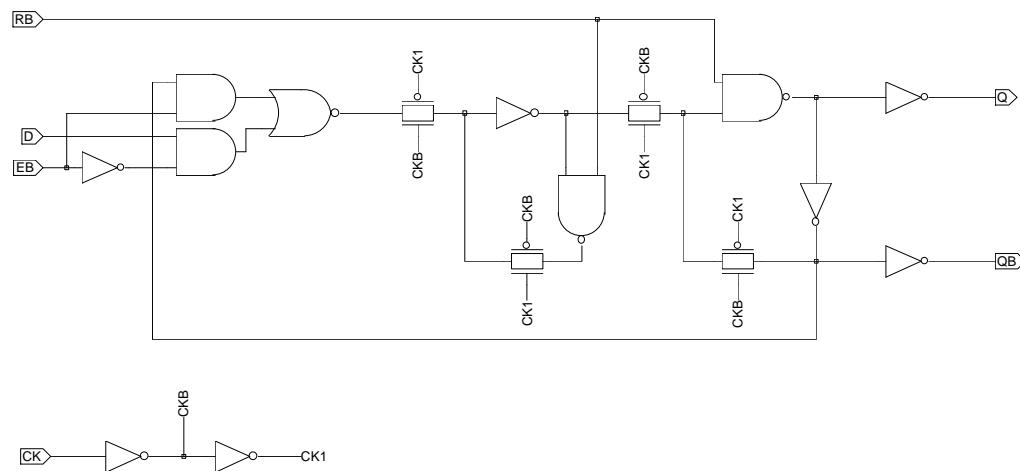
Function : Enabled Flip-Flops, Enabled Low, RB, Dual Outputs



Truth Table

CK	D	EB	RB	Q	QB
/	0	0	1	0	1
/	1	0	1	1	0
/	X	1	1	Q	QB
X	X	X	0	0	1

Schematic



Pin Order Q QB D CK EB RB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading		Power Consumption		
	D	CK	EB	RB	Q	QB	Q	D	CK
DFERBCLD	1.583	1.345	3.109	2.209	89.33	89.61	21.56	5.894	5.978
DFERBELD	1.583	1.578	3.024	2.813	139.8	139.8	26.17	5.890	6.466
DFERBHLD	1.606	1.579	3.022	3.898	282.1	282.5	34.51	5.886	6.466
DFERBKLD	1.606	2.812	3.024	3.791	562.7	564.4	47.77	5.655	8.628

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

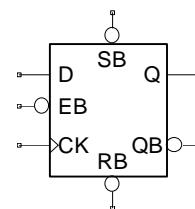
Version	Cell Unit	Output Load												
DFERBCLD	28	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	193.8	-	207.0	-	231.0	-	273.4	-	353.7	-	519.6
		CK-Q	385.3	371.4	404.7	385.0	442.8	408.2	520.7	450.7	688.7	530.9	1057	695.9
		RB-QB	327.2	-	345.9	-	381.9	-	456.5	-	622.4	-	989.2	-
		CK-QB	504.6	578.3	523.2	596.3	559.2	626.0	634.4	675.5	799.9	762.9	1167	932.8
DFERBELD	29	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	161.5	-	170.0	-	185.0	-	212.1	-	261.4	-	360.1
		CK-Q	389.7	335.7	402.9	344.4	428.9	359.4	479.9	386.5	587.9	435.9	824.0	534.5
		RB-QB	277.9	-	290.5	-	314.5	-	362.9	-	467.7	-	702.5	-
		CK-QB	452.2	545.8	465.2	556.7	488.4	575.7	537.0	607.2	642.9	662.1	877.9	765.5
DFERBHLD	32	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		RB-Q	-	149.0	-	155.9	-	169.0	-	193.1	-	239.3	-	336.5
		CK-Q	411.5	339.8	421.9	346.8	442.5	360.2	483.8	384.5	578.5	430.8	807.9	528.0
		RB-QB	237.3	-	244.6	-	260.6	-	296.2	-	386.7	-	614.0	-
		CK-QB	429.0	524.5	436.5	531.1	452.2	543.5	487.4	566.4	577.8	611.5	805.1	707.8
DFERBKLD	37	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		RB-Q	-	182.7	-	188.4	-	200.7	-	224.4	-	270.9	-	371.1
		CK-Q	418.2	341.8	426.2	347.4	443.8	359.7	480.1	383.7	563.2	430.3	783.6	530.4
		RB-QB	310.0	-	315.8	-	328.3	-	355.7	-	427.7	-	642.1	-
		CK-QB	469.8	581.5	475.2	586.6	487.8	597.8	515.3	619.6	587.2	663.1	801.7	760.8

## Timing Constraint (ps)

Item \ Version	DFERBCLD	DFERBELD	DFERBHLD	DFERBKLD
Setup Timing D / CK /	211.0	211.0	206.1	206.1
Setup Timing D \ CK /	330.6	352.8	357.8	382.4
Setup Timing EB / CK /	234.5	234.5	229.5	234.5
Setup Timing EB \ CK /	328.2	350.4	350.4	382.4
Hold Timing D / CK /	-52.92	-18.40	-8.534	1.329
Hold Timing D \ CK /	-39.36	-44.29	-44.29	-50.45
Hold Timing EB / CK /	-60.32	-33.19	-28.26	-1.137
Hold Timing EB \ CK /	-210.7	-213.2	-215.7	-220.6
Minimum H-pulse Width CK	337.2	364.3	416.0	440.6
Minimum L-pulse Width CK	499.8	475.1	480.0	396.3
Minimum L-pulse Width RB	499.8	356.9	283.0	346.4
Recovery Timing RB / CK /	-70.07	-60.21	-60.21	-34.32
Removal Timing RB / CK /	201.1	191.2	183.8	149.3

Group Name : DFERSB

Symbol

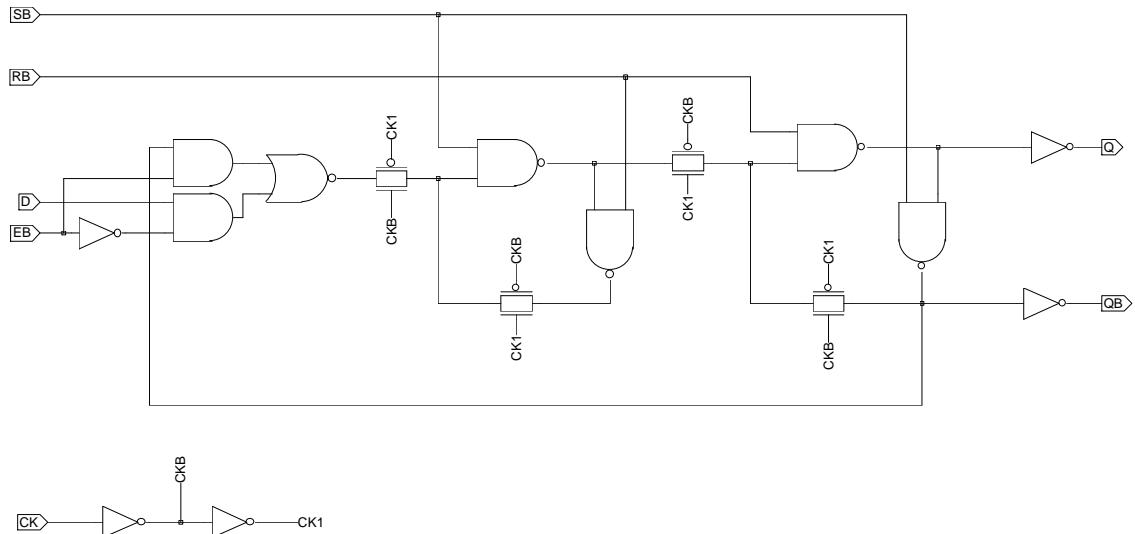


Function : Enabled Flip-Flops, Enabled Low, RB, SB, Dual Outputs

Truth Table

CK	D	EB	RB	SB	Q	QB
0	0	1	1	1	0	1
1	0	1	1	1	1	0
X	1	1	1	1	Q	QB
X	X	X	0	1	0	1
X	X	X	1	0	1	0
X	X	X	0	0	0	0

Schematic



Pin Order Q QB D CK EB RB SB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance					Maximum Loading		Power Consumption		
	D	CK	EB	RB	SB	Q	QB	Q	D	CK
DFERSBCLD	1.606	1.348	3.175	2.184	3.032	89.29	89.74	24.26	6.039	5.955
DFERSBELED	1.606	1.579	3.175	2.692	3.037	139.3	139.0	28.31	6.046	6.471
DFERSBHLD	1.608	1.579	3.173	3.278	4.250	281.9	282.2	37.11	6.168	6.484
DFERSBKLD	1.591	2.807	3.173	3.258	4.261	562.3	563.0	50.62	5.849	8.645

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
DFERSBCLD	31	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	196.6	-	209.9	-	234.2	-	276.7	-	357.1	-	524.6
		SB-Q	478.6	-	498.1	-	536.5	-	614.6	-	782.6	-	1149	-
		CK-Q	419.6	412.9	439.4	426.5	478.1	450.7	555.7	494.7	724.1	575.7	1092	742.7
		RB-QB	376.2	-	398.7	-	439.8	-	517.3	-	683.6	-	1052	-
		SB-QB	-	285.1	-	304.0	-	335.3	-	387.7	-	477.2	-	644.6
		CK-QB	593.1	627.9	615.7	646.2	656.5	677.6	735.9	728.0	902.3	817.0	1269	988.3
DFERSBEVD	31	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	157.7	-	166.0	-	180.7	-	207.2	-	255.8	-	353.9
		SB-Q	487.0	-	500.4	-	526.6	-	577.7	-	686.0	-	923.1	-
		CK-Q	423.3	370.3	437.0	378.8	463.4	393.9	514.8	421.2	623.1	471.6	859.0	569.8
		RB-QB	339.9	-	357.1	-	386.7	-	442.4	-	550.2	-	786.3	-
		SB-QB	-	297.1	-	311.1	-	334.9	-	373.6	-	437.7	-	546.5
		CK-QB	554.3	651.6	570.8	665.4	601.0	688.7	656.7	726.8	766.5	788.3	1001	899.3
DFERSBHLD	35	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		RB-Q	-	191.7	-	199.8	-	215.2	-	242.5	-	292.9	-	396.3
		SB-Q	510.7	-	521.2	-	541.6	-	582.5	-	676.2	-	904.9	-
		CK-Q	442.4	416.6	453.1	425.2	473.8	441.0	515.4	468.9	609.6	519.8	839.3	623.4
		RB-QB	325.1	-	334.5	-	353.3	-	391.0	-	480.2	-	706.5	-
		SB-QB	-	227.9	-	237.5	-	255.1	-	285.6	-	339.6	-	444.8
		CK-QB	552.4	614.1	561.9	622.7	580.4	639.1	617.9	667.5	706.9	719.1	933.1	821.8
DFERSBKLD	40	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		RB-Q	-	244.3	-	251.3	-	266.4	-	295.0	-	348.4	-	457.6
		SB-Q	534.9	-	543.1	-	560.7	-	596.9	-	679.5	-	899.0	-
		CK-Q	451.6	437.7	460.0	444.9	478.3	460.3	515.1	489.0	598.6	542.9	818.9	651.9
		RB-QB	440.4	-	447.8	-	463.7	-	495.9	-	568.8	-	779.4	-
		SB-QB	-	280.6	-	288.5	-	305.4	-	337.1	-	395.1	-	508.8
		CK-QB	635.2	695.3	642.6	702.0	658.3	717.0	690.5	746.2	763.2	799.0	973.8	907.2

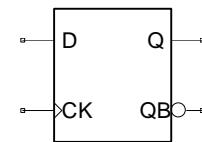
**Timing Constraint (ps)**

Item \ Version	DFERSBCLD	DFERSBEVD	DFERSBHLD	DFERSBKLD
Setup Timing D / CK /	285.0	285.0	299.8	278.8
Setup Timing D \ CK /	384.9	402.1	404.6	409.5
Setup Timing EB / CK /	234.5	239.4	236.9	239.4
Setup Timing EB \ CK /	382.4	404.6	404.6	409.5
Hold Timing D / CK /	-38.12	-25.79	-8.534	-8.534
Hold Timing D \ CK /	-39.36	-39.36	-36.89	-44.29
Hold Timing EB / CK /	-50.45	-28.26	-15.93	-8.534
Hold Timing EB \ CK /	-230.5	-237.9	-247.7	-255.1
Minimum H-pulse Width CK	381.5	420.9	455.4	483.7
Minimum L-pulse Width CK	553.9	534.2	534.2	440.6
Minimum L-pulse Width RB	514.5	337.2	401.2	514.5
Minimum L-pulse Width SB	553.9	562.6	613.1	578.6
Recovery Timing RB / CK /	-55.28	-45.41	-20.75	-8.425
Recovery Timing SB / CK /	51.99	66.78	69.25	88.97
Removal Timing RB / CK /	188.7	176.4	171.5	134.5
Removal Timing SB / CK /	33.38	18.59	18.59	-3.603

Group Name : DFF

Symbol

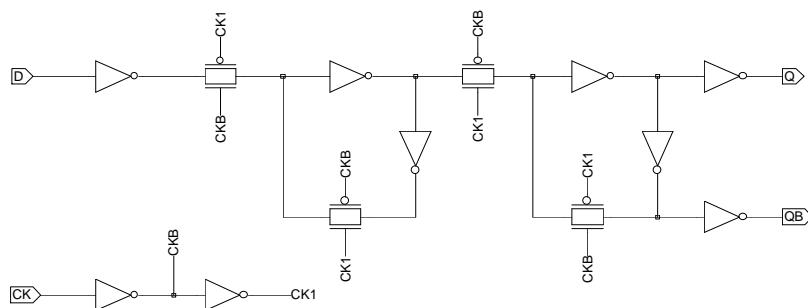
Function : D Flip-Flop



Truth Table

CK	D	Q	QB
0		0	1
1		1	0
X		Q	QB

Schematic



Pin Order Q QB D CK

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption		
	D	CK	Q	QB	Q	D	CK
DFFCLD	1.348	1.316	80.80	81.37	19.21	5.097	5.865
DFFELD	1.348	1.547	139.7	139.8	22.08	5.094	6.372
DFFHLD	1.347	1.585	282.3	282.3	30.60	5.128	6.387
DFFKLD	1.349	2.791	564.1	563.9	45.53	5.057	8.613

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff
DFFCLD	22		tphl	tphl	tphl	tphl	tphl	tphl	tphl	tphl	tphl	tphl	
	CK-Q	315.4	324.2	334.3	335.7	373.8	356.5	458.3	395.1	643.1	472.0	1050	634.4
	CK-QB	423.3	441.8	442.3	457.3	481.0	483.2	563.6	527.3	749.5	609.7	1155	775.0

DFFELD	22	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		CK-Q	310.7	319.3	322.4	327.6	346.3	342.8	395.6	370.3	503.0	419.7	738.4	518.0
CK-QB	428.5	450.5	440.5	460.9	463.5	478.7	511.6	509.6	617.4	564.0	852.5	666.6		
DFFHLD	24	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		CK-Q	334.9	317.4	343.2	324.1	360.9	336.7	399.8	359.8	493.1	404.7	721.8	500.9
CK-QB	411.1	440.9	418.9	447.6	435.0	460.8	471.1	485.0	561.4	530.6	788.6	627.4		
DFFKLD	30	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		CK-Q	338.6	320.7	345.2	326.2	359.8	338.2	391.6	361.7	471.6	407.5	690.8	506.6
CK-QB	453.7	498.0	459.4	503.4	472.2	515.6	500.3	539.7	572.4	586.3	786.7	686.6		

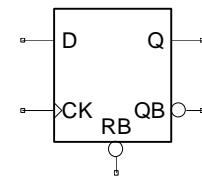
**Timing Constraint (ps)**

Item \ Version	DFFCLD	DFFELD	DFFHLD	DFFKLD
Setup Timing D / CK /	156.8	166.7	169.1	174.1
Setup Timing D \ CK /	187.6	204.9	207.3	234.5
Hold Timing D / CK /	-45.52	-30.73	-35.66	-25.79
Hold Timing D \ CK /	-14.70	-14.70	-13.47	-20.86
Minimum H-pulse Width CK	258.3	265.7	317.5	342.1
Minimum L-pulse Width CK	455.4	423.4	435.7	364.3

Group Name : DFFRB

Symbol

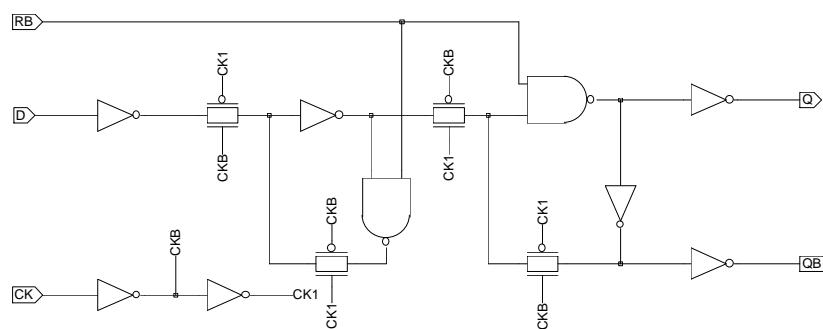
Function : D Flip-Flop with Clear



Truth Table

CK	D	RB	Q	QB
0	1		0	1
1	1		1	0
X	X	0	0	1

Schematic



Pin Order Q QB D CK RB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading		Power Consumption		
	D	CK	RB	Q	QB	Q	D	CK
DFFRBCLD	1.357	1.365	2.638	89.47	89.38	21.75	6.486	5.992
DFFRBELD	1.357	1.595	2.643	139.9	139.9	24.30	6.490	6.441
DFFRBHLD	1.351	1.559	3.745	282.1	282.4	33.01	6.573	6.473
DFFRBKLD	1.343	2.755	3.739	562.6	563.9	46.69	6.660	8.727

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

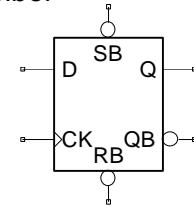
Version	Cell Unit	Output Load												
DFFRBCLD	24	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	148.1	-	159.2	-	179.7	-	217.7	-	294.1	-	458.6
		CK-Q	325.2	321.3	343.4	332.4	379.7	352.7	457.1	390.5	623.9	466.8	991.5	629.5
		RB-QB	247.3	-	264.7	-	300.1	-	375.2	-	541.4	-	910.0	-
		CK-QB	420.0	467.0	437.8	482.2	473.3	508.6	548.6	553.7	715.7	636.7	1082	803.0
DFFRBELD	24	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	154.8	-	163.2	-	177.8	-	204.2	-	252.8	-	350.7
		CK-Q	322.3	310.9	335.2	319.1	360.3	334.0	411.5	359.9	519.1	408.3	754.8	506.0
		RB-QB	265.1	-	277.3	-	301.0	-	349.3	-	454.6	-	690.9	-
		CK-QB	420.8	474.2	433.1	484.7	457.2	502.8	505.6	534.4	611.2	589.6	844.9	692.3
DFFRBHLD	28	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		RB-Q	-	145.0	-	151.8	-	164.4	-	187.9	-	233.1	-	329.7
		CK-Q	336.1	313.9	345.8	320.6	365.4	333.2	406.1	356.7	500.4	402.0	729.5	498.2
		RB-QB	231.7	-	239.1	-	254.8	-	290.5	-	380.9	-	608.2	-
		CK-QB	400.5	446.1	407.9	452.6	423.6	465.4	459.3	488.5	549.8	533.3	777.1	629.6
DFFRBKLD	33	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		RB-Q	-	179.6	-	185.1	-	196.9	-	220.2	-	265.7	-	365.1
		CK-Q	345.2	311.5	352.4	317.0	368.9	328.9	404.0	352.4	486.4	397.8	706.6	496.6
		RB-QB	311.2	-	317.0	-	329.9	-	357.9	-	430.2	-	644.5	-
		CK-QB	443.0	515.2	449.0	520.7	461.7	532.9	490.0	556.0	562.2	600.9	776.5	700.1

## Timing Constraint (ps)

Item	Version	DFFRBCLD	DFFRBELD	DFFRBHLD	DFFRBKLD
Setup Timing D / CK /		142.0	151.9	155.5	160.5
Setup Timing D \ CK /		227.1	229.5	244.3	291.2
Hold Timing D / CK /		-50.45	-50.45	-45.52	-40.59
Hold Timing D \ CK /		-27.03	-29.49	-25.79	-34.43
Minimum H-pulse Width CK		258.3	265.7	302.7	337.2
Minimum L-pulse Width CK		494.8	460.3	460.3	396.3
Minimum L-pulse Width RB		365.5	337.2	278.0	342.1
Recovery Timing RB / CK /		-55.28	-40.48	-25.69	-9.658
Removal Timing RB / CK /		225.7	208.5	203.5	176.4

Group Name : DFFRSB

Symbol

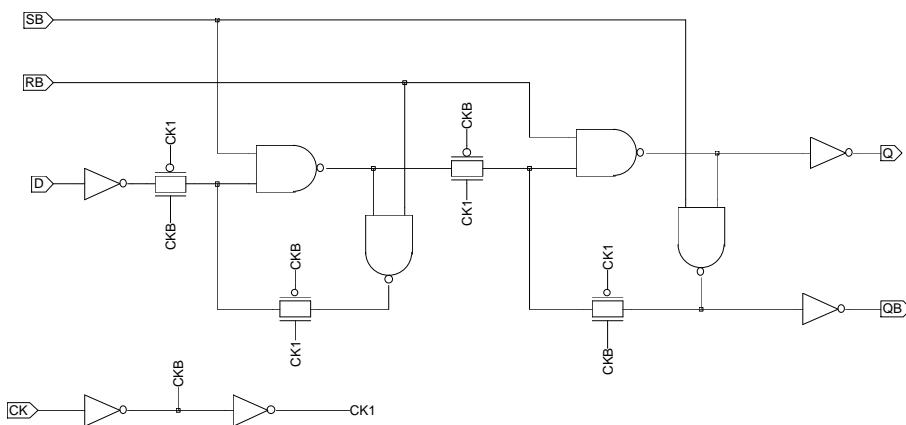


Function : D FLIP-FLOP With Clear/Set

Truth Table

CK	D	RB	SB	Q	QB
0	1	1		0	1
1	1	1		1	0
X	X	1	0	1	0
X	X	0	1	0	1
X	X	0	0	0	0

Schematic



Pin Order Q QB D CK RB SB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading		Power Consumption		
	D	CK	RB	SB	Q	QB	Q	D	CK
DFFRSBELD	1.339	1.556	2.220	3.014	139.4	139.0	25.59	5.087	6.399
DFFRSBHLD	1.339	1.557	3.270	4.205	281.9	282.2	35.09	5.155	6.393

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load													
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
DFFRSBELD	27	RB-Q	-	210.4	-	220.7	-	238.5	-	269.7	-	323.9	-	427.3	
		SB-Q	491.0	-	505.9	-	533.0	-	585.5	-	694.6	-	929.9	-	
		CK-Q	422.8	414.6	437.5	425.3	465.0	443.1	518.1	474.6	627.4	530.0	863.0	633.4	
		RB-QB	383.7	-	398.1	-	425.8	-	476.9	-	582.4	-	816.0	-	
		SB-QB	-	247.6	-	259.9	-	280.5	-	314.9	-	373.0	-	479.5	
		CK-QB	587.9	608.7	603.2	620.2	631.1	639.7	682.7	672.7	789.6	729.3	1023	834.9	
		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
DFFRSBHLD	30	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-Q	-	191.5	-	199.7	-	215.1	-	242.5	-	293.2	-	396.5	
		SB-Q	500.7	-	511.3	-	531.6	-	572.5	-	666.1	-	894.8	-	
		CK-Q	433.2	410.1	443.8	418.7	464.7	434.6	506.0	462.6	600.6	513.7	830.1	617.2	
		RB-QB	310.6	-	319.0	-	336.4	-	372.6	-	461.9	-	688.6	-	
		SB-QB	-	202.9	-	211.6	-	227.5	-	255.6	-	306.1	-	407.6	
		CK-QB	531.4	579.6	539.8	587.1	557.0	601.8	592.9	627.7	682.0	675.8	908.7	775.4	

#### Timing Constraint (ps)

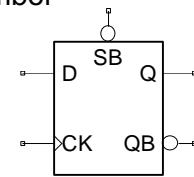
Item \ Version	DFFRSBELD	DFFRSBHLD
Setup Timing D / CK /	248.0	255.4
Setup Timing D \ CK /	278.8	276.4
Hold Timing D / CK /	16.12	18.59
Hold Timing D \ CK /	-13.47	-11.00
Minimum H-pulse Width CK	396.3	440.6
Minimum L-pulse Width CK	480.0	480.0
Minimum L-pulse Width RB	494.8	401.2
Minimum L-pulse Width SB	553.9	598.3
Recovery Timing RB / CK /	-45.41	-20.75
Recovery Timing SB / CK /	76.65	74.18
Removal Timing RB / CK /	178.9	171.5
Removal Timing SB / CK /	18.59	21.05

Group Name : DFFSB

Function : D Flip-Flop with Set

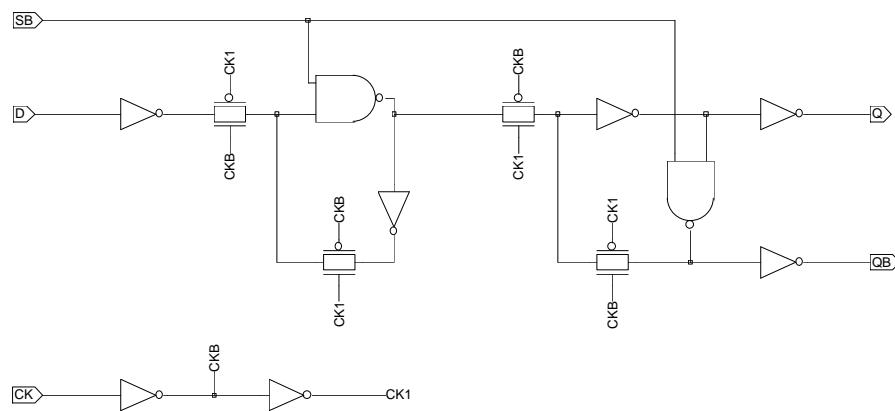
Truth Table

Symbol



CK	D	SB	Q	QB
0	1		0	1
1	1		1	0
X	X	0	1	0

Schematic



Pin Order      Q QB D CK SB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading		Power Consumption		
	D	CK	SB	Q	QB	Q	D	CK
DFFSBELD	1.350	1.558	3.052	139.6	139.8	26.94	5.258	6.325
DFFSBHLD	1.350	1.557	4.034	282.4	282.2	35.85	5.436	6.337

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load													
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
DFFSBELD	24	SB-Q	448.8	-	460.7	-	484.7	-	535.0	-	642.1	-	877.9	-	
		CK-Q	375.3	332.8	387.5	340.9	412.1	355.9	462.4	383.2	569.7	432.8	805.4	532.2	
		SB-QB	-	202.5	-	212.5	-	230.2	-	259.9	-	312.7	-	414.3	
		CK-QB	439.8	500.0	452.2	509.2	475.9	526.3	525.2	556.0	631.7	608.7	866.9	709.2	
		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
DFFSBHLD	28	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		SB-Q	419.8	-	428.3	-	446.1	-	484.8	-	577.6	-	806.0	-	
		CK-Q	378.8	333.7	387.9	340.3	406.2	353.1	445.4	376.6	538.5	421.9	767.3	519.5	
		SB-QB	-	189.9	-	197.9	-	213.0	-	239.7	-	288.7	-	389.4	
		CK-QB	435.7	503.1	444.0	510.4	461.7	524.8	499.1	550.4	589.8	597.8	817.1	696.2	

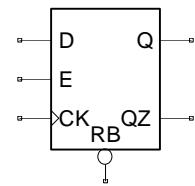
### Timing Constraint (ps)

Item	Version	DFFSBELD	DFFSBHLD
Setup Timing D / CK /		230.8	218.4
Setup Timing D \ CK /		209.8	219.7
Hold Timing D / CK /		-38.12	-30.73
Hold Timing D \ CK /		-22.10	-18.40
Minimum H-pulse Width CK		356.9	381.5
Minimum L-pulse Width CK		425.2	440.6
Minimum L-pulse Width SB		480.0	435.7
Recovery Timing SB / CK /		7.603	7.603
Removal Timing SB / CK /		70.37	72.84

Group Name : DFTRB

Symbol

Function : D Flip-Flop with Clear/3-State Output

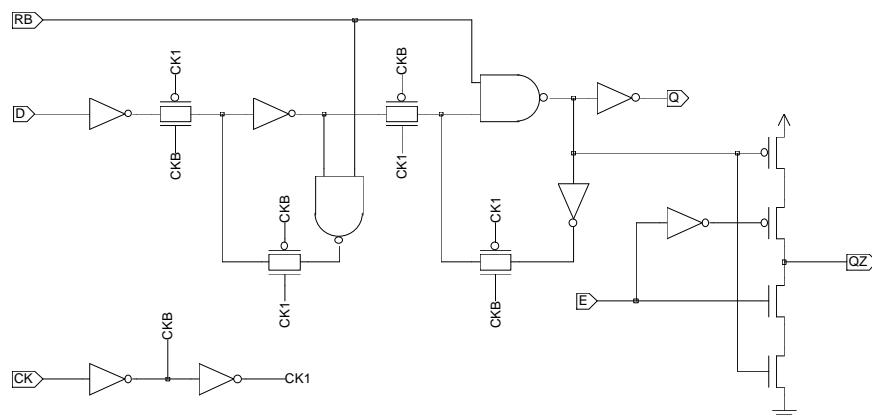


Truth Table

CK	D	RB	Q
0	1		0
1	1		1
X	1		Q
X	X	0	0

E	Q	QZ
0	X	Z
1	0	0
1	1	1

Schematic



Pin Order      Q QZ D CK RB E

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance					Maximum Loading		Power Consumption			
	QZ	D	CK	RB	E	Q	QZ	Q	QZ	D	CK
DFTRBCLD	1.685	1.357	1.388	2.642	2.410	80.86	65.88	23.87	3.869	6.506	6.006
DFTRBEVD	2.345	1.354	1.602	2.640	3.313	139.5	131.6	30.33	6.717	6.502	6.520

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
DFTRBCLD	27	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-Q	-	180.3	-	193.7	-	217.2	-	258.9	-	338.0	-	504.0
		CK-Q	360.6	354.0	381.5	367.4	422.5	390.8	508.3	432.3	693.8	511.5	1101	675.1
		Path	3.185 ff		4.991 ff		8.972 ff		17.75 ff		37.09 ff		79.72 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-QZ	-	193.8	-	203.7	-	223.3	-	262.4	-	342.3	-	513.9
		CK-QZ	397.4	367.5	420.0	377.3	468.1	397.0	572.6	435.9	801.1	515.9	1300	686.6
		Path	3.451 ff		5.257 ff		9.238 ff		18.01 ff		37.35 ff		79.99 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-QZ	107.6	42.09	129.2	53.28	176.5	74.66	280.2	114.9	507.9	195.3	1007	366.1
		E-QZ	L>>Z 241.2										H>>Z 370.1	
DFTRBLED	31	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-Q	-	213.5	-	227.4	-	252.9	-	298.3	-	385.7	-	576.8
		CK-Q	373.8	370.0	392.7	384.0	430.1	409.5	509.5	454.8	696.7	541.8	1153	731.1
		Path	3.845 ff		6.056 ff		11.53 ff		25.06 ff		58.55 ff		141.4 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-QZ	-	236.4	-	243.2	-	259.1	-	293.1	-	366.6	-	535.7
		CK-QZ	425.3	393.0	439.4	399.9	473.9	415.6	555.7	449.6	753.9	523.1	1240	691.4
		Path	4.147 ff		6.358 ff		11.83 ff		25.36 ff		58.85 ff		141.7 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-QZ	114.1	33.72	128.0	42.11	161.3	58.28	241.7	93.42	438.9	165.8	924.4	332.3
		E-QZ	L>>Z 281.3										H>>Z 511.5	

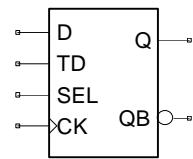
#### Timing Constraint (ps)

Item	Version	DFTRBCLD	DFTRBLED
Setup Timing D / CK /		142.0	145.7
Setup Timing D \ CK /		224.6	239.4
Hold Timing D / CK /		-52.92	-47.99
Hold Timing D \ CK /		-25.79	-29.49
Minimum H-pulse Width CK		265.7	285.4
Minimum L-pulse Width CK		494.8	460.3
Minimum L-pulse Width RB		455.4	499.8
Recovery Timing RB / CK /		-55.28	-38.02
Removal Timing RB / CK /		220.8	208.5

Group Name : DFZ

Symbol

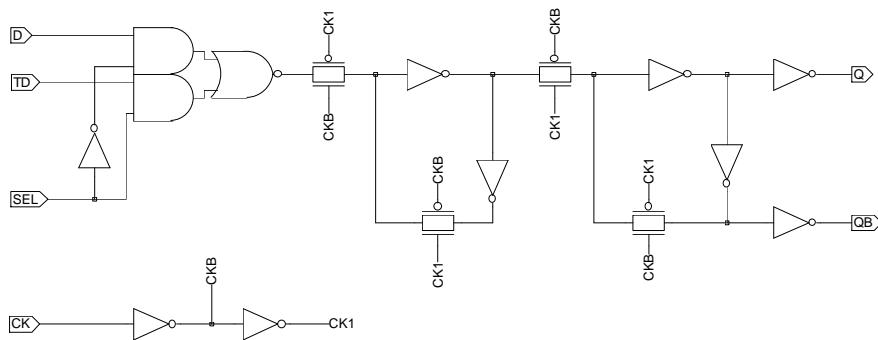
Function : D Flip-Flop with Scan



Truth Table

CK	D	TD	SEL	Q	QB
0	X	0		0	1
1	X	0		1	0
X	0	1		0	1
X	1	1		1	0
X	X	X		Q	QB

Schematic



Pin Order Q QB D TD CK SEL

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading		Power Consumption				
	D	TD	CK	SEL	Q	QB	Q	D	TD	CK	SEL
DFZCLD	2.002	1.326	1.397	3.188	80.66	81.37	19.32	6.443	7.483	5.873	11.93
DFZELD	2.002	1.324	1.625	3.188	139.6	139.8	22.14	6.455	7.501	6.387	11.94
DFZHLD	2.002	1.324	1.625	3.188	282.3	282.3	30.60	6.442	7.498	6.388	11.93
DFZKLD	2.003	1.289	2.810	3.188	564.1	563.9	45.53	6.392	7.443	8.614	11.87

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
DFZCLD	26	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		CK-Q	316.8	324.6	335.6	336.1	375.0	356.6	459.5	395.1	644.3	472.0	1051	634.1
		CK-QB	423.6	443.3	442.7	458.9	481.3	484.9	564.0	529.2	750.0	612.0	1155	777.4
DFZELD	26	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		CK-Q	310.9	319.2	322.6	327.4	346.4	342.6	395.7	369.9	503.1	419.2	738.5	517.4
		CK-QB	428.6	451.5	440.5	461.8	463.7	479.7	511.9	510.8	617.6	565.4	852.6	668.0
DFZHLD	28	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		CK-Q	334.8	317.4	343.0	324.0	360.8	336.6	399.7	359.8	493.0	404.7	721.6	500.9
		CK-QB	411.0	440.7	418.9	447.4	435.0	460.6	471.1	484.9	561.4	530.5	788.5	627.2
DFZKLD	34	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		CK-Q	338.6	320.7	345.2	326.2	359.7	338.2	391.6	361.7	471.5	407.5	690.7	506.6
		CK-QB	453.7	497.9	459.4	503.3	472.2	515.6	500.3	539.7	572.4	586.3	786.7	686.6

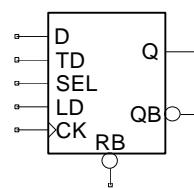
### Timing Constraint (ps)

Item \ Version	DFZCLD	DFZELD	DFZHLD	DFZKLD
Setup Timing D / CK /	211.0	223.4	223.4	233.2
Setup Timing D \ CK /	214.7	234.5	234.5	264.1
Setup Timing TD / CK /	294.9	302.3	306.0	312.1
Setup Timing TD \ CK /	673.4	715.3	705.4	786.8
Setup Timing SEL / CK /	668.4	705.4	700.5	764.6
Setup Timing SEL \ CK /	303.5	317.1	319.5	329.4
Hold Timing D / CK /	-80.04	-60.32	-60.32	-33.19
Hold Timing D \ CK /	-27.03	-25.79	-20.86	-28.26
Hold Timing TD / CK /	-134.3	-82.51	-122.0	-65.25
Hold Timing TD \ CK /	-123.2	-108.4	-104.7	-114.6
Hold Timing SEL / CK /	-126.9	-92.37	-112.1	-59.08
Hold Timing SEL \ CK /	-29.49	-29.49	-28.26	-34.43
Minimum H-pulse Width CK	258.3	265.7	317.5	342.1
Minimum L-pulse Width CK	620.4	582.9	593.4	514.5

Group Name : DFZCLRB

Symbol

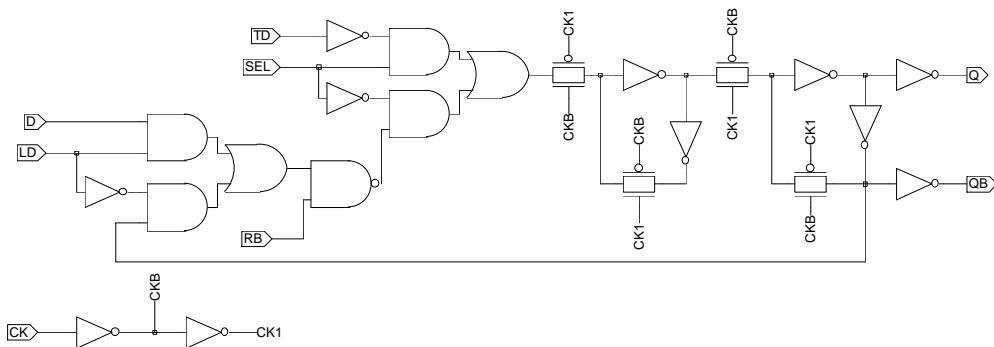
Function : D Flip-Flop with Synchronous Clear , Scan and Load



Truth Table

CK	D	LD	RB	TD	SEL	Q	QB
/	X	X	X	0	1	0	1
/	X	X	X	1	1	1	0
/	X	X	0	X	0	0	1
/	X	0	1	X	0	Q	QB
/	0	1	1	X	0	0	1
/	1	1	1	X	0	1	0
\	X	X	X	X	X	Q	QB

Schematic



Pin Order Q QB D TD CK RB SEL LD

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance						Maximum Loading	
	D	TD	CK	RB	SEL	LD	Q	QB
DFZCLRBELD	2.270	1.201	1.580	2.294	3.235	4.488	140.0	139.7
DFZCLRBHLD	2.274	1.201	1.580	2.294	3.235	4.522	282.4	282.2

#### Power Consumption (nW/MHz)

Version	Power Consumption					
	Q	D	TD	CK	RB	SEL
DFZCLRBELD	25.56	17.04	8.126	6.469	18.58	13.17
DFZCLRBHLD	33.50	17.05	8.133	6.473	18.59	13.18

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load													
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
DFZCLRBELD	39	Path		tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl
		CK-Q		311.4	320.4	323.0	328.5	346.8	343.6	395.9	370.9	503.5	420.2	738.8	518.7
		CK-QB		468.6	532.8	483.3	546.1	510.3	569.1	561.9	605.9	667.4	669.7	901.7	779.7
		DFZCLRBHLD		42	1.500 ff	3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
DFZCLRBHLD	42	Path		tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl
		CK-Q		330.6	313.1	338.9	319.4	356.6	331.5	395.3	354.0	488.4	397.7	717.2	493.7
		CK-QB		439.2	487.8	449.1	496.5	469.0	513.2	508.4	542.4	598.6	594.5	825.0	697.5

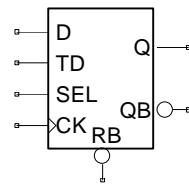
## Timing Constraint (ps)

Item \ Version	DFZCLRBELD	DFZCLRBHLD
Setup Timing D / CK /	363.9	368.9
Setup Timing D \ CK /	414.5	412.0
Setup Timing TD / CK /	319.5	324.5
Setup Timing TD \ CK /	767.1	764.6
Setup Timing RB / CK /	379.9	376.2
Setup Timing RB \ CK /	372.5	370.1
Setup Timing SEL / CK /	757.2	754.8
Setup Timing SEL \ CK /	314.6	309.7
Setup Timing LD / CK /	456.4	458.8
Setup Timing LD \ CK /	394.7	389.8
Hold Timing D / CK /	-210.7	-210.7
Hold Timing D \ CK /	-192.2	-189.8
Hold Timing TD / CK /	-87.44	-104.7
Hold Timing TD \ CK /	-113.3	-112.1
Hold Timing RB / CK /	-232.9	-230.5
Hold Timing RB \ CK /	-138.0	-135.5
Hold Timing SEL / CK /	-122.0	-89.91
Hold Timing SEL \ CK /	-31.96	-30.73
Hold Timing LD / CK /	-279.8	-279.8
Hold Timing LD \ CK /	-207.0	-204.6
Minimum H-pulse Width CK	283.0	322.4
Minimum L-pulse Width CK	578.6	582.3

Group Name : DFZCRB

Symbol

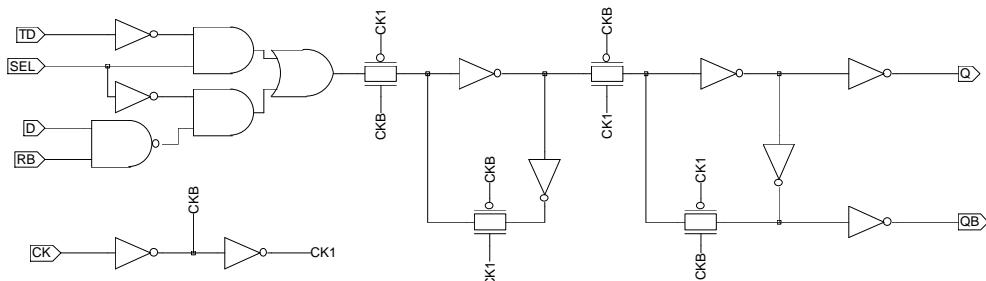
Function : D Flip-Flop with Synchronous Clear and Scan



Truth Table

CK	D	RB	TD	SEL	Q	QB
/	X	X	0	1	0	1
/	X	X	1	1	1	0
/	X	0	X	0	0	1
/	0	1	X	0	0	1
/	1	1	X	0	1	0
\	X	X	X	X	Q	QB

Schematic



Pin Order Q QB D TD CK SEL RB

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance					Maximum Loading	
	D	TD	CK	SEL	RB	Q	QB
DFZCRBE LD	2.207	1.216	1.601	3.628	2.412	139.5	139.9
DFZCRBH LD	2.207	1.216	1.601	3.628	2.412	282.4	282.3

#### Power Consumption (nW/MHz)

Version	Power Consumption					
	Q	D	TD	CK	SEL	RB
DFZCRBE LD	21.88	8.407	6.812	6.377	12.84	8.799
DFZCRBH LD	30.29	8.419	6.823	6.357	12.86	8.810

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
DFZCRBELD	28	Path		tplh	tphl									
		CK-Q	311.0	319.4	322.6	327.6	346.4	342.7	395.7	370.0	503.1	419.2	738.5	517.5
		CK-QB	428.7	451.2	440.6	461.9	463.8	479.8	512.0	510.9	617.8	565.6	852.8	668.3
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
DFZCRBHLD	31	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
		CK-Q	330.7	313.2	339.2	319.6	356.9	331.9	395.7	354.8	488.9	399.3	717.6	495.0
		CK-QB	406.7	438.2	414.4	445.2	430.8	458.7	466.9	482.9	557.2	528.7	784.3	625.7

### Timing Constraint (ps)

Item \ Version	DFZCRBELD	DFZCRBHLD
Setup Timing D / CK /	285.0	292.4
Setup Timing D \ CK /	266.5	264.1
Setup Timing TD / CK /	285.0	294.9
Setup Timing TD \ CK /	663.5	656.1
Setup Timing SEL / CK /	769.5	764.6
Setup Timing SEL \ CK /	376.2	382.4
Setup Timing RB / CK /	289.9	299.8
Setup Timing RB \ CK /	278.8	276.4
Hold Timing D / CK /	-89.91	-87.44
Hold Timing D \ CK /	-44.29	-38.12
Hold Timing TD / CK /	-70.18	-80.04
Hold Timing TD \ CK /	-113.3	-93.60
Hold Timing SEL / CK /	-77.58	-89.91
Hold Timing SEL \ CK /	-15.93	-14.70
Hold Timing RB / CK /	-97.30	-94.84
Hold Timing RB \ CK /	-46.75	-40.59
Minimum H-pulse Width CK	265.7	317.5
Minimum L-pulse Width CK	573.6	578.6

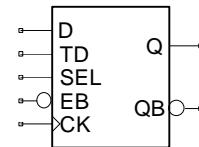
Group Name : DFZE

Symbol

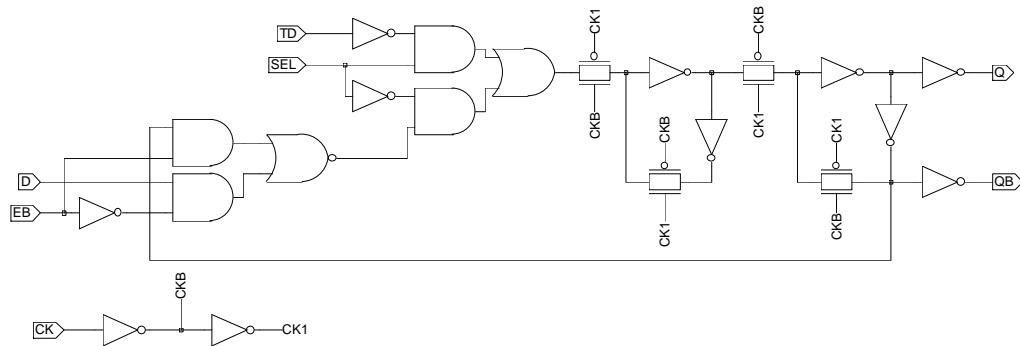
Function : Enabled Flip-Flops, Enabled Low, Scan, Dual Outputs

Truth Table

CK	D	TD	SEL	EB	Q	QB
/	X	0	1	X	0	1
/	X	1	1	X	1	0
/	0	X	0	0	0	1
/	1	X	0	0	1	0
/	X	X	0	1	Q	QB
\	X	X	X	X	Q	QB



Schematic



Pin Order Q QB D TD CK SEL EB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance					Maximum Loading		Power Consumption				
	D	TD	CK	SEL	EB	Q	QB	Q	D	TD	CK	SEL
DFZECLD	1.745	1.764	1.302	3.954	3.074	81.17	80.92	21.10	9.474	10.87	5.866	18.44
DFZEELD	1.816	1.765	1.541	3.993	3.130	140.1	139.7	25.04	9.631	11.02	6.439	18.64
DFZEHLD	1.722	1.765	1.533	3.955	3.183	282.4	282.5	34.11	9.454	10.86	6.378	18.43
DFZEKLD	1.747	1.775	2.773	3.947	3.183	564.0	564.3	48.45	9.421	10.85	8.612	18.41

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
DFZECLD	34	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		CK-Q	348.5	357.2	368.0	370.7	407.5	393.8	492.6	435.6	677.4	515.1	1084	680.0
		CK-QB	503.6	537.7	524.7	555.9	564.7	585.8	648.2	636.9	832.3	727.7	1237	899.2
DFZEELD	34	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		CK-Q	314.2	322.1	326.0	330.9	349.8	346.5	399.9	373.1	507.5	422.7	742.1	521.2
		CK-QB	466.2	508.6	480.2	521.2	506.6	542.8	556.2	578.8	662.4	639.9	895.9	749.0
DFZEHLD	37	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		CK-Q	377.3	332.2	386.4	339.1	404.8	351.9	444.0	375.8	537.3	421.7	766.1	518.6
		CK-QB	423.6	484.5	431.2	491.4	447.2	504.9	483.1	529.1	573.6	575.2	800.8	672.2
DFZEKLD	42	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		CK-Q	376.0	334.3	382.9	339.9	397.8	352.1	430.1	375.8	510.3	421.8	729.5	521.6
		CK-QB	464.8	527.6	470.5	532.7	483.4	544.3	511.2	567.8	583.4	613.6	797.8	712.8

### Timing Constraint (ps)

Item \ Version	DFZECLD	DFZEELD	DFZEHLD	DFZEKLD
Setup Timing D / CK /	319.5	324.5	324.5	329.4
Setup Timing D \ CK /	505.7	540.2	530.4	572.3
Setup Timing TD / CK /	264.1	267.8	260.4	272.7
Setup Timing TD \ CK /	402.1	416.9	426.8	471.2
Setup Timing SEL / CK /	478.6	510.6	500.8	532.8
Setup Timing SEL \ CK /	527.9	545.1	547.6	587.1
Setup Timing EB / CK /	333.1	350.4	325.7	342.9
Setup Timing EB \ CK /	456.4	483.5	478.6	532.8
Hold Timing D / CK /	-144.2	-70.18	-80.04	-67.71
Hold Timing D \ CK /	-88.67	-78.81	-88.67	-104.7
Hold Timing TD / CK /	-99.77	-84.97	-30.73	-43.06
Hold Timing TD \ CK /	-54.15	-49.22	-65.25	-68.95
Hold Timing SEL / CK /	-94.84	-82.51	-25.79	-45.52
Hold Timing SEL \ CK /	-123.2	-118.3	-113.3	-138.0
Hold Timing EB / CK /	-93.60	-51.69	-75.11	-43.06
Hold Timing EB \ CK /	-309.4	-309.4	-314.3	-329.1
Minimum H-pulse Width CK	302.7	283.0	376.6	396.3
Minimum L-pulse Width CK	475.1	460.3	444.9	376.6

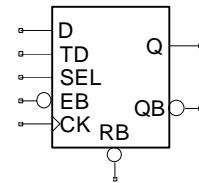
Group Name : DFZERB

Symbol

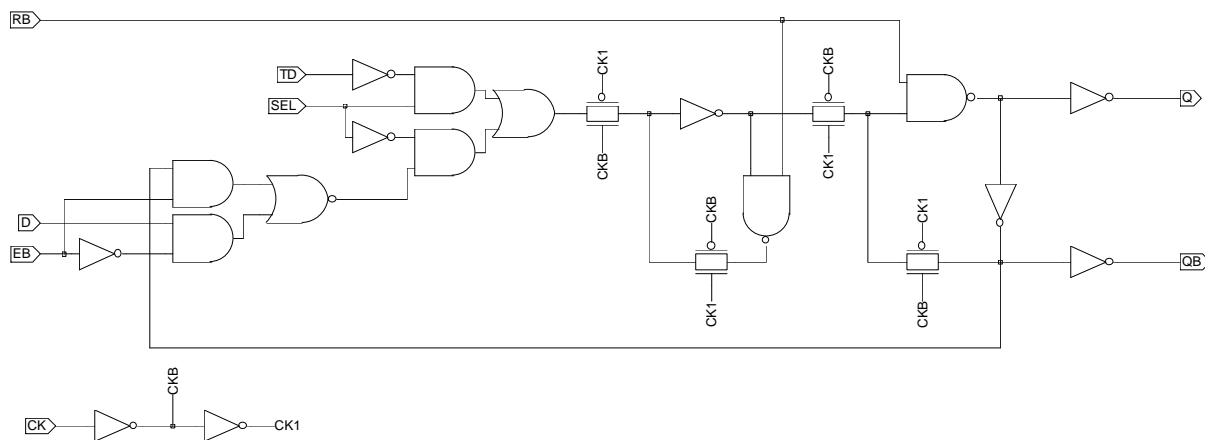
Function : Enabled Flip-Flops, Enabled Low, RB,  
Scan, Dual Outputs

Truth Table

CK	D	TD	SEL	EB	RB	Q	QB
/	X	0	1	X	1	0	1
/	X	1	1	X	1	1	0
/	0	X	0	0	1	0	1
/	1	X	0	0	1	1	0
/	X	X	0	1	1	Q	QB
X	X	X	X	X	0	0	1



Schematic



Pin Order Q QB D TD CK SEL EB RB

**Input Capacitance (ff) & Maximum Loading (ff)**

Version	Input Capacitance						Maximum Loading	
	D	TD	CK	SEL	EB	RB	Q	QB
DFZERBCLD	1.792	1.765	1.335	3.949	3.072	2.208	89.65	89.62
DFZERBELED	1.792	1.767	1.586	3.941	3.072	2.809	139.8	139.8
DFZERBHLD	1.792	1.764	1.566	3.987	3.074	3.888	282.1	282.5
DFZERBKLD	1.792	1.769	2.799	3.921	3.074	3.784	562.7	564.4

## Power Consumption (nW/MHz)

Version	Power Consumption				
	Q	D	TD	CK	SEL
DFZERBCLD	21.71	9.712	11.11	5.969	18.76
DFZERBELED	26.18	9.612	11.00	6.485	18.68
DFZERBHLD	34.73	9.715	11.11	6.466	18.76
DFZERBKLD	47.97	9.451	10.86	8.627	18.45

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
DFZERBCLD	35		tplh	tphl										
	CK-Q	385.4	371.3	404.7	384.2	442.8	408.1	521.3	450.4	688.6	530.4	1056	695.2	
	RB-Q	-	193.8	-	206.9	-	231.0	-	273.3	-	353.6	-	519.7	
	CK-QB	514.0	586.2	533.3	604.0	570.5	634.1	645.9	685.2	812.7	774.1	1178	944.3	
	RB-QB	333.9	-	353.1	-	389.8	-	464.7	-	630.6	-	997.2	-	
DFZERBELED	35	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		CK-Q	388.4	334.6	401.6	342.9	427.6	358.0	479.0	385.5	586.7	435.0	822.4	533.5
		RB-Q	-	161.2	-	169.6	-	184.6	-	211.7	-	261.0	-	359.7
		CK-QB	457.8	549.1	470.6	559.7	494.8	579.5	544.5	611.7	650.5	666.9	884.7	770.4
		RB-QB	282.1	-	294.8	-	318.9	-	367.5	-	472.5	-	707.3	-
DFZERBHLD	39	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		CK-Q	411.4	339.6	421.9	346.7	442.3	360.0	483.7	384.4	578.4	430.6	807.7	527.9
		RB-Q	-	149.0	-	155.8	-	169.0	-	193.0	-	239.2	-	336.5
		CK-QB	432.2	527.0	440.0	533.5	456.1	546.3	492.0	569.6	582.3	615.3	809.7	712.2
		RB-QB	239.8	-	247.3	-	263.3	-	299.0	-	389.4	-	616.7	-
DFZERBKLD	44	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		CK-Q	418.2	341.7	426.3	347.3	443.9	359.5	480.1	383.5	563.2	430.1	783.7	530.2
		RB-Q	-	182.8	-	188.5	-	200.7	-	224.5	-	270.9	-	371.1
		CK-QB	472.9	584.1	478.8	589.2	491.6	600.6	519.6	622.9	591.6	666.8	806.0	765.3
		RB-QB	312.9	-	318.5	-	331.1	-	358.7	-	430.7	-	645.2	-

**Timing Constraint (ps)**

Item \ Version	DFZERBCLD	DFZERBEVD	DFZERBHLD	DFZERBKLD
Setup Timing D / CK /	334.3	334.3	336.8	329.4
Setup Timing D \ CK /	535.3	555.0	564.9	624.1
Setup Timing TD / CK /	280.1	275.1	275.1	271.5
Setup Timing TD \ CK /	426.8	463.8	468.7	518.0
Setup Timing SEL / CK /	500.8	525.4	530.4	572.3
Setup Timing SEL \ CK /	552.5	577.2	601.9	626.5
Setup Timing EB / CK /	335.6	340.5	328.2	330.6
Setup Timing EB \ CK /	488.4	508.2	515.6	579.7
Hold Timing D / CK /	-131.8	-75.11	-55.38	-40.59
Hold Timing D \ CK /	-83.74	-88.67	-83.74	-96.07
Hold Timing TD / CK /	-94.84	-23.33	-25.79	-13.47
Hold Timing TD \ CK /	-49.22	-54.15	-57.85	-61.55
Hold Timing SEL / CK /	-99.77	-23.33	-25.79	-28.26
Hold Timing SEL \ CK /	-118.3	-118.3	-110.9	-128.1
Hold Timing EB / CK /	-83.74	-70.18	-55.38	-30.73
Hold Timing EB \ CK /	-319.2	-321.7	-326.6	-331.6
Minimum H-pulse Width CK	337.2	364.3	416.0	440.6
Minimum L-pulse Width CK	494.8	464.0	475.1	381.5
Minimum L-pulse Width RB	499.8	346.4	283.0	346.4
Recovery Timing RB / CK /	-70.07	-60.21	-57.74	-34.32
Removal Timing RB / CK /	201.1	188.7	181.3	146.8

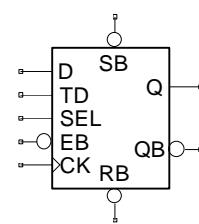
Group Name : DFZERSB

Symbol

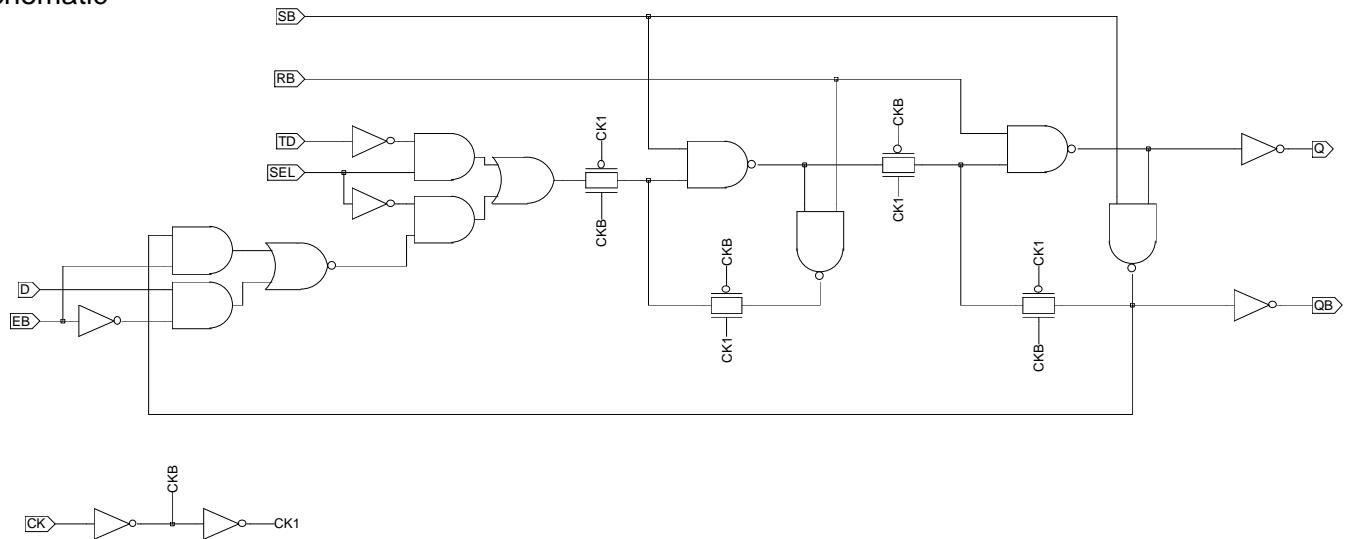
Function : Enabled Flip-Flops, Enabled Low, RB, SB,  
Scan, Dual Outputs

Truth Table

CK	D	TD	SEL	EB	RB	SB	Q	QB
/	X	0	1	X	1	1	0	1
/	X	1	1	X	1	1	1	0
/	0	X	0	0	1	1	0	1
/	1	X	0	0	1	1	1	0
/	X	X	0	1	1	1	Q	QB
X	X	X	X	X	0	1	0	1
X	X	X	X	X	1	0	1	0
X	X	X	X	X	0	0	0	0



Schematic



Pin Order Q QB D TD CK SEL EB RB SB

**Input Capacitance (ff) & Maximum Loading (ff)**

Version	Input Capacitance							Maximum Loading	
	D	TD	CK	SEL	EB	RB	SB	Q	QB
DFZERSBCLD	1.722	1.763	1.335	3.958	3.182	2.184	3.032	89.31	89.47
DFZERSBE LD	1.791	1.764	1.567	3.963	3.182	2.692	3.037	139.2	138.8
DFZERSBHLD	1.722	1.763	1.567	3.995	3.183	3.270	4.256	281.8	282.1
DFZERSBKLD	1.722	1.770	2.791	3.979	3.183	3.252	4.260	562.3	562.9

## Power Consumption (nW/MHz)

Version	Power Consumption				
	Q	D	TD	CK	SEL
DFZERSBCLD	25.08	9.834	11.26	5.961	19.00
DFZERSBEVD	28.82	9.843	11.23	6.469	18.96
DFZERSBHLD	37.57	9.967	11.38	6.483	19.16
DFZERSBKLD	51.07	9.623	11.05	8.641	18.71

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
DFZERSBCLD	38		tplh	tphl										
	CK-Q	419.8	413.0	439.6	426.5	478.3	450.7	556.7	494.5	724.5	575.1	1092	742.0	
	RB-Q	-	196.6	-	209.9	-	234.1	-	276.5	-	356.8	-	524.3	
	SB-Q	478.7	-	498.5	-	536.9	-	614.5	-	782.8	-	1150	-	
	CK-QB	607.4	636.0	631.5	653.8	673.8	686.2	754.8	738.0	922.7	829.2	1288	1001	
	RB-QB	387.2	-	409.9	-	451.2	-	530.0	-	695.7	-	1064	-	
	SB-QB	-	303.2	-	322.7	-	355.2	-	409.3	-	499.2	-	666.3	
DFZERSBEVD	38	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		CK-Q	423.4	370.1	436.7	378.6	463.0	393.7	515.1	421.0	622.8	471.2	858.6	569.1
		RB-Q	-	157.7	-	166.0	-	180.7	-	207.1	-	255.7	-	353.9
		SB-Q	486.7	-	500.4	-	526.4	-	578.3	-	685.7	-	923.6	-
		CK-QB	567.2	659.0	584.8	672.5	616.3	695.1	673.7	734.7	784.9	798.8	1020	910.4
		RB-QB	349.9	-	367.3	-	397.6	-	454.2	-	562.2	-	797.0	-
DFZERSBHLD	42	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		CK-Q	442.5	416.4	453.1	425.0	473.8	440.7	515.4	468.6	609.7	519.4	839.4	623.0
		RB-Q	-	191.6	-	199.8	-	215.2	-	242.5	-	292.7	-	396.1
		SB-Q	510.8	-	521.3	-	541.6	-	582.7	-	676.2	-	905.0	-
		CK-QB	557.5	618.0	567.2	626.8	586.3	643.5	624.5	672.5	713.7	724.8	940.0	828.6
		RB-QB	328.9	-	338.5	-	357.5	-	395.5	-	484.6	-	710.7	-
		SB-QB	-	236.8	-	246.6	-	264.6	-	295.9	-	350.8	-	457.3

	47	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
DFZERSBKLD		CK-Q	451.7	437.5	460.2	444.7	478.4	460.0	515.2	488.8	598.7	542.6	819.0	651.5
		RB-Q	-	244.3	-	251.3	-	266.3	-	294.9	-	348.3	-	457.4
		SB-Q	535.0	-	543.1	-	560.7	-	596.9	-	679.6	-	899.1	-
		CK-QB	639.2	699.1	647.0	706.0	663.2	721.0	696.1	750.7	769.6	804.4	980.3	913.4
		RB-QB	443.6	-	451.1	-	467.1	-	499.7	-	572.8	-	783.3	-
		SB-QB	-	289.2	-	297.5	-	314.6	-	347.0	-	405.9	-	520.7

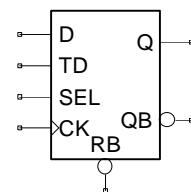
**Timing Constraint (ps)**

Item \ Version	DFZERSBCLD	DFZERSBELD	DFZERSBHLD	DFZERSBKLD
Setup Timing D / CK /	408.3	403.4	421.9	400.9
Setup Timing D \ CK /	596.9	609.3	624.1	643.8
Setup Timing TD / CK /	354.0	349.1	366.4	350.4
Setup Timing TD \ CK /	486.0	505.7	520.5	545.1
Setup Timing SEL / CK /	559.9	579.7	584.6	587.1
Setup Timing SEL \ CK /	611.7	636.4	636.4	641.3
Setup Timing EB / CK /	347.9	345.4	345.4	342.9
Setup Timing EB \ CK /	550.1	572.3	577.2	599.4
Hold Timing D / CK /	-75.11	-72.65	-57.85	-45.52
Hold Timing D \ CK /	-73.88	-83.74	-78.81	-86.21
Hold Timing TD / CK /	-55.38	-43.06	-18.40	-23.33
Hold Timing TD \ CK /	-46.75	-54.15	-46.75	-49.22
Hold Timing SEL / CK /	-57.85	-50.45	-23.33	-28.26
Hold Timing SEL \ CK /	-118.3	-123.2	-108.4	-115.8
Hold Timing EB / CK /	-52.92	-52.92	-28.26	-28.26
Hold Timing EB \ CK /	-346.3	-353.8	-363.6	-371.0
Minimum H-pulse Width CK	385.2	424.6	460.3	484.4
Minimum L-pulse Width CK	553.9	521.9	534.2	435.7
Minimum L-pulse Width RB	514.5	337.2	401.2	514.5
Minimum L-pulse Width SB	553.9	562.6	613.1	578.6
Recovery Timing RB / CK /	-55.28	-47.88	-25.69	-5.959
Recovery Timing SB / CK /	54.45	64.32	66.78	86.51
Removal Timing RB / CK /	188.7	173.9	169.0	134.5
Removal Timing SB / CK /	35.85	21.05	21.05	-1.137

Group Name : DFZRB

Symbol

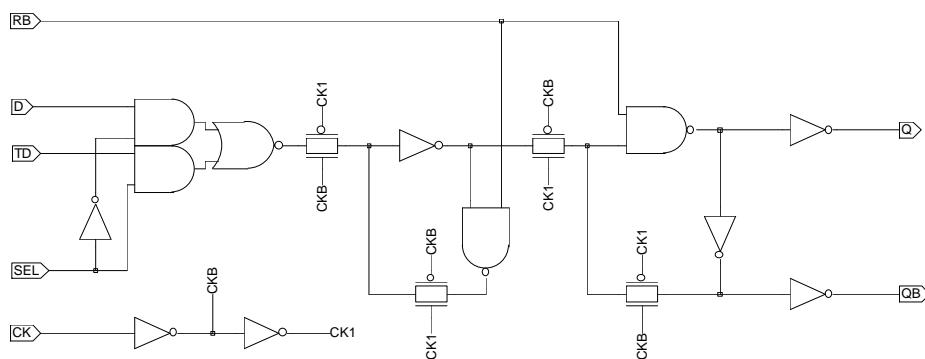
Function : D Flip-Flop with Clear and Scan



Truth Table

CK	D	RB	TD	SEL	Q	QB
0	1	X	0	0	0	1
1	1	X	0	0	1	0
X	1	0	1	1	0	1
X	1	1	1	1	1	0
X	1	X	X	X	Q	QB
X	X	0	X	X	0	1

Schematic



Pin Order Q QB D TD CK SEL RB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance					Maximum Loading		Power Consumption				
	D	TD	CK	SEL	RB	Q	QB	Q	D	TD	CK	SEL
DFZRBCLD	2.024	1.395	1.332	3.129	2.664	89.54	89.41	21.59	7.787	8.880	6.061	13.82
DFZRBEVD	2.024	1.370	1.588	3.128	2.643	140.0	139.9	24.59	7.838	8.916	6.546	13.87
DFZRBBHD	2.024	1.381	1.587	3.128	3.755	282.1	282.4	33.04	7.849	8.938	6.558	13.91
DFZRBBKD	2.024	1.383	2.794	3.128	3.738	562.6	563.9	46.68	7.852	8.965	8.638	13.91

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

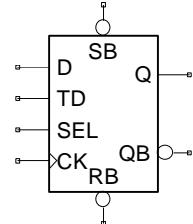
Version	Cell Unit	Output Load												
DFZRBCLD	30	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	147.3	-	158.5	-	179.0	-	217.1	-	293.4	-	458.0
		CK-Q	321.6	320.2	339.9	331.1	376.3	351.8	453.6	389.6	620.4	465.7	987.9	628.7
		RB-QB	246.7	-	264.1	-	299.5	-	374.6	-	540.9	-	909.4	-
		CK-QB	419.0	463.9	436.6	479.2	472.4	505.4	547.9	550.7	714.5	633.8	1082	800.2
DFZRBELD	30	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	154.7	-	163.0	-	177.6	-	204.0	-	252.5	-	350.5
		CK-Q	321.2	311.5	334.0	319.7	359.3	334.6	409.9	360.4	517.7	408.8	753.3	506.6
		RB-QB	265.8	-	278.0	-	301.7	-	350.1	-	455.4	-	691.1	-
		CK-QB	422.2	474.4	434.4	484.9	458.7	503.6	507.2	534.8	612.6	589.4	846.7	694.3
DFZRBHLD	33	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		RB-Q	-	145.0	-	151.8	-	164.4	-	187.9	-	233.1	-	329.7
		CK-Q	336.8	315.1	346.5	321.9	366.1	334.4	406.9	358.0	501.1	403.2	730.2	499.4
		RB-QB	231.7	-	239.1	-	254.8	-	290.5	-	380.9	-	608.3	-
		CK-QB	401.8	446.8	409.2	453.3	424.9	466.2	460.6	489.2	551.1	534.1	778.4	630.3
DFZRBKLD	38	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		RB-Q	-	179.7	-	185.1	-	197.0	-	220.2	-	265.8	-	365.2
		CK-Q	344.4	310.8	351.7	316.3	368.1	328.2	403.3	351.6	485.6	397.1	705.8	495.9
		RB-QB	311.2	-	317.1	-	329.9	-	358.0	-	430.2	-	644.6	-
		CK-QB	442.3	514.4	448.2	519.9	461.0	532.1	489.3	555.3	561.5	600.1	775.8	699.3

**Timing Constraint (ps)**

Item \ Version	DFZRBCLD	DFZRBEVD	DFZRBHLD	DFZRBKLD
Setup Timing D / CK /	196.2	208.6	211.0	213.5
Setup Timing D \ CK /	249.2	256.6	269.0	318.3
Setup Timing TD / CK /	280.1	292.4	294.9	297.3
Setup Timing TD \ CK /	735.0	749.8	769.5	831.2
Setup Timing SEL / CK /	737.5	747.3	764.6	821.3
Setup Timing SEL \ CK /	294.9	303.5	307.2	318.3
Hold Timing D / CK /	-92.37	-94.84	-84.97	-65.25
Hold Timing D \ CK /	-39.36	-39.36	-36.89	-46.75
Hold Timing TD / CK /	-154.0	-154.0	-141.7	-107.2
Hold Timing TD \ CK /	-162.6	-162.6	-133.1	-162.6
Hold Timing SEL / CK /	-146.6	-146.6	-131.8	-102.2
Hold Timing SEL \ CK /	-44.29	-41.82	-39.36	-50.45
Minimum H-pulse Width CK	258.3	265.7	302.7	337.2
Minimum L-pulse Width CK	679.6	652.5	652.5	558.9
Minimum L-pulse Width RB	364.3	337.2	278.0	342.1
Recovery Timing RB / CK /	-60.21	-40.48	-28.15	-9.658
Removal Timing RB / CK /	225.7	210.9	206.0	173.9

Group Name : DFZRSB

Symbol

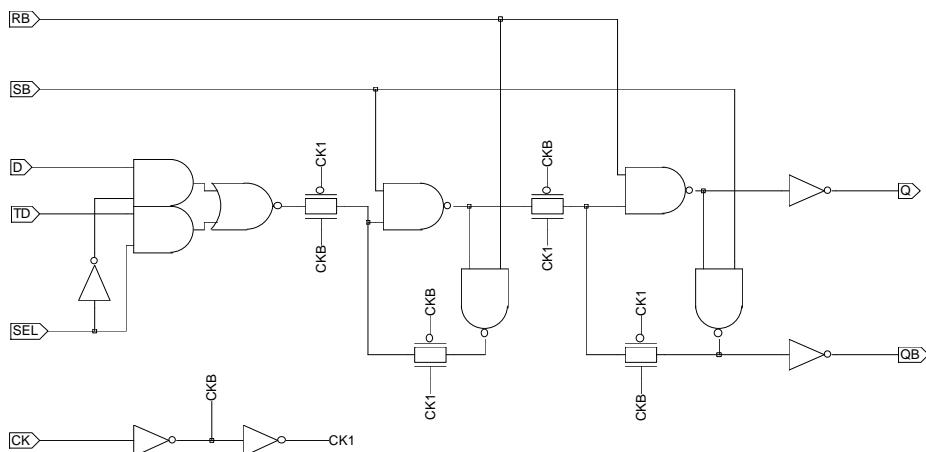


Function : D Flip-Flop with Clear/Set and Scan

Truth Table

CK	D	RB	SB	TD	SEL	Q	QB
0	1	1	X	0		0	1
1	1	1	X	0		1	0
X	1	1	0	1		0	1
X	1	1	1	1		1	0
X	1	1	X	X		Q	QB
X	X	0	1	X	X	0	1
X	X	1	0	X	X	1	0
X	X	0	0	X	X	0	0

Schematic



Pin Order Q QB D TD CK SEL RB SB

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance						Maximum Loading	
	D	TD	CK	SEL	RB	SB	Q	QB
DFZRSBELD	2.068	1.194	1.551	3.204	2.219	3.005	139.5	139.0
DFZRSBHL	2.023	1.327	1.550	3.249	3.270	4.197	281.9	282.2

#### Power Consumption (nW/MHz)

Version	Power Consumption				
	Q	D	TD	CK	SEL
DFZRSBELD	25.56	6.458	7.494	6.407	12.24
DFZRSBHL	35.09	6.530	7.566	6.414	12.33

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

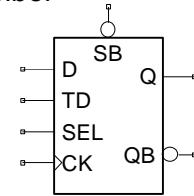
Version	Cell Unit	Output Load												
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff
		tph	tph	tph	tph	tph	tph	tph	tph	tph	tph	tph	tph	tph
DFZRSBELD	31	RB-Q	-	208.6	-	218.9	-	236.6	-	267.7	-	321.6	-	424.9
		SB-Q	489.6	-	504.1	-	531.2	-	584.0	-	692.7	-	927.9	-
		CK-Q	421.0	412.8	435.6	423.2	463.1	441.0	516.2	472.4	625.4	527.7	861.0	630.9
		RB-QB	381.7	-	396.2	-	423.9	-	474.9	-	580.4	-	814.1	-
		SB-QB	-	247.9	-	260.0	-	280.7	-	315.1	-	373.2	-	479.6
		CK-QB	586.9	607.1	601.1	618.4	629.0	638.0	680.7	670.9	788.2	727.6	1020	833.2
		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
DFZRSBHLD	35	tph	tph	tph	tph	tph	tph	tph	tph	tph	tph	tph	tph	tph
		RB-Q	-	191.5	-	199.7	-	215.1	-	242.5	-	293.2	-	396.5
		SB-Q	500.7	-	511.3	-	531.6	-	572.5	-	666.1	-	894.8	-
		CK-Q	433.0	410.2	443.7	418.8	464.5	434.6	505.9	462.7	600.5	513.8	830.0	617.3
		RB-QB	310.6	-	319.0	-	336.4	-	372.6	-	461.9	-	688.6	-
		SB-QB	-	203.0	-	211.6	-	227.5	-	255.6	-	306.1	-	407.6
		CK-QB	531.4	579.5	539.9	587.0	557.1	601.7	593.0	627.6	682.1	675.7	908.8	775.3

## Timing Constraint (ps)

Item \ Version	DFZRSBELD	DFZRSBHLD
Setup Timing D / CK /	302.3	309.7
Setup Timing D \ CK /	306.0	308.4
Setup Timing TD / CK /	381.2	388.6
Setup Timing TD \ CK /	796.7	850.9
Setup Timing SEL / CK /	785.6	806.5
Setup Timing SEL \ CK /	403.4	408.3
Hold Timing D / CK /	-11.00	8.726
Hold Timing D \ CK /	-25.79	-20.86
Hold Timing TD / CK /	-40.59	-25.79
Hold Timing TD \ CK /	-104.7	-93.60
Hold Timing SEL / CK /	-35.66	-8.534
Hold Timing SEL \ CK /	-27.03	-25.79
Minimum H-pulse Width CK	396.3	440.6
Minimum L-pulse Width CK	637.7	641.4
Minimum L-pulse Width RB	494.8	401.2
Minimum L-pulse Width SB	553.9	598.3
Recovery Timing RB / CK /	-45.41	-20.75
Recovery Timing SB / CK /	76.65	74.18
Removal Timing RB / CK /	178.9	171.5
Removal Timing SB / CK /	21.05	21.05

Group Name : DFZSB

Symbol

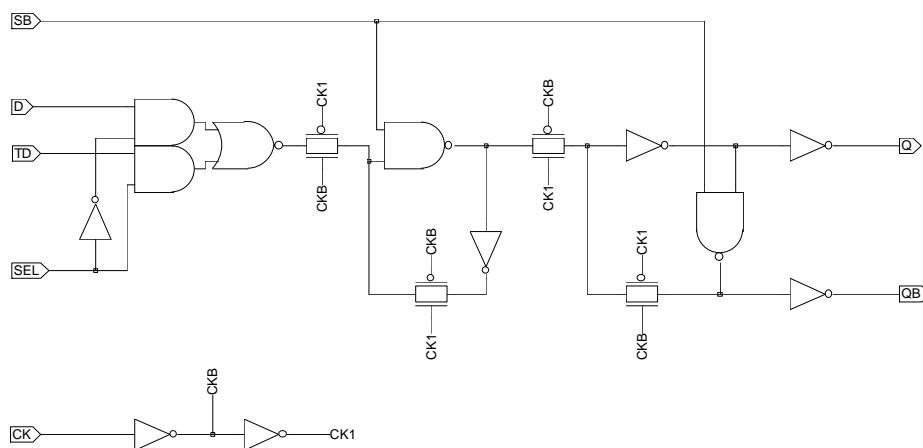


Function : D Flip-Flop with Set and Scan

Truth Table

CK	D	SB	TD	SEL	Q	QB
0	1	X	0		0	1
1	1	X	0		1	0
X	1	0	1		0	1
X	1	1	1		1	0
X	1	X	X		Q	QB
X	X	0	X	X	1	0

Schematic



Pin Order Q QB D TD CK SEL SB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance					Maximum Loading		Power Consumption				
	D	TD	CK	SEL	SB	Q	QB	Q	D	TD	CK	SEL
DFZSBELD	2.024	1.325	1.552	3.249	3.078	139.6	139.8	27.04	6.659	7.672	6.379	12.37
DFZSBHLD	2.024	1.327	1.553	3.249	4.045	282.4	282.2	35.71	6.777	7.811	6.342	12.55

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load													
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
DFZSBEVD	29	SB-Q	451.8	-	463.7	-	487.7	-	538.0	-	644.7	-	880.6	-	
		CK-Q	375.5	334.3	387.9	342.5	412.5	357.5	462.3	385.0	570.1	434.7	805.3	534.2	
		SB-QB	-	202.6	-	212.6	-	230.2	-	259.9	-	312.5	-	414.1	
		CK-QB	442.0	500.2	454.3	509.7	477.9	526.9	527.2	556.3	633.7	608.6	869.0	710.0	
		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
DFZSBHLD	33	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		SB-Q	419.4	-	427.9	-	445.7	-	484.4	-	577.2	-	805.7	-	
		CK-Q	378.7	333.7	387.7	340.3	406.1	353.1	445.2	376.7	538.4	421.9	767.1	519.5	
		SB-QB	-	188.8	-	196.8	-	211.7	-	238.4	-	287.2	-	387.8	
		CK-QB	434.8	501.8	443.3	509.0	460.9	523.4	498.3	548.8	589.0	596.1	816.3	694.4	

## Timing Constraint (ps)

Item \ Version	DFZSBEVD	DFZSBHLD
Setup Timing D / CK /	289.9	275.1
Setup Timing D \ CK /	246.8	251.7
Setup Timing TD / CK /	368.9	359.0
Setup Timing TD \ CK /	698.0	722.7
Setup Timing SEL / CK /	698.0	722.7
Setup Timing SEL \ CK /	388.6	372.5
Hold Timing D / CK /	-75.11	-62.78
Hold Timing D \ CK /	-34.43	-29.49
Hold Timing TD / CK /	-126.9	-102.2
Hold Timing TD \ CK /	-133.1	-118.3
Hold Timing SEL / CK /	-119.5	-87.44
Hold Timing SEL \ CK /	-36.89	-31.96
Minimum H-pulse Width CK	356.9	381.5
Minimum L-pulse Width CK	593.4	613.1
Minimum L-pulse Width SB	482.5	435.7
Recovery Timing SB / CK /	10.069	7.603
Removal Timing SB / CK /	67.91	72.84

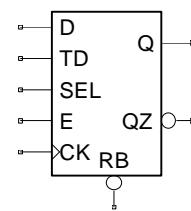
Group Name : DFZTRB

Symbol

Function : D Flip-Flop with Clear ,Scan and 3-State Output

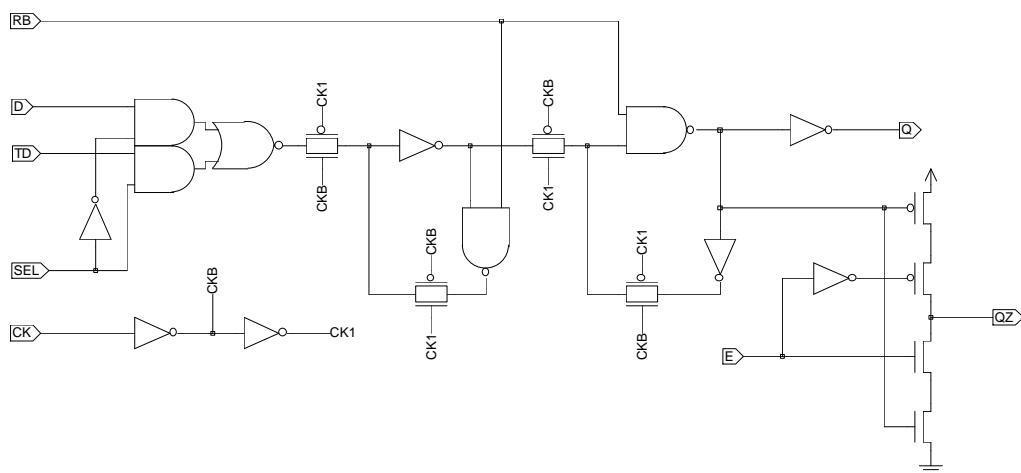
Truth Table

CK	D	RB	TD	SEL	Q
/	0	1	X	0	0
/	1	1	X	0	1
/	X	1	0	1	0
/	X	1	1	1	1
\	X	1	X	X	Q
X	X	0	X	X	0



E	Q	QZ
0	X	Z
1	0	0
1	1	1

Schematic



Pin Order Q QZ D TD CK SEL RB E

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance							Maximum Loading	
	QZ	D	TD	CK	SEL	RB	E	Q	QZ
DFZTRBCLD	1.707	2.044	1.264	1.415	3.137	2.641	2.397	80.97	65.86
DFZTRBEVD	2.345	2.044	1.264	1.645	3.137	2.640	3.313	139.4	131.6

#### Power Consumption (nW/MHz)

Version	Power Consumption					
	Q	QZ	D	TD	CK	SEL
DFZTRBCLD	23.95	3.895	7.626	8.743	5.876	13.90
DFZTRBEVD	30.30	6.938	7.636	8.825	6.471	13.96

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
DFZTRBCLD	32	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-Q	-	179.2	-	192.8	-	216.5	-	258.4	-	337.6	-	503.6
		CK-Q	354.8	349.5	375.9	363.1	417.1	386.7	502.8	428.5	687.9	507.5	1094	671.5
		Path	3.207 ff		5.013 ff		8.994 ff		17.77 ff		37.11 ff		79.74 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-QZ	-	194.2	-	203.9	-	223.6	-	262.6	-	342.5	-	514.2
		CK-QZ	393.7	364.5	416.2	374.1	464.4	393.7	568.7	432.8	796.4	512.6	1296	683.6
		Path	3.478 ff		5.284 ff		9.265 ff		18.04 ff		37.38 ff		80.01 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-QZ	107.5	42.22	129.1	53.38	176.4	74.78	280.1	115.0	507.8	195.4	1006	366.2
		E-QZ	L>>Z 241.5								H>>Z 370.1			
DFZTRBLED	36	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-Q	-	213.4	-	227.3	-	252.9	-	298.3	-	385.8	-	576.8
		CK-Q	371.2	367.8	390.1	381.8	427.5	407.4	506.9	452.7	693.5	539.8	1151	729.0
		Path	3.845 ff		6.056 ff		11.53 ff		25.06 ff		58.55 ff		141.4 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		RB-QZ	-	236.5	-	243.3	-	259.2	-	293.2	-	366.7	-	535.7
		CK-QZ	420.6	391.0	434.9	397.8	469.3	413.6	550.9	447.6	749.8	521.1	1236	689.4
		Path	4.147 ff		6.358 ff		11.83 ff		25.36 ff		58.85 ff		141.7 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-QZ	114.1	33.78	128.0	42.23	161.3	58.87	241.7	95.25	438.9	167.8	924.4	334.3
		E-QZ	L>>Z 281.4								H>>Z 511.5			

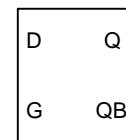
**Timing Constraint (ps)**

Item	Version	DFZTRBCLD	DFZTRBEVD
Setup Timing D / CK /		193.8	201.2
Setup Timing D \ CK /		244.3	254.2
Setup Timing TD / CK /		275.1	282.5
Setup Timing TD \ CK /		717.8	749.8
Setup Timing SEL / CK /		727.6	737.5
Setup Timing SEL \ CK /		299.8	303.5
Hold Timing D / CK /		-92.37	-89.91
Hold Timing D \ CK /		-41.82	-41.82
Hold Timing TD / CK /		-151.5	-141.7
Hold Timing TD \ CK /		-172.5	-162.6
Hold Timing SEL / CK /		-144.2	-134.3
Hold Timing SEL \ CK /		-44.29	-44.29
Minimum H-pulse Width CK		263.3	283.0
Minimum L-pulse Width CK		677.1	640.2
Minimum L-pulse Width RB		455.4	499.8
Recovery Timing RB / CK /		-55.28	-35.55
Removal Timing RB / CK /		220.8	206.0

Group Name : DLAH

Symbol

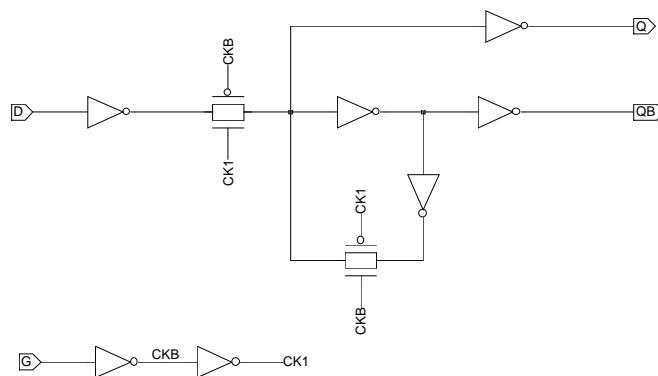
Function : D Latch



Truth Table

G	D	Q	QB
1	0	0	1
1	1	1	0
0	X	Q	QB

Schematic



Pin Order Q QB D G

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption		
	D	G	Q	QB	Q	D	G
DLAHCLD	1.506	1.341	80.78	80.96	14.04	1.616	5.147
DLAHELD	1.824	1.341	139.0	139.7	17.63	1.900	5.217
DLAHHLD	2.782	1.627	280.4	281.3	25.77	2.710	6.157

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load														
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
DLAHC LD	17	D-Q	175.5	239.6	196.8	257.3	238.0	287.8	323.7	339.7	509.4	429.5	916.1	600.8		
		G-Q	264.4	278.7	285.6	296.4	326.8	327.2	412.4	378.8	597.7	468.6	1004	639.3		
		D-QB	341.1	276.4	357.8	289.5	394.1	312.5	476.9	353.3	660.7	431.2	1066	594.5		
		G-QB	380.2	365.3	396.8	378.4	433.5	401.4	516.1	442.0	700.0	519.9	1106	683.0		
		Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
DLAHE LD	17	Path		tplh	tphl	tplh	tphl									
		D-Q	172.0	226.1	185.9	237.6	212.3	257.9	264.2	293.0	373.2	353.3	609.7	461.0		
		G-Q	259.4	263.2	273.4	274.0	299.9	294.9	351.7	330.2	460.5	390.5	696.9	498.4		
		D-QB	334.2	275.6	344.0	283.3	363.9	298.0	409.7	324.0	514.9	372.3	749.2	469.7		
		G-QB	371.5	363.0	381.1	370.7	401.3	385.7	446.9	411.6	551.5	460.0	786.2	557.4		
DLAHH LD	20	Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		Path		tplh	tphl	tplh	tphl									
		D-Q	165.6	227.9	176.1	237.6	197.4	256.1	240.7	289.3	336.7	349.2	566.3	460.7		
		G-Q	240.3	267.5	250.7	277.1	272.1	295.4	315.1	328.8	411.0	388.7	640.6	500.3		
		D-QB	353.3	288.1	359.5	294.0	372.3	305.5	402.2	327.2	488.6	371.2	713.9	467.1		
Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
G-QB		392.8	362.7	399.0	368.7	411.7	380.0	441.9	401.6	528.0	445.7	753.5	541.6			

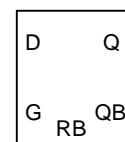
## Timing Constraint (ps)

Item	Version	DLAHC LD	DLAHE LD	DLAHH LD
Setup Timing D / G \		153.3	153.3	123.7
Setup Timing D \ G \		233.5	198.9	198.9
Hold Timing D / G \		-2.602	2.330	-0.136
Hold Timing D \ G \		-118.5	-106.2	-108.6
Minimum H-pulse Width G		313.0	298.2	340.1

Group Name : DLAHRB

Symbol

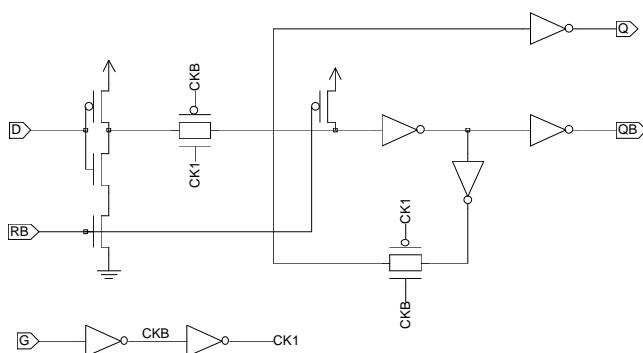
Function : D Latch with Clear



Truth Table

G	D	RB	Q	QB
1	0	1	0	1
1	1	1	1	0
X	X	0	0	1
0	X	1	Q	QB

Schematic



Pin Order Q QB D G RB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption		
	D	G	RB	Q	QB	Q	D	G
DLAHRBCLD	1.923	1.293	2.428	80.62	80.74	15.56	2.394	5.366
DLAHRBEVD	2.048	1.339	2.428	139.3	139.7	19.35	2.578	5.574
DLAHRBHLD	2.199	1.627	2.486	279.8	281.3	27.29	2.876	6.482

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
DLAHRBCLD	19	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	195.6	171.0	218.0	183.7	260.2	207.7	346.5	252.0	532.2	335.3	939.3	501.2
		D-Q	189.9	273.7	212.3	293.1	254.4	326.4	340.7	382.5	526.3	477.3	933.5	653.1
		G-Q	294.0	318.6	316.1	338.4	358.6	372.1	444.5	428.2	630.5	522.9	1038	698.8
		RB-QB	256.2	302.8	274.2	316.5	313.2	339.9	397.5	381.1	582.2	459.4	987.7	622.4
		D-QB	378.0	296.9	394.7	310.7	431.4	334.1	514.7	375.3	698.7	453.7	1104	616.6
		G-QB	423.5	401.5	440.5	414.8	477.1	438.5	560.5	479.8	744.5	558.2	1150	721.7
DLAHRBEVD	19	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	200.1	181.1	215.5	190.2	244.4	207.4	298.2	239.3	408.1	295.8	644.7	399.8
		D-Q	195.4	263.5	210.9	276.4	239.8	298.8	293.5	337.4	403.4	402.4	640.1	515.4
		G-Q	288.9	303.1	304.1	316.1	332.9	338.6	386.4	377.2	496.1	442.2	733.0	555.1
		RB-QB	276.5	298.2	287.5	305.6	310.0	320.0	358.6	345.1	465.1	392.8	700.3	489.5
		D-QB	378.7	293.6	388.9	300.9	409.1	315.4	455.1	340.6	559.5	388.2	793.8	484.9
		G-QB	418.2	386.9	428.5	394.1	448.8	408.1	495.0	433.6	599.2	481.3	833.5	578.1
DLAHRBHLD	22	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		RB-Q	216.4	207.2	228.7	215.3	253.2	231.5	300.9	261.7	400.6	319.1	631.6	427.8
		D-Q	213.5	281.8	225.8	293.0	250.3	314.4	298.0	352.0	397.6	418.8	628.6	538.8
		G-Q	273.7	311.9	285.9	323.1	310.4	344.5	358.1	382.2	457.6	448.9	688.5	568.9
		RB-QB	315.5	352.8	322.7	358.5	338.2	369.6	372.6	390.7	462.2	434.6	689.0	530.5
		D-QB	421.1	349.8	427.4	355.7	440.0	366.6	469.4	387.8	554.9	431.6	780.0	527.4
		G-QB	451.3	410.0	457.6	415.7	470.2	426.8	499.6	447.9	585.1	491.8	810.2	587.6

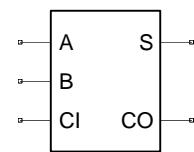
## Timing Constraint (ps)

Item	Version	DLAHRBCLD	DLAHRBEVD	DLAHRBHLD
Setup Timing D / G \		168.1	168.1	174.3
Setup Timing D \ G \		277.8	243.3	255.6
Hold Timing D / G \		-7.534	-10.000	-34.66
Hold Timing D \ G \		-148.1	-138.2	-153.0
Minimum H-pulse Width G		357.3	352.4	411.5
Minimum L-pulse Width RB		418.9	396.7	420.1
Recovery Timing RB / G \		177.6	171.5	180.1
Removal Timing RB / G \		-14.59	-17.05	-39.25

Group Name : FA1

Symbol

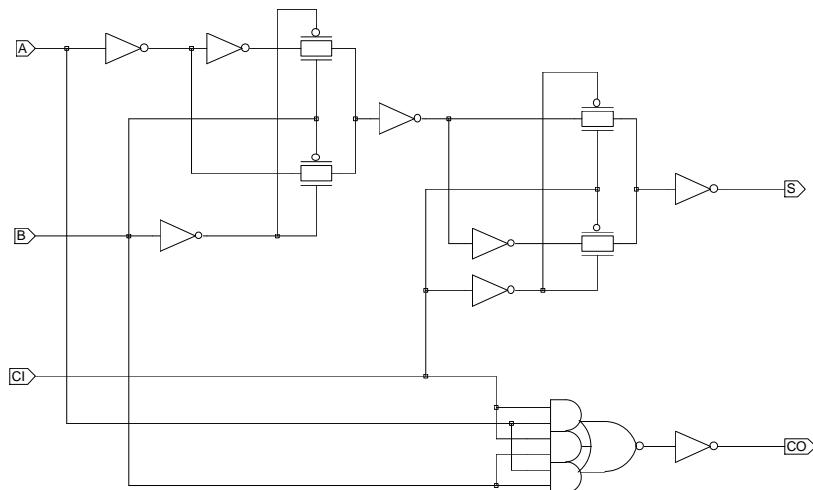
Function : 1 Bit Full Adder



Truth Table

A	B	CI	S	CO
0	0	0	0	0
0	0	1	1	0
1	0	0	1	0
1	0	1	0	1
0	1	0	1	0
0	1	1	0	1
1	1	0	0	1
1	1	1	1	1

Schematic



Pin Order S CO A B CI

Input Capacitance (ff) &amp; Maximum Loading (ff) &amp; Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading		Power Consumption
	A	B	CI	S	CO	S
FA1DLD	9.161	9.236	6.388	110.3	110.1	11.93
FA1ELD	5.677	7.469	6.623	140.3	140.2	18.81
FA1HLD	5.668	7.701	6.786	280.9	280.9	24.49
FA1KLD	6.706	9.561	7.822	560.5	561.2	37.38

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : FA1DLD

Cell Unit = 22

State	Path	Output Load											
		1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
A CI		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl	
0 1	B-S	388.7	332.9	403.3	345.5	433.0	367.6	499.8	406.7	652.2	479.8	997.2	627.9
1 0	B-S	465.5	285.5	481.1	299.3	511.8	324.2	578.8	367.6	731.7	445.9	1077	597.8
0 0	B-S	132.3	334.8	147.6	350.3	179.2	377.3	248.0	423.5	401.6	505.2	747.0	660.8
1 1	B-S	158.3	246.0	175.1	258.6	208.4	281.1	278.4	320.7	432.8	393.8	779.2	541.7
B CI	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl	
0 1	A-S	414.0	330.1	428.8	342.3	458.5	363.9	525.3	402.6	677.6	475.2	1023	622.8
1 0	A-S	392.6	282.6	405.8	297.3	434.1	323.3	500.6	368.6	653.0	447.9	998.2	600.2
0 0	A-S	175.0	340.4	192.3	355.6	226.0	382.5	296.3	428.6	451.0	510.0	797.3	665.1
1 1	A-S	157.8	269.0	174.6	281.8	208.0	304.7	277.9	344.8	432.3	418.5	778.4	567.0
A B	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl	
0 1	CI-S	368.8	323.5	382.0	336.1	410.4	358.2	476.8	397.3	629.3	470.4	974.4	618.5
1 0	CI-S	448.5	320.4	464.0	332.5	494.5	354.1	561.5	392.8	714.4	465.4	1060	613.0
0 0	CI-S	130.1	315.5	146.2	330.8	178.4	357.6	247.4	403.9	400.8	485.2	745.9	640.3
1 1	CI-S	158.5	224.9	175.3	238.9	208.6	264.1	278.5	307.9	432.9	386.4	779.2	538.4
A CI	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl	
0 1	B-CO	166.5	291.0	183.2	306.6	216.3	334.4	286.3	381.9	441.7	464.6	787.8	616.7
1 0	B-CO	165.5	318.0	182.0	335.2	215.1	365.1	285.3	416.4	440.6	506.2	787.0	666.8
B CI	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl	
0 1	A-CO	181.0	314.4	198.8	330.0	233.3	357.9	304.3	405.2	460.1	488.0	806.2	640.1
1 0	A-CO	161.4	286.4	177.9	302.0	210.9	329.7	281.1	377.9	436.3	461.8	782.8	614.3
A B	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl	
0 1	CI-CO	159.3	265.1	175.9	280.7	209.0	308.4	278.9	356.6	434.4	440.3	780.5	592.8
1 0	CI-CO	176.6	297.2	194.3	315.1	229.0	346.6	299.9	399.5	455.6	490.2	801.8	651.1

Version : FA1ELD

Cell Unit = 32

State	Output Load												
	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff		
A CI	Path	tplh	tphl										
		0 1	B-S	336.2	296.2	349.6	308.0	376.0	328.7	430.7	363.8	551.5	425.8
1 0	B-S	308.5	376.6	321.7	388.0	347.3	408.1	401.9	442.4	522.7	503.4	794.4	620.8
0 0	B-S	270.3	391.4	283.3	402.8	309.2	422.9	363.5	457.2	484.4	518.2	756.1	635.7
1 1	B-S	320.1	334.5	333.3	346.1	359.8	366.8	414.2	401.9	535.1	463.9	807.0	582.4
B CI	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 1	A-S	395.8	333.7	409.1	345.4	435.4	366.3	490.1	401.5	610.9	463.5	882.8	582.0
1 0	A-S	368.9	426.6	382.0	437.8	408.0	457.7	462.4	492.1	583.2	553.0	854.9	670.4
0 0	A-S	308.0	450.6	321.0	462.1	346.9	482.1	401.3	516.5	522.1	577.5	793.8	695.0
1 1	A-S	370.6	394.9	383.9	406.7	410.3	427.4	464.7	462.4	585.6	524.4	857.6	642.9
A B	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 1	CI-S	188.4	185.0	201.4	196.3	227.1	216.4	281.2	251.2	402.0	313.0	673.8	431.4
1 0	CI-S	188.4	185.0	201.4	196.4	227.0	216.5	281.2	251.3	402.0	313.1	673.8	431.6
0 0	CI-S	122.1	204.1	135.2	215.6	161.4	235.9	215.9	270.3	336.8	331.4	608.6	448.9
1 1	CI-S	122.1	204.1	135.2	215.6	161.4	235.9	215.9	270.3	336.9	331.4	608.6	448.9
A CI	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 1	B-CO	135.7	240.6	148.5	251.5	174.4	270.7	228.7	304.2	349.8	364.4	621.7	481.2
1 0	B-CO	134.6	240.4	147.6	251.2	173.6	270.4	228.2	304.1	349.7	364.4	622.0	481.4
B CI	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 1	A-CO	132.0	239.3	145.3	250.1	171.8	269.4	226.6	303.0	347.7	363.1	619.3	479.9
1 0	A-CO	140.9	223.7	153.7	235.8	179.3	257.2	234.2	294.5	355.7	359.8	628.0	481.6
A B	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 1	CI-CO	131.5	190.9	144.1	203.7	170.0	226.7	224.3	265.6	345.4	332.0	617.4	454.3
1 0	CI-CO	126.4	211.5	139.8	222.1	166.3	241.4	220.9	275.1	341.9	335.5	613.7	452.5

Version : FA1HLD

Cell Unit = 35

State	Output Load													
	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff			
Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl			
0 1	B-S		351.5	307.5	361.1	317.0	380.3	335.0	419.1	365.9	504.1	419.6	705.1	518.8
1 0	B-S		313.4	394.1	322.5	403.2	341.3	420.7	379.7	451.2	464.3	504.1	665.3	602.3
0 0	B-S		277.3	410.1	286.6	419.6	305.5	437.0	343.7	467.5	428.3	520.5	629.3	618.8
1 1	B-S		333.2	343.7	342.7	353.2	362.0	371.0	400.8	401.8	485.6	455.5	686.6	554.7
B CI	Path		1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
	Path		tplh	tphl										
0 1	A-S		421.1	348.6	430.8	358.2	450.1	376.0	489.0	407.1	573.9	460.5	774.9	559.7
1 0	A-S		383.1	443.8	392.3	453.5	411.2	470.5	449.4	501.0	534.1	553.8	735.1	652.1
0 0	A-S		318.5	479.6	327.5	489.1	346.4	506.8	384.6	537.2	469.3	590.1	670.3	688.3
1 1	A-S		383.0	413.3	392.7	422.8	412.0	440.5	450.6	471.3	535.6	525.1	736.6	624.2
A B	Path		1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
	Path		tplh	tphl										
0 1	CI-S		204.5	210.7	213.7	220.1	232.5	237.5	270.7	268.3	355.2	321.8	556.1	420.9
1 0	CI-S		204.5	211.7	213.7	221.3	232.6	238.5	270.7	269.3	355.2	322.7	556.1	421.2
0 0	CI-S		138.9	238.5	148.2	247.9	167.2	265.4	205.8	295.9	290.6	349.2	491.7	447.7
1 1	CI-S		138.9	238.5	148.2	247.9	167.2	265.4	205.8	295.9	290.7	349.2	491.7	447.7
A CI	Path		1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
	Path		tplh	tphl										
0 1	B-CO		149.0	286.9	158.0	296.0	176.2	313.1	213.7	343.1	298.5	395.9	499.6	494.0
1 0	B-CO		148.3	286.4	157.3	295.4	175.8	312.5	213.7	342.5	298.6	395.5	500.2	493.8
B CI	Path		1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
	Path		tplh	tphl										
0 1	A-CO		144.7	286.8	154.3	295.9	173.5	312.9	212.2	343.1	297.1	395.8	498.1	493.9
1 0	A-CO		155.6	268.8	164.7	278.5	183.2	296.9	221.0	329.8	305.8	387.2	507.5	491.2
A B	Path		1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
	Path		tplh	tphl										
0 1	CI-CO		145.2	235.9	154.1	245.9	172.5	265.4	210.2	300.2	294.7	359.2	495.9	464.0
1 0	CI-CO		139.9	258.4	149.5	267.6	168.9	284.3	207.5	314.4	292.4	367.3	492.7	465.7

Version : FA1KLD

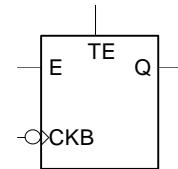
Cell Unit = 40

State	Output Load												
	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff		
A CI	Path	tplh	tphl										
		362.5	350.3	369.9	357.8	386.3	374.2	421.0	405.9	497.6	463.3		
0 1	B-S	332.4	423.2	339.5	431.1	355.4	447.7	389.1	478.6	464.8	535.4		
1 0	B-S	291.5	445.0	298.6	452.8	314.6	468.9	348.3	500.5	423.9	556.9		
0 0	B-S	336.5	390.8	343.8	398.6	360.1	414.8	394.7	446.6	471.2	503.9		
1 1	B-S	336.5	390.8	343.8	398.6	360.1	414.8	394.7	446.6	471.2	503.9		
B CI	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl										
0 1	A-S	455.7	396.9	463.2	404.7	479.6	421.5	514.3	452.8	591.0	510.1		
1 0	A-S	408.2	475.8	415.2	483.1	431.1	499.2	464.8	530.7	540.5	587.4		
0 0	A-S	338.4	538.3	345.5	545.7	361.5	562.1	395.2	593.4	470.9	650.1		
1 1	A-S	388.7	466.9	396.0	474.5	412.5	491.3	447.0	522.7	523.5	580.0		
A B	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl										
0 1	CI-S	223.6	258.1	230.8	265.8	246.6	282.1	280.2	313.4	355.8	370.7		
1 0	CI-S	223.6	258.2	230.8	265.9	246.6	282.3	280.3	313.5	355.8	370.8		
0 0	CI-S	171.2	281.3	178.4	288.7	194.6	305.4	229.1	336.4	305.6	393.2		
1 1	CI-S	171.2	281.3	178.4	288.7	194.7	305.4	229.1	336.4	305.6	393.2		
A CI	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl										
0 1	B-CO	176.1	306.0	182.8	312.9	198.0	327.5	230.7	356.0	305.6	408.9		
1 0	B-CO	164.9	308.7	171.4	315.4	186.3	330.2	218.3	358.6	292.8	411.7		
B CI	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl										
0 1	A-CO	170.3	306.5	177.5	313.4	193.6	328.0	227.6	356.5	303.6	409.3		
1 0	A-CO	172.8	293.1	179.4	300.3	194.2	315.9	226.2	346.8	300.7	404.1		
A B	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl										
0 1	CI-CO	170.7	264.1	177.5	271.3	192.8	287.6	225.6	320.1	300.5	379.4		
1 0	CI-CO	162.6	284.4	169.8	291.4	186.1	305.7	220.3	334.2	296.2	387.2		

Group Name : GCBET

Symbol

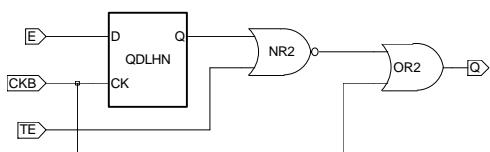
Function : Gated Falling Edge Clock , Enable, Test Enable



Truth Table

E	TE	CKB	Q
0	0	1	1
0	0	0	1
X	1	0	0
X	1	1	1
1	0	1	0
1	0	0	1

Schematic



Pin Order      Q E TE CKB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading	Power Consumption		
	E	TE	CKB	Q	Q	E	CKB
GCBETCLD	1.435	2.360	1.617	63.60	11.31	5.779	8.712
GCBETELD	1.435	2.357	1.617	139.8	16.53	5.769	8.703
GCBETHLD	1.435	2.369	1.617	282.0	21.22	5.787	8.763
GCBETKLD	1.435	2.369	1.617	563.4	26.76	5.786	8.760

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version : GCBETCLD

Cell Unit = 19

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
TE	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1	CKB-Q	150.5	226.3	162.2	239.0	186.2	264.4	236.2	314.3	346.2	416.6	581.5	636.9
0	CKB-Q	150.2	211.0	161.9	224.8	185.6	251.4	235.7	302.2	342.8	405.0	579.6	624.8
Path	1.500 ff	3.306 ff	7.287 ff	16.06 ff	35.40 ff	78.03 ff							
	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	TE-Q	145.7	87.32	167.7	98.65	216.0	121.8	320.2	169.8	549.3	271.3	1048	491.3

Version : GCBETELD

Cell Unit = 23

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
TE	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1	CKB-Q	230.5	346.8	241.6	358.2	264.6	379.7	313.1	422.4	419.7	510.4	655.6	701.6
0	CKB-Q	229.9	330.8	241.3	342.2	264.4	364.1	313.4	406.2	419.8	493.9	655.1	684.6
Path	1.500 ff	3.306 ff	7.287 ff	16.06 ff	35.40 ff	78.03 ff							
	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tplh	tphl
	TE-Q	244.4	206.0	255.1	217.2	278.1	239.1	327.4	281.6	435.3	369.1	670.2	560.6

Version : GCBETHLD

Cell Unit = 24

State	Path	Output Load											
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
TE	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tplh
1	CKB-Q	240.0	340.9	247.4	348.8	264.3	364.8	302.5	399.4	394.8	476.1	622.8	661.6
0	CKB-Q	239.7	325.3	247.6	333.2	263.9	349.5	302.4	384.0	394.6	460.6	622.8	646.4
Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff							
	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tplh	tphl
	TE-Q	265.1	198.1	273.0	206.0	290.1	222.1	328.4	256.7	421.0	333.3	648.8	518.7

Version : GCBETKLD

Cell Unit = 27

State	Output Load												
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
TE		tplh	tphl										
1	CKB-Q	258.5	370.9	264.3	377.1	277.5	391.2	308.4	421.4	387.7	490.5	606.0	669.1
0	CKB-Q	258.0	355.7	263.8	361.7	277.3	375.8	308.3	406.2	387.5	475.3	605.7	653.9
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
	TE-Q	287.4	227.9	293.8	234.1	307.5	248.3	338.8	278.7	418.2	347.9	636.4	526.5

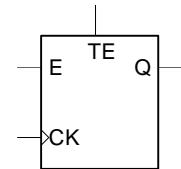
## Timing Constraint (ps)

Item \ Version	GCBETCLD	GCBETELD	GCBETHLD	GCBETKLD
Setup Timing E / CKB \	120.7	108.4	118.2	118.2
Setup Timing E \ CKB \	125.6	125.6	128.1	128.1
Hold Timing E / CKB \	-116.7	-104.4	-114.2	-114.2
Hold Timing E \ CKB \	-121.6	-121.6	-124.1	-124.1
Minimum H-pulse Width CKB	183.6	183.6	184.2	184.2

Group Name : GCKET

Symbol

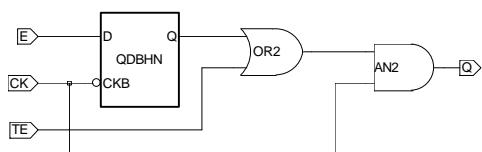
Function : Gated Rising Edge Clock , Enable, Test Enable



Truth Table

E	TE	CK	Q
0	0	/	0
0	0	0	0
X	1	0	0
X	1	1	1
1	0	/	1
1	0	0	0

Schematic



Pin Order      Q E TE CK

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading	Power Consumption		
	E	TE	CK	Q	Q	E	CK
GCKETCLD	1.355	2.342	4.232	80.77	12.53	5.859	7.309
GCKETELD	1.355	2.342	4.224	139.7	13.73	5.851	7.296
GCKETHLD	1.355	2.342	4.208	280.7	16.90	5.857	7.305
GCKETKLD	1.355	2.342	4.189	560.8	22.73	5.855	7.300

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : GCKETCLD

Cell Unit = 22

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff			
TE	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
1	CK-Q	137.5	116.0	156.6	129.0	196.2	153.8	281.2	204.7	466.7	314.3		
0	CK-Q	123.9	116.4	142.9	129.3	182.0	154.1	266.3	204.7	452.3	314.7		
Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	TE-Q	142.1	204.0	161.5	220.9	201.0	250.7	286.2	309.3	471.8	420.6	876.9	662.1

Version : GCKETELD

Cell Unit = 22

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
TE	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1	CK-Q	132.1	122.6	144.4	133.4	168.5	154.2	218.4	195.6	325.9	283.0	562.6	485.2
0	CK-Q	118.8	122.7	131.0	133.5	154.9	154.8	204.7	196.0	312.3	283.1	547.5	474.6
Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	TE-Q	136.6	215.3	148.9	229.7	173.4	255.6	223.2	303.7	331.4	396.1	567.5	589.1

Version : GCKETHLD

Cell Unit = 23

State	Path	Output Load											
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
TE	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1	CK-Q	143.4	136.1	152.3	144.1	171.0	160.6	211.2	195.3	304.5	272.6	532.9	469.4
0	CK-Q	130.5	136.8	139.3	144.9	157.9	161.5	197.8	195.9	290.9	273.7	518.9	459.4
Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	TE-Q	147.4	242.4	156.3	253.3	175.2	275.2	215.3	318.0	308.7	405.4	537.0	596.3

Version : GCKETKLD

Cell Unit = 26

State	Output Load												
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
TE		tplh	tphl	tplh	tphl								
1	CK-Q	169.3	165.9	176.3	172.1	192.5	186.5	227.7	217.9	310.1	288.6	529.3	478.7
0	CK-Q	156.9	166.4	163.9	172.6	179.9	187.0	214.9	218.4	297.1	289.0	515.9	468.2
Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	TE-Q	172.2	301.9	179.2	310.6	195.3	330.4	230.6	371.6	313.0	456.0	532.2	646.2

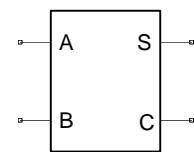
**Timing Constraint (ps)**

Item \ Version	GCKETCLD	GCKETELD	GCKETHLD	GCKETKLD
Setup Timing E / CK /	210.7	230.4	230.4	242.8
Setup Timing E \ CK /	145.3	147.8	140.4	128.1
Hold Timing E / CK /	-206.7	-226.4	-226.4	-238.8
Hold Timing E \ CK /	-141.3	-143.8	-136.4	-124.1
Minimum L-pulse Width CK	293.2	293.2	293.2	293.2

Group Name : HA1

Symbol

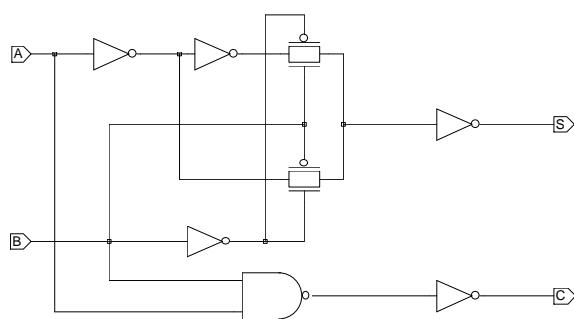
Function : 1 Bit Half Adder



Truth Table

A	B	S	C
0	0	0	0
0	1	1	0
1	0	1	0
1	1	0	1

Schematic



Pin Order S C A B

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption
	A	B	S	C	S
HA1CLD	2.599	3.815	81.01	80.94	9.036
HA1ELD	3.271	4.473	140.1	140.2	11.82
HA1HLD	4.905	4.865	281.1	281.2	18.40
HA1KLD	5.692	5.789	560.2	562.0	30.72

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : HA1CLD

Cell Unit = 16

State	Output Load												
	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
B		tplh	tphl										
1	A-S	250.9	251.5	267.5	266.3	298.9	289.4	358.5	324.9	478.4	385.5	717.9	489.1
0	A-S	176.1	301.6	193.4	317.2	225.1	342.1	285.5	381.0	405.2	443.5	644.7	549.4
A	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
1	B-S	220.3	203.0	237.6	216.9	269.2	239.4	328.9	275.9	447.9	335.9	686.6	440.1
0	B-S	134.8	234.1	151.8	249.4	183.1	273.8	242.8	312.0	362.9	374.0	602.5	479.8
	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
	A-C	137.4	158.6	153.8	168.0	184.7	184.1	244.7	211.7	363.2	261.2	601.9	356.2
	B-C	138.4	146.9	155.1	156.4	186.0	172.5	245.6	200.0	364.5	249.5	603.4	343.8

Version : HA1ELD

Cell Unit = 16

State	Output Load												
	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
B		tplh	tphl										
1	A-S	251.7	259.2	265.2	272.2	291.4	295.1	346.3	333.1	467.2	398.9	739.0	521.0
0	A-S	184.4	339.1	198.7	354.0	226.4	379.8	282.1	422.6	403.3	494.9	675.3	624.8
A	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
1	B-S	216.4	213.1	230.6	226.1	258.4	248.7	314.0	286.4	435.1	352.2	707.0	474.3
0	B-S	133.7	267.4	147.0	281.9	173.5	307.4	228.1	349.9	349.1	421.8	621.0	551.4
	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
	A-C	115.9	145.6	128.0	153.3	153.1	167.4	207.2	193.8	328.0	245.8	599.6	356.5
	B-C	115.0	131.1	127.1	138.8	152.1	153.1	206.3	179.5	327.1	231.0	598.8	341.4

Version : HA1HLD

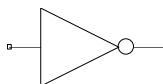
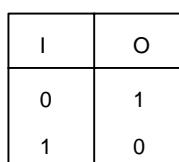
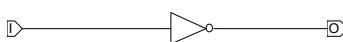
Cell Unit = 20

State		Output Load											
B	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1	A-S	229.4	281.3	238.9	292.1	257.9	312.0	296.3	346.1	381.2	404.5	582.2	509.2
0	A-S	174.0	286.3	183.6	297.0	203.1	317.1	242.0	351.7	326.9	410.2	527.9	515.5
A	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1	B-S	218.1	239.3	227.9	250.0	247.2	269.7	285.9	303.9	370.8	361.9	571.7	466.7
0	B-S	146.7	271.4	156.3	282.2	175.6	302.0	214.4	336.4	299.2	395.0	500.2	500.3
	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	A-C	132.1	176.3	140.8	182.9	158.6	195.6	195.8	218.7	280.1	261.3	481.0	348.0
	B-C	131.9	162.6	140.7	169.2	158.8	181.8	196.1	204.7	280.2	247.1	481.1	333.5

Version : HA1KLD

Cell Unit = 27

State		Output Load											
B	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1	A-S	267.1	322.7	275.0	330.9	292.6	348.5	329.0	382.4	407.2	442.8	601.8	555.2
0	A-S	194.2	323.9	201.4	332.3	217.5	350.2	251.5	384.0	327.3	445.2	521.0	558.9
A	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1	B-S	231.4	284.0	238.6	292.2	254.6	309.8	288.2	343.4	364.2	404.0	557.7	516.3
0	B-S	191.2	306.3	199.3	314.6	216.9	332.7	253.3	366.6	331.5	427.7	526.1	541.3
	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	A-C	138.4	247.3	144.5	253.3	158.4	266.3	189.4	291.6	262.5	339.1	455.6	433.7
	B-C	139.9	182.9	146.0	187.9	159.9	198.9	190.9	220.7	264.0	262.6	457.1	350.5

Group Name	:	INV	Symbol
Function	:	Inverter	
Truth Table	Schematic		
			

Pin Order O I

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

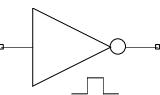
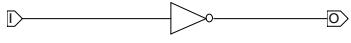
Version	Input Capacitance		Maximum Loading		Power Consumption	
	I	O	O		O	
INVCLD	1.611		81.07		1.376	
INVDLD	2.067		113.7		1.720	
INVELD	3.029		134.8		1.632	
INVFLD	3.695		177.4		2.003	
INVGLD	4.242		222.0		2.729	
INVHLD	5.218		280.7		4.086	
INVILD	6.489		346.1		4.328	
INVJLD	7.982		422.3		5.255	
INVKLD	10.66		563.8		6.541	
INVLLD	13.41		704.1		8.677	
INVMLD	16.16		845.5		9.843	
INVNLD	22.04		1127.2		13.33	
INVOLD	31.21		1654.8		19.66	
INVPLD	41.78		2218.5		26.21	
INVQLD	57.63		2817.3		33.53	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load													
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
INVCLD	3		tplh	tphl											
			I-O	74.25	44.53	95.99	56.78	138.4	78.53	224.2	118.0	409.5	194.0	815.7	353.2

INVDLD	3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I-O	66.20		82.99	51.75	115.0	69.53	178.4	101.5	312.1	160.8	603.4	282.4
INVELD	4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I-O	63.13	37.58	81.05	47.91	118.3	67.13	200.4	105.0	393.9	183.9	871.6	369.3
INVFLD	4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I-O	58.08	36.18	72.69	44.81	102.5	60.85	166.4	92.44	315.2	155.9	677.1	300.8
INVGLD	4	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		I-O	55.68	35.20	68.89	43.35	98.12	59.30	162.7	92.46	324.4	162.6	748.9	334.3
INVHLD	5	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		I-O	57.69	37.08	67.88	43.43	91.38	57.06	143.5	83.93	271.3	141.3	605.3	277.9
INVILD	6	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		I-O	53.02	33.63	63.06	39.66	85.46	53.00	136.9	79.76	266.9	138.3	622.7	282.8
INVJLD	6	Path	1.500 ff		3.950 ff		10.40 ff		27.39 ff		72.11 ff		189.9 ff	
			tplh	tphl										
		I-O	50.90	32.86	58.79	37.64	75.81	48.06	112.8	68.08	197.8	109.3	414.7	200.5
INVKLD	8	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
			tplh	tphl										
		I-O	47.75	30.96	54.38	34.99	69.09	44.08	101.8	61.99	176.2	99.42	369.4	182.0
INVLLD	9	Path	1.500 ff		4.573 ff		13.94 ff		42.50 ff		129.6 ff		394.9 ff	
			tplh	tphl										
		I-O	48.36	31.33	54.64	35.15	70.31	44.80	108.8	65.79	208.0	113.8	500.8	235.4
INVMLD	10	Path	1.500 ff		4.768 ff		15.16 ff		48.19 ff		153.2 ff		487.0 ff	
			tplh	tphl										
		I-O	46.58	30.27	52.38	33.79	67.38	43.08	105.2	63.89	205.2	112.7	512.1	240.1
INVNLD	13	Path	3.000 ff		8.914 ff		26.48 ff		78.69 ff		233.8 ff		694.7 ff	
			tplh	tphl										
		I-O	48.18	31.21	55.68	35.77	73.63	46.73	116.2	69.89	225.9	121.7	543.5	252.7
INVOLD	17	Path	3.000 ff		9.351 ff		29.15 ff		90.86 ff		283.2 ff		882.9 ff	
			tplh	tphl										
		I-O	47.10	30.74	52.81	34.22	67.35	43.30	103.7	63.44	197.5	110.1	479.4	229.1
INVPLD	22	Path	3.000 ff		9.706 ff		31.40 ff		101.6 ff		328.7 ff		1063 ff	
			tplh	tphl										
		I-O	46.32	30.28	50.94	33.09	63.71	40.88	95.45	58.91	179.4	101.7	437.3	211.8

INVQLD	28	Path	3.000 ff		9.706 ff		31.40 ff		101.6 ff		328.7 ff		1063 ff	
			tplh	tphl	tplh	tphl								
		I-O	46.08	29.97	49.77	32.20	60.20	38.54	86.46	54.25	154.6	89.30	358.2	177.5

Group Name	:	INVCK	Symbol						
Function	:	Clock Tree Inverter							
Truth Table	Schematic								
<table border="1" data-bbox="163 369 342 523"> <tr> <th>I</th> <th>O</th> </tr> <tr> <td>0</td> <td>1</td> </tr> <tr> <td>1</td> <td>0</td> </tr> </table>			I	O	0	1	1	0	
I	O								
0	1								
1	0								

Pin Order O I

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I	O	O		O	
INVCKCLD	1.656		112.4		1.338	
INVCKDLD	1.623		113.9		1.347	
INVCKELD	2.196		135.1		1.512	
INVCKFLD	2.665		177.8		2.249	
INVCKGLD	3.197		222.7		2.465	
INVCKHLD	4.029		282.3		2.690	
INVCKILD	4.981		350.0		3.582	
INVCKJLD	5.977		423.3		4.267	
INVCKKKLD	8.198		565.0		5.254	
INVCKLLD	10.21		705.7		6.963	
INVCKMLD	12.43		847.2		7.961	
INVCKNLD	16.53		1129.7		10.53	
INVCKOLD	23.15		1715.7		15.63	
INVCKPLD	30.97		2280.0		20.89	
INVCKQLD	38.34		2541.6		23.97	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load													
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
INVCKCLD	3		tplh	tphl											
			I-O	61.88	59.22	79.45	76.64	112.2	109.3	176.2	171.3	311.2	299.5	605.9	580.1

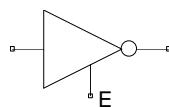
INVCKDLD	3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I-O	62.96	59.35	80.14	75.95	112.3	107.2	175.6	166.4	308.9	288.4	599.8	555.0
INVCKELD	4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I-O	58.85	56.22	74.29	71.26	102.7	99.29	157.2	151.6	270.5	257.7	517.4	486.8
INVCKFLD	4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I-O	53.82	54.09	69.15	69.17	99.44	99.15	163.2	161.8	311.5	303.9	672.6	652.1
INVCKGLD	4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I-O	50.46	45.73	63.43	57.80	88.96	81.88	140.7	130.3	258.9	235.7	548.5	487.7
INVCKHLD	5	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I-O	48.12	43.94	58.93	53.68	80.32	73.21	122.9	112.1	216.8	193.3	444.9	383.1
INVCKILD	6	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		I-O	47.08	45.46	57.10	55.12	78.23	75.43	122.4	119.3	226.1	219.6	495.5	475.9
INVCKJLD	7	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		I-O	45.39	45.67	54.04	54.11	72.44	72.56	110.6	110.7	197.1	197.5	419.8	416.5
INVCKKLD	8	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
		I-O	42.40	42.46	49.95	49.72	66.69	66.23	102.3	101.3	184.1	183.0	402.5	396.2
INVCKLLD	9	Path	1.500 ff		4.323 ff		12.46 ff		35.92 ff		103.5 ff		298.4 ff	
			tplh	tphl										
		I-O	42.74	42.52	49.17	48.58	64.27	63.38	97.58	95.88	175.8	173.1	390.7	380.0
INVCKMLD	11	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		I-O	41.24	41.17	47.06	46.64	61.23	60.42	92.99	91.53	168.5	166.3	380.3	370.9
INVCKNLD	13	Path	1.500 ff		4.676 ff		14.57 ff		45.43 ff		141.6 ff		441.4 ff	
			tplh	tphl										
		I-O	40.36	40.37	45.19	44.90	57.75	57.01	87.09	85.69	158.4	156.5	365.3	356.5
INVCKOLD	16	Path	3.000 ff		8.914 ff		26.48 ff		78.69 ff		233.8 ff		694.7 ff	
			tplh	tphl										
		I-O	40.63	43.18	45.96	48.90	60.15	62.96	91.71	94.83	166.3	172.0	375.1	384.0
INVCKPLD	21	Path	3.000 ff		9.351 ff		29.15 ff		90.86 ff		283.2 ff		882.9 ff	
			tplh	tphl										
		I-O	40.06	42.62	44.37	47.28	56.97	59.76	86.22	89.05	156.9	162.0	361.7	369.1

INVCKQLD	26	Path	3.000 ff		9.537 ff		30.32 ff		96.37 ff		306.4 ff		973.9 ff	
			tplh	tphl										
		I-O	40.20	40.02	44.66	44.16	56.56	55.55	84.95	83.00	154.6	151.6	359.5	347.4

Group Name : INVT

Symbol

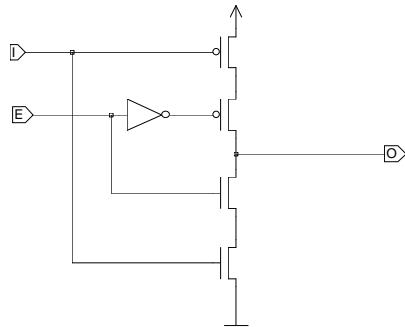
Function : 3-State Inverter



Truth Table

Schematic

I	E	O
1	1	0
0	1	1
X	0	Z



Pin Order O I E

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	O	I	E	O		O	
INVTCLD	1.743	2.219	2.055	65.63		3.473	
INVTELD	3.041	4.754	2.992	131.6		6.584	
INVTHLD	3.144	1.256	3.844	281.2		13.70	
INVTKLD	5.401	1.529	4.076	562.7		20.49	
INVTMLD	10.67	1.610	6.472	837.4		35.52	
INVTNLD	13.98	1.610	6.471	1114.6		43.40	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

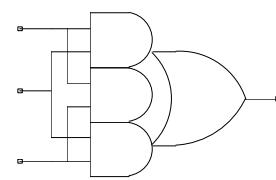
Version	Cell Unit	Output Load											
		Path	3.079 ff		4.885 ff		8.866 ff		17.64 ff		36.98 ff		79.61 ff
INVTCLD	5		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	E-O	110.1	54.79	131.8	71.94	179.3	104.5	282.8	166.1	510.5	294.9	1009	574.9
	E-O	L>>Z 180.2								H>>Z 387.1			
	Path	3.243 ff		5.049 ff		9.030 ff		17.80 ff		37.15 ff		79.78 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
	I-O	117.2	81.38	139.6	95.59	187.9	124.8	292.3	185.4	520.2	313.9	1019	594.2

INVTELD	8	Path	4.215 ff		6.021 ff		10.00 ff		18.78 ff		38.12 ff		80.75 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-O	120.2	43.24	131.4	51.07	155.6	66.48	207.7	97.83	322.1	157.4	571.8	279.5
		Path	L>>Z 223.1		H>>Z 540.5									
			4.541 ff		6.347 ff		10.33 ff		19.10 ff		38.45 ff		81.08 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
INVTHLD	13	I-O	110.4	68.31	122.3	75.33	147.1	89.13	200.4	117.3	314.8	175.1	565.5	296.9
		Path	4.305 ff		6.776 ff		13.32 ff		30.63 ff		76.45 ff		197.7 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-O	98.40	201.0	106.7	209.1	126.6	226.8	174.8	262.5	300.8	337.8	634.0	516.6
		Path	L>>Z 474.0		H>>Z 512.8									
			4.644 ff		7.115 ff		13.65 ff		30.96 ff		76.79 ff		198.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
INVTKLD	15	I-O	234.2	216.4	243.0	225.0	263.4	242.7	312.6	278.6	439.5	354.0	773.3	532.9
		Path	6.227 ff		9.050 ff		17.19 ff		40.64 ff		108.2 ff		303.1 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-O	110.7	215.9	116.6	222.3	131.1	237.0	166.2	267.8	259.6	332.3	527.3	482.7
		Path	L>>Z 609.3		H>>Z 714.8									
			6.901 ff		9.724 ff		17.86 ff		41.32 ff		108.9 ff		303.8 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
INVTMLD	25	I-O	223.2	229.9	229.3	236.2	244.3	250.9	280.2	282.0	374.5	346.7	643.0	497.2
		Path	12.17 ff		15.44 ff		25.82 ff		58.85 ff		163.8 ff		497.6 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-O	106.0	219.8	110.3	223.8	122.4	234.5	155.5	259.0	252.9	314.0	561.1	449.1
		E-O	L>>Z 844.8		H>>Z 946.6									
			267.2	236.9	271.5	240.6	283.8	250.7	316.7	275.0	414.8	330.1	724.1	465.2
INVTNLD	28	Path	16.98 ff		22.89 ff		40.46 ff		92.67 ff		247.8 ff		708.6 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		E-O	115.5	236.2	121.5	242.0	137.0	255.6	175.8	284.8	283.8	346.1	603.3	487.7
		E-O	L>>Z 1000.5		H>>Z 1135									
			278.7	254.5	284.4	259.5	299.8	272.3	338.4	301.1	446.8	362.4	767.2	504.0

Group Name : MAO222

Symbol

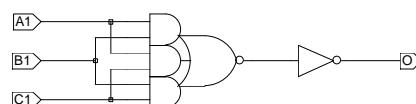
Function : 2 of 3 Majority



Truth Table

Schematic

A1	B1	C1	O
1	1	X	1
1	X	1	1
X	1	1	1
0	0	X	0
0	X	0	0
X	0	0	0



Pin Order O A1 B1 C1

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading	Power Consumption
	A1	B1	C1	O	O
MAO222CLD	1.473	3.365	4.059	80.74	6.481
MAO222ELD	1.860	4.272	4.713	139.2	8.808
MAO222HLD	2.053	4.700	5.497	280.9	12.64
MAO222KLD	1.473	3.364	4.053	562.7	27.46

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MAO222CLD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl			
0 1	B1-O	183.2	198.9	203.5	213.8	244.6	240.5	330.5	287.3	517.0	371.9	924.7	539.0
1 0	B1-O	159.8	193.0	180.4	206.3	221.6	229.8	307.2	271.6	492.8	350.8	898.7	514.9
B1 C1	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	166.3	166.3	186.3	182.5	226.7	211.0	311.9	259.3	497.6	344.8	905.1	512.2
1 0	A1-O	154.7	175.6	175.6	188.9	216.4	212.6	301.4	254.7	487.6	334.4	893.0	498.5
A1 B1	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	C1-O	172.5	204.2	192.8	217.5	233.7	241.2	319.9	283.3	506.8	362.9	912.9	527.0
1 0	C1-O	168.6	198.5	188.8	211.8	229.5	235.2	314.9	276.9	500.3	356.1	907.4	520.2

Version : MAO222ELD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl	
0 1	B1-O	159.4	195.0	171.8	205.1	196.6	224.0	247.6	256.4	356.3	312.9	593.3	417.4
1 0	B1-O	142.7	196.7	155.7	206.0	180.7	222.4	231.6	251.1	339.1	302.6	575.2	402.3
B1 C1	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	147.2	166.3	159.6	177.7	184.1	198.0	234.6	232.1	343.0	289.9	579.6	395.0
1 0	A1-O	138.0	197.0	151.0	206.9	176.1	224.5	227.1	255.3	334.6	309.4	569.8	411.7
A1 B1	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	C1-O	149.4	230.9	162.1	240.8	186.6	258.6	237.1	289.2	346.1	343.4	582.7	445.6
1 0	C1-O	149.6	201.1	161.9	210.3	186.7	226.8	237.3	255.5	345.7	307.0	582.2	406.7

Version : MAO222HLD

Cell Unit = 12

State		Output Load													
A1 C1		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	B1-O	149.1	234.1	157.9	243.1	176.6	260.9	216.7	293.1	310.7	351.3	540.0	461.8		
1 0	B1-O	137.4	246.3	146.8	254.5	166.3	270.4	207.2	299.7	301.0	352.7	529.6	457.1		
B1 C1		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	138.9	203.5	147.6	212.9	166.2	231.7	206.1	265.9	299.6	325.9	528.6	437.2		
1 0	A1-O	132.5	223.7	142.0	231.9	161.5	248.0	202.3	277.1	296.0	330.4	524.6	435.2		
A1 B1		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	C1-O	142.1	249.3	150.9	257.5	169.7	273.6	210.0	302.7	303.9	356.0	533.0	460.8		
1 0	C1-O	142.2	247.8	150.9	256.0	169.4	272.1	209.4	301.1	303.1	354.3	531.9	458.7		

Version : MAO222KLD

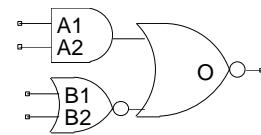
Cell Unit = 18

State		Output Load													
A1 C1		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	B1-O	295.0	335.7	299.8	339.3	311.7	347.8	341.9	365.8	421.4	403.8	640.1	494.8		
1 0	B1-O	272.7	324.3	277.5	328.0	289.4	336.5	319.6	354.5	399.1	392.4	617.7	483.4		
B1 C1		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	277.4	306.4	282.3	310.1	294.2	318.5	324.2	336.5	403.7	374.5	622.4	465.6		
1 0	A1-O	267.2	307.3	272.1	311.0	284.0	319.4	313.8	337.1	393.6	375.3	612.3	466.3		
A1 B1		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	C1-O	284.7	335.7	289.6	339.4	301.4	347.8	331.4	365.7	411.0	403.7	629.6	494.7		
1 0	C1-O	281.0	329.6	285.8	333.3	297.7	341.7	327.9	359.7	407.4	397.7	626.2	488.7		

Group Name : MAOI1

Symbol

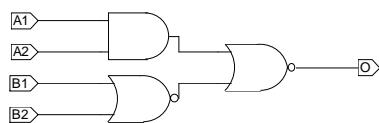
Function : AN2, NR2 into NR2



Truth Table

A1	A2	B1	B2	O
X	X	0	0	0
1	1	X	X	0
OTHERS				1

Schematic



Pin Order O A1 A2 B1 B2

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	A2	B1	B2		
MAOI1CLD	2.569	2.608	1.840	1.542	64.09	6.325
MAOI1ELD	1.105	1.169	1.770	1.758	139.2	9.012
MAOI1HLD	1.456	1.568	2.177	2.166	280.8	13.32
MAOI1KLD	2.578	2.607	1.840	1.542	561.9	25.21

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MAOI1CLD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1 A2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	B2-O	130.6	177.3	147.3	188.0	182.4	207.6	259.4	243.9	426.7	313.2	794.0	455.7
0 1	B2-O	143.1	177.5	165.1	188.2	213.3	207.8	317.2	244.1	546.6	313.3	1046	455.8
1 0	B2-O	167.0	177.7	189.3	188.5	237.4	208.0	342.3	244.3	571.8	313.3	1071	455.8
0 0	B1-O	140.4	190.6	156.8	201.1	191.8	220.8	269.1	257.0	437.1	326.3	804.2	468.8
0 1	B1-O	152.6	191.0	174.4	201.4	222.3	221.1	326.9	257.3	556.3	326.5	1055	469.0
1 0	B1-O	176.3	191.5	198.6	201.4	247.1	221.4	352.3	257.4	581.4	326.6	1081	469.1
B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	131.0	67.85	154.5	77.66	203.1	96.91	308.5	134.6	536.1	210.9	1037	373.7
1 0	A1-O	131.0	67.85	154.5	77.66	203.1	96.91	308.5	134.6	536.1	210.9	1037	373.7
1 1	A1-O	130.2	67.81	153.6	77.62	202.3	96.89	307.6	134.6	535.8	210.8	1036	373.7
0 1	A2-O	154.7	69.65	176.8	78.71	224.6	96.90	328.6	133.7	556.9	209.5	1057	372.5
1 0	A2-O	154.7	69.65	176.8	78.71	224.6	96.90	328.6	133.7	556.9	209.5	1057	372.5
1 1	A2-O	153.9	69.61	176.1	78.67	223.5	96.87	328.7	133.6	557.0	209.5	1056	372.5

Version : MAOI1ELD

Cell Unit = 10

State	Output Load												
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
A1 A2		tplh	tphl										
0 0	B2-O	151.2	193.6	163.9	203.1	189.1	220.0	239.9	249.7	348.4	302.1	585.0	402.6
0 1	B2-O	151.3	193.6	164.0	203.0	189.2	220.0	240.0	249.7	348.5	302.1	585.2	402.6
1 0	B2-O	151.3	193.6	164.0	203.0	189.2	220.0	240.0	249.7	348.5	302.1	585.2	402.6
0 0	B1-O	138.8	180.5	151.5	190.1	176.4	207.4	226.4	236.8	334.7	289.3	571.0	389.8
0 1	B1-O	138.9	180.5	151.6	190.0	176.5	207.4	226.5	236.8	334.9	289.2	571.2	389.8
1 0	B1-O	138.9	180.5	151.6	190.0	176.5	207.4	226.5	236.8	334.9	289.2	571.2	389.8
B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1	A1-O	273.9	250.4	286.7	261.1	311.8	280.1	362.6	312.2	470.1	367.1	707.6	469.3
1 0	A1-O	260.7	246.0	273.4	254.7	298.0	270.2	348.5	297.3	456.8	346.6	691.6	444.6
1 1	A1-O	252.1	253.7	264.5	262.4	289.1	277.9	338.8	305.0	446.4	354.3	682.2	452.3
0 1	A2-O	288.2	250.5	301.0	261.2	326.1	280.2	376.5	312.3	485.2	367.2	721.9	469.3
1 0	A2-O	274.7	246.0	287.3	254.8	312.4	270.3	363.0	297.4	470.9	346.7	707.0	444.7
1 1	A2-O	266.1	253.8	278.3	262.5	302.9	278.0	353.3	305.1	461.0	354.4	697.4	452.4

Version : MAOI1HLD

Cell Unit = 11

State	Output Load												
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
A1 A2		tplh	tphl										
0 0	B2-O	145.2	207.9	154.2	215.7	173.0	231.2	213.3	259.0	307.0	310.4	536.1	413.0
0 1	B2-O	145.2	207.9	154.3	215.7	173.1	231.2	213.5	259.0	307.2	310.4	536.2	413.0
1 0	B2-O	145.2	207.9	154.3	215.7	173.1	231.2	213.5	259.0	307.2	310.4	536.2	413.0
0 0	B1-O	134.5	195.1	143.2	202.8	161.9	218.1	202.0	246.1	295.5	297.5	524.1	400.1
0 1	B1-O	134.5	195.0	143.3	202.8	162.0	218.1	202.1	246.1	295.7	297.4	524.3	400.1
1 0	B1-O	134.5	195.0	143.3	202.8	162.0	218.1	202.1	246.1	295.7	297.4	524.3	400.1
B1 B2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1	A1-O	247.2	235.4	256.1	243.1	275.0	258.8	315.3	287.6	409.2	339.6	638.1	441.9
1 0	A1-O	235.4	232.6	244.2	239.3	263.0	252.4	303.2	276.6	396.7	322.8	625.2	420.1
1 1	A1-O	225.6	240.0	234.1	246.6	252.3	259.7	292.1	283.9	385.3	330.1	613.8	427.4
0 1	A2-O	261.8	236.5	270.7	244.3	289.6	260.0	330.0	288.9	423.8	340.9	652.7	443.1
1 0	A2-O	250.2	233.8	259.0	240.5	277.7	253.6	317.7	277.8	411.3	324.0	639.8	421.3
1 1	A2-O	240.2	241.3	248.8	247.9	267.1	260.9	306.8	285.2	400.1	331.4	628.5	428.7

Version : MAOI1KLD

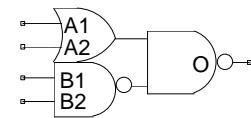
Cell Unit = 17

State	Path	Output Load											
		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
A1 A2	Path	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl		
0 0	B2-O	261.0	317.8	266.4	322.3	279.3	332.3	309.9	353.2	389.7	395.2	608.6	489.7
0 1	B2-O	289.8	318.1	295.3	322.5	308.3	332.6	339.4	353.3	418.9	395.3	637.8	489.9
1 0	B2-O	316.1	326.3	321.5	330.8	334.7	340.9	365.5	361.4	445.2	403.5	664.1	498.1
0 0	B1-O	269.9	331.0	275.3	335.4	288.3	345.5	319.2	366.5	398.9	408.4	617.7	503.0
0 1	B1-O	298.7	331.3	304.3	335.7	317.4	345.8	348.4	366.7	428.1	408.6	647.0	503.3
1 0	B1-O	324.9	339.5	330.4	344.0	343.6	354.0	374.7	374.9	454.3	416.7	673.2	511.3
B1 B2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	
0 1	A1-O	277.9	210.9	283.4	215.4	296.5	225.5	327.6	246.5	407.2	288.5	626.1	383.1
1 0	A1-O	277.9	210.9	283.4	215.4	296.5	225.5	327.6	246.5	407.2	288.5	626.1	383.1
1 1	A1-O	276.9	210.9	282.5	215.3	295.6	225.4	326.6	246.4	406.2	288.4	625.1	383.1
0 1	A2-O	303.2	211.9	308.7	216.3	321.7	226.3	352.7	247.1	432.3	289.2	651.1	383.9
1 0	A2-O	303.2	211.9	308.7	216.3	321.7	226.3	352.7	247.1	432.3	289.2	651.1	383.9
1 1	A2-O	302.0	211.8	307.5	216.2	320.8	226.3	351.8	247.0	431.4	289.2	650.3	383.8

Group Name : MOAI1

Symbol

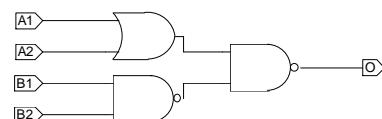
Function : ND2, OR2 into ND2



Truth Table

Schematic

A1	A2	B1	B2	O
0	0	X	X	1
X	X	1	1	1
OTHERS				0



Pin Order O A1 A2 B1 B2

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	A2	B1	B2		
MOAI1CLD	2.250	2.246	1.458	1.570	64.90	6.188
MOAI1ELD	1.835	1.563	2.037	2.008	139.3	10.42
MOAI1HLD	1.834	1.560	2.248	2.231	281.1	14.19
MOAI1KLD	2.281	2.256	1.458	1.570	562.3	24.83

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MOAI1CLD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	A2-O	121.3	70.52	143.7	80.75	192.3	101.0	297.4	141.4	526.2	224.6	1025	403.9
0 1	A2-O	121.2	70.52	143.7	80.76	192.3	101.0	297.4	141.4	526.2	224.6	1025	404.1
1 0	A2-O	121.2	70.52	143.7	80.76	192.3	101.0	297.4	141.4	526.2	224.6	1025	404.1
0 0	A1-O	107.3	61.96	131.0	72.68	180.4	93.01	286.6	133.7	515.8	216.7	1015	395.7
0 1	A1-O	107.3	61.96	131.0	72.69	180.3	93.04	286.6	133.7	515.8	216.7	1015	395.8
1 0	A1-O	107.3	61.96	131.0	72.69	180.3	93.04	286.6	133.7	515.8	216.7	1015	395.8
A1 A2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	B1-O	169.5	176.7	184.6	185.9	218.6	204.9	291.6	243.8	449.9	326.2	795.7	505.6
1 0	B1-O	168.5	168.1	184.0	177.2	217.8	196.1	290.3	234.8	448.4	316.7	794.1	495.6
1 1	B1-O	176.7	164.6	192.3	172.5	225.9	188.5	298.0	220.1	456.8	284.8	802.1	424.2
0 1	B2-O	170.0	191.3	185.7	200.5	218.4	219.4	292.1	258.5	449.4	341.0	796.1	520.5
1 0	B2-O	168.9	182.4	184.7	191.8	218.1	210.7	290.9	249.4	448.5	331.5	794.4	510.5
1 1	B2-O	177.2	179.0	192.6	187.0	226.3	203.0	298.7	234.7	456.9	299.7	802.5	439.2

Version : MOAI1ELD

Cell Unit = 10

State	Output Load													
	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2			tplh	tphl	tplh	tphl								
0 0	A2-O	272.8	209.2	284.6	217.9	308.9	233.6	358.5	261.2	466.4	311.7	704.0	410.6	
0 1	A2-O	265.6	231.3	277.5	240.5	302.0	256.9	352.1	285.5	460.6	336.9	697.5	436.7	
1 0	A2-O	271.2	248.3	283.8	257.5	308.4	274.1	358.4	303.1	466.6	354.9	704.3	454.9	
0 0	A1-O	286.5	218.4	298.4	227.0	322.3	242.9	372.4	270.7	480.8	321.3	716.2	420.2	
0 1	A1-O	279.4	240.8	291.2	249.9	315.6	266.4	365.4	294.9	473.4	346.4	710.7	446.1	
1 0	A1-O	284.9	257.8	297.4	266.9	322.2	283.5	372.3	312.3	480.9	364.2	717.8	464.3	
A1 A2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
0 1	B1-O	133.6	161.8	145.9	170.5	170.1	187.2	219.6	215.6	327.7	267.1	563.7	366.9	
1 0	B1-O	133.6	161.8	145.9	170.5	170.1	187.2	219.6	215.6	327.7	267.1	563.7	366.9	
1 1	B1-O	133.6	161.8	145.9	170.5	170.1	187.2	219.6	215.6	327.7	267.1	563.7	366.9	
0 1	B2-O	133.2	178.0	145.4	187.1	169.4	203.7	219.4	232.6	326.7	284.5	562.4	384.6	
1 0	B2-O	133.2	178.0	145.4	187.1	169.4	203.7	219.4	232.6	326.7	284.5	562.4	384.6	
1 1	B2-O	133.2	178.0	145.4	187.1	169.4	203.7	219.4	232.5	326.7	284.5	562.4	384.6	

Version : MOAI1HLD

Cell Unit = 11

State	Output Load													
	Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
B1 B2			tplh	tphl	tplh	tphl								
0 0	A2-O	261.4	240.0	269.5	247.3	286.8	261.7	325.6	288.7	419.0	339.1	647.8	440.7	
0 1	A2-O	256.2	272.0	264.2	280.1	281.9	295.9	320.9	324.8	414.1	377.7	643.0	482.0	
1 0	A2-O	260.3	294.4	269.1	302.6	287.6	318.5	327.1	347.6	420.4	400.9	649.3	505.7	
0 0	A1-O	274.2	249.2	282.3	256.5	299.7	271.0	338.4	298.1	431.7	348.5	660.5	450.0	
0 1	A1-O	268.9	281.3	277.1	289.3	294.7	305.0	333.8	333.9	426.9	386.7	655.9	491.1	
1 0	A1-O	273.2	303.5	282.0	311.6	300.3	327.6	339.9	356.7	433.2	409.9	662.0	514.7	
A1 A2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		tplh	tphl											
0 1	B1-O	128.9	200.5	137.5	208.4	155.7	224.1	195.3	253.0	288.7	305.9	517.2	410.3	
1 0	B1-O	128.9	200.5	137.5	208.4	155.7	224.1	195.3	253.0	288.7	305.9	517.2	410.3	
1 1	B1-O	128.9	200.5	137.5	208.4	155.7	224.1	195.3	253.0	288.7	305.9	517.2	410.3	
0 1	B2-O	129.1	221.5	137.6	229.7	155.9	245.6	195.5	274.7	288.8	328.0	517.4	432.8	
1 0	B2-O	129.1	221.5	137.6	229.7	155.9	245.6	195.5	274.7	288.8	328.0	517.4	432.8	
1 1	B2-O	129.1	221.5	137.6	229.7	155.9	245.6	195.5	274.6	288.8	327.9	517.4	432.7	

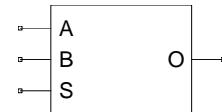
Version : MOAI1KLD

Cell Unit = 17

State	Output Load														
	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff				
B1 B2		Path		tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl				
0 0	A2-O	255.7	212.6	261.0	217.0	273.7	227.2	304.1	248.1	383.7	290.1	602.5	384.6		
0 1	A2-O	255.7	212.7	260.9	217.1	273.6	227.3	304.1	248.2	383.6	290.2	602.5	384.7		
1 0	A2-O	255.7	212.7	260.9	217.1	273.6	227.3	304.1	248.2	383.6	290.2	602.5	384.7		
0 0	A1-O	242.9	202.8	248.2	207.3	261.1	217.5	291.7	238.3	371.2	280.1	590.0	374.7		
0 1	A1-O	242.9	202.9	248.2	207.4	261.0	217.5	291.6	238.4	371.2	280.2	590.0	374.8		
1 0	A1-O	242.9	202.9	248.2	207.4	261.0	217.5	291.6	238.4	371.2	280.2	590.0	374.8		
A1 A2		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl		
0 1	B1-O	302.7	317.9	308.1	322.2	321.0	332.4	351.6	353.2	431.1	395.2	649.9	489.8		
1 0	B1-O	288.1	307.4	293.3	311.9	305.7	322.1	336.0	342.7	415.7	384.7	634.5	479.3		
1 1	B1-O	296.2	302.2	301.4	306.7	314.1	316.6	344.7	337.4	424.2	379.3	643.0	473.9		
0 1	B2-O	304.0	332.3	309.3	336.8	322.0	347.0	352.4	367.9	432.0	409.8	650.8	504.4		
1 0	B2-O	289.2	321.9	294.2	326.3	306.9	336.5	337.4	357.2	417.0	399.2	635.7	493.8		
1 1	B2-O	297.5	316.8	302.7	321.3	315.3	331.4	345.7	352.0	425.3	394.0	644.1	488.6		

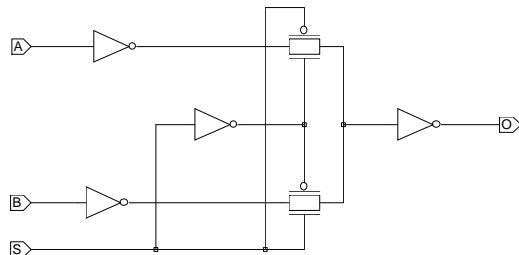
Group Name : MUX2

Symbol



Function : 2 Bit MUX

Schematic



Truth Table

A	B	S	O
0	X	0	0
1	X	0	1
X	0	1	0
X	1	1	1

Pin Order O S A B

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading	Power Consumption
	S	A	B	O	O
MUX2CLD	1.931	1.375	1.380	80.94	6.218
MUX2ELD	1.743	1.359	1.303	139.6	7.946
MUX2HLD	3.371	2.679	2.666	280.6	13.30
MUX2KLD	3.432	2.664	2.662	559.9	20.75
MUX2MLD	7.181	5.373	5.336	841.2	36.66
MUX2NLD	7.181	5.372	5.335	1120.6	44.07

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MUX2CLD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
B	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-O	168.7	212.1	186.0	225.4	217.8	246.6	278.5	280.9	398.0	337.9	636.5	438.1
1	A-O	168.7	212.1	186.0	225.4	217.8	246.6	278.5	280.9	398.0	337.9	636.5	438.1
A B	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-O	144.1	198.4	161.6	211.3	193.5	232.5	253.5	266.6	373.7	323.5	613.4	423.6
1 0	S-O	227.0	190.4	243.9	203.6	275.7	224.8	335.7	259.1	455.1	316.3	694.9	416.7
A	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-O	172.0	225.6	189.2	238.8	220.9	260.3	281.6	294.9	400.9	352.0	638.9	452.5
1	B-O	172.0	225.6	189.2	238.8	220.9	260.3	281.6	294.9	400.9	352.0	638.9	452.5

Version : MUX2ELD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
B	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-O	152.0	225.0	167.8	238.9	201.8	264.9	278.0	312.2	463.7	404.2	920.6	597.4
1	A-O	152.0	225.0	167.8	238.9	201.8	264.9	278.0	312.2	463.7	404.2	920.6	597.4
A B	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-O	135.3	209.1	151.1	222.9	184.9	248.7	261.6	296.4	447.1	388.0	902.7	581.7
1 0	S-O	220.4	199.9	235.8	213.7	269.6	240.1	345.8	288.4	531.1	380.2	987.8	574.8
A	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-O	153.2	238.2	168.7	252.1	202.5	278.1	279.2	326.4	465.2	418.1	921.5	611.9
1	B-O	153.2	238.2	168.7	252.1	202.5	278.1	279.2	326.4	465.2	418.1	921.5	611.9

Version : MUX2HLD

Cell Unit = 12

State		Output Load											
B	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-O	152.6	205.2	161.5	213.2	179.8	228.4	217.4	255.8	301.7	305.2	502.7	399.4
1	A-O	152.6	205.2	161.5	213.2	179.8	228.4	217.4	255.8	301.7	305.2	502.7	399.4
A B	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-O	141.3	200.0	149.4	207.8	167.6	223.2	205.2	250.6	289.5	299.9	490.5	394.2
1 0	S-O	221.1	200.7	230.0	208.6	248.2	224.0	285.8	251.4	369.9	300.9	570.7	395.2
A	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-O	151.6	217.1	160.4	225.1	178.2	240.4	215.7	268.1	299.9	317.6	500.9	412.1
1	B-O	151.6	217.1	160.4	225.1	178.2	240.4	215.7	268.1	299.9	317.6	500.9	412.1

Version : MUX2KLD

Cell Unit = 15

State		Output Load											
B	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-O	182.8	263.9	189.6	270.8	205.2	285.7	238.7	315.4	314.1	370.2	507.9	475.7
1	A-O	182.8	263.9	189.6	270.8	205.2	285.7	238.7	315.4	314.1	370.2	507.9	475.7
A B	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-O	171.4	279.1	178.2	286.0	193.7	300.9	226.9	330.8	302.4	385.6	496.1	491.3
1 0	S-O	247.8	257.7	254.7	264.4	270.3	279.8	303.7	309.2	379.0	364.2	572.5	469.8
A	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-O	180.2	276.7	186.9	283.8	202.3	298.8	235.4	328.6	310.9	383.6	504.6	489.4
1	B-O	180.2	276.7	186.9	283.8	202.3	298.8	235.4	328.6	310.9	383.6	504.6	489.4

Version : MUX2MLD

Cell Unit = 25

State		Output Load											
B	Path	1.500 ff		4.356 ff		12.65 ff		36.74 ff		106.7 ff		309.9 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-O	164.6	241.8	169.2	246.4	180.9	257.9	208.5	282.0	276.2	330.2	463.9	429.4
1	A-O	164.6	241.8	169.2	246.4	180.9	257.9	208.5	282.0	276.2	330.2	463.9	429.4
A B	Path	1.500 ff		4.356 ff		12.65 ff		36.74 ff		106.7 ff		309.9 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-O	140.8	227.9	145.4	232.4	156.8	243.9	184.3	268.2	252.0	316.5	439.7	415.6
1 0	S-O	204.7	218.7	209.3	223.5	220.8	234.6	248.3	258.6	315.8	307.0	503.3	405.9
A	Path	1.500 ff		4.356 ff		12.65 ff		36.74 ff		106.7 ff		309.9 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-O	157.8	243.4	162.2	248.0	173.7	259.2	200.9	283.7	268.4	331.9	456.0	431.0
1	B-O	157.8	243.4	162.2	248.0	173.7	259.2	200.9	283.7	268.4	331.9	456.0	431.0

Version : MUX2NLD

Cell Unit = 28

State		Output Load											
B	Path	3.000 ff		8.143 ff		22.10 ff		60.00 ff		162.9 ff		442.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-O	180.6	270.1	187.0	276.7	201.8	291.4	234.2	320.4	309.0	374.5	502.4	479.2
1	A-O	180.6	270.1	187.0	276.7	201.8	291.4	234.2	320.4	309.0	374.5	502.4	479.2
A B	Path	3.000 ff		8.143 ff		22.10 ff		60.00 ff		162.9 ff		442.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-O	157.5	261.6	163.9	268.1	178.7	282.7	211.0	311.7	285.5	365.8	479.0	470.5
1 0	S-O	218.5	246.5	224.9	253.0	239.8	267.6	272.2	296.5	346.7	350.3	539.9	454.9
A	Path	3.000 ff		8.143 ff		22.10 ff		60.00 ff		162.9 ff		442.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-O	173.1	272.3	179.5	278.8	194.2	293.6	226.3	322.6	300.9	376.7	494.3	481.2
1	B-O	173.1	272.3	179.5	278.8	194.2	293.6	226.3	322.6	300.9	376.7	494.3	481.2

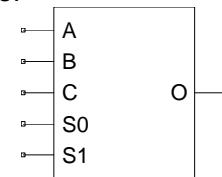
Group Name : MUX3

Function : 3 Bit MUX

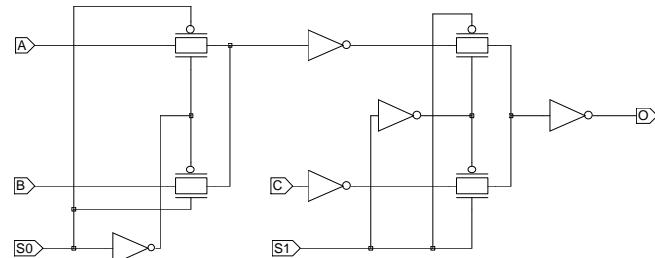
Truth Table

S1	S0	O
0	0	A
0	1	B
1	X	C

Symbol



Schematic



Pin Order O S0 S1 A B C

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance					Maximum Loading	Power Consumption
	S0	S1	A	B	C		
MUX3CLD	1.866	1.876	1.982	1.933	1.412	80.56	7.635
MUX3ELD	1.934	1.965	2.522	2.439	2.021	139.8	9.644
MUX3HLD	3.529	3.621	2.702	2.686	1.924	280.1	16.25
MUX3KLD	3.669	3.652	5.244	5.195	2.716	558.1	24.04

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MUX3CLD

Cell Unit = 16

State	Output Load													
	B C	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl								
0 0	A-O		243.3	327.0	266.1	346.7	310.2	379.8	397.9	435.8	584.0	532.4	989.4	710.7
0 1	A-O		243.3	327.0	266.1	346.7	310.2	379.8	397.9	435.8	584.0	532.4	989.4	710.7
1 0	A-O		243.3	327.0	266.1	346.7	310.2	379.8	397.9	435.8	584.0	532.4	989.4	710.7
1 1	A-O		243.3	327.0	266.1	346.7	310.2	379.8	397.9	435.8	584.0	532.4	989.4	710.7
S0 A B C	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
0 0 0 1	S1-O		146.4	229.2	167.0	247.8	207.8	279.8	293.1	334.5	477.9	430.1	885.0	608.0
0 0 1 1	S1-O		146.4	229.2	167.0	247.8	207.8	279.8	293.1	334.5	477.9	430.1	885.0	608.0
0 1 0 0	S1-O		252.7	196.7	275.3	212.3	319.0	239.2	405.9	285.5	591.8	369.7	998.5	536.6
0 1 1 0	S1-O		252.7	196.7	275.3	212.3	319.0	239.2	405.9	285.5	591.8	369.7	998.5	536.6
1 0 0 1	S1-O		146.4	229.0	167.0	247.5	207.8	279.6	293.1	334.3	477.9	429.9	885.0	607.9
1 0 1 0	S1-O		252.7	196.7	275.3	212.3	319.1	239.2	406.0	285.5	591.9	369.7	998.6	536.6
1 1 0 1	S1-O		146.4	229.0	167.0	247.5	207.8	279.6	293.1	334.3	477.9	429.9	885.0	607.9
1 1 1 0	S1-O		252.7	196.7	275.3	212.3	319.1	239.2	406.0	285.5	591.9	369.7	998.6	536.6
A B C	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
0 1 0	S0-O		227.1	351.7	250.0	371.3	294.1	404.5	381.5	460.5	568.1	557.1	972.7	735.5
0 1 1	S0-O		227.1	351.7	250.0	371.3	294.1	404.5	381.5	460.5	568.1	557.1	972.7	735.5
1 0 0	S0-O		304.0	320.7	327.4	340.3	371.1	373.8	458.5	429.7	644.6	526.2	1049	704.7
1 0 1	S0-O		304.0	320.7	327.4	340.3	371.1	373.8	458.5	429.7	644.6	526.2	1049	704.7
S0 A B	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
0 0 0	C-O		169.9	222.1	190.1	237.7	230.6	264.7	316.0	311.3	502.0	395.5	907.2	562.4
0 0 1	C-O		169.9	222.1	190.1	237.7	230.6	264.7	316.0	311.3	502.0	395.5	907.2	562.4
0 1 0	C-O		169.9	222.1	190.1	237.7	230.6	264.7	316.0	311.3	502.0	395.5	907.2	562.4
0 1 1	C-O		169.9	222.1	190.1	237.7	230.6	264.7	316.0	311.3	502.0	395.5	907.2	562.4
1 0 0	C-O		169.9	222.1	190.1	237.7	230.6	264.7	316.0	311.3	502.0	395.5	907.2	562.4
1 0 1	C-O		169.9	222.1	190.1	237.7	230.6	264.7	316.0	311.3	502.0	395.5	907.2	562.4
1 1 0	C-O		169.9	222.1	190.1	237.7	230.6	264.7	316.0	311.3	502.0	395.5	907.2	562.4
1 1 1	C-O		169.9	222.1	190.1	237.7	230.6	264.7	316.0	311.3	502.0	395.5	907.2	562.4
A C	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
0 0	B-O		240.0	334.0	263.3	353.6	307.1	387.1	394.2	443.0	580.2	539.6	986.6	718.0
0 1	B-O		240.0	334.0	263.3	353.6	307.1	387.1	394.2	443.0	580.2	539.6	986.6	718.0
1 0	B-O		240.0	334.0	263.3	353.6	307.1	387.1	394.2	443.0	580.2	539.6	986.6	718.0
1 1	B-O		240.0	334.0	263.3	353.6	307.1	387.1	394.2	443.0	580.2	539.6	986.6	718.0

Version : MUX3ELD

Cell Unit = 16

State	Output Load												
	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
B C		tplh	tphl										
0 0	A-O	230.4	331.5	246.0	346.5	275.8	372.4	334.0	416.6	456.5	491.9	728.7	626.1
0 1	A-O	230.4	331.5	246.0	346.5	275.8	372.4	334.0	416.6	456.5	491.9	728.7	626.1
1 0	A-O	230.4	331.5	246.0	346.5	275.8	372.4	334.0	416.6	456.5	491.9	728.7	626.1
1 1	A-O	230.4	331.5	246.0	346.5	275.8	372.4	334.0	416.6	456.5	491.9	728.7	626.1
S0 A B C	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 0 0 1	S1-O	136.8	246.4	150.1	260.6	176.3	286.2	231.1	329.6	352.1	404.3	624.0	538.2
0 0 1 1	S1-O	136.8	246.4	150.1	260.6	176.3	286.2	231.1	329.6	352.1	404.3	624.0	538.2
0 1 0 0	S1-O	254.0	193.1	269.5	204.0	299.3	223.8	357.4	257.9	479.8	318.9	752.1	436.5
0 1 1 0	S1-O	254.0	193.1	269.5	204.0	299.3	223.8	357.4	257.9	479.8	318.9	752.1	436.5
1 0 0 1	S1-O	136.8	246.3	150.1	260.5	176.3	286.0	231.1	329.4	352.1	404.2	624.0	538.1
1 0 1 0	S1-O	254.1	193.1	269.6	204.0	299.4	223.8	357.5	257.9	479.9	318.9	752.1	436.5
1 1 0 1	S1-O	136.8	246.2	150.1	260.5	176.3	286.0	231.1	329.4	352.1	404.2	624.0	538.1
1 1 1 0	S1-O	254.1	193.1	269.6	204.0	299.4	223.8	357.5	257.9	479.9	318.9	752.1	436.5
A B C	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 1 0	S0-O	218.7	367.3	234.2	382.0	264.0	408.0	322.3	452.3	444.7	527.5	717.0	661.8
0 1 1	S0-O	218.7	367.3	234.2	382.0	264.1	408.0	322.3	452.3	444.7	527.5	717.0	661.8
1 0 0	S0-O	299.4	332.3	315.1	347.1	344.9	373.2	403.0	417.3	525.4	492.6	797.5	626.8
1 0 1	S0-O	299.4	332.3	315.1	347.1	344.9	373.2	403.0	417.3	525.4	492.6	797.5	626.8
S0 A B	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 0 0	C-O	146.6	211.0	159.8	222.1	185.8	241.8	240.5	276.1	361.4	337.2	633.2	454.8
0 0 1	C-O	146.6	211.0	159.8	222.1	185.8	241.8	240.5	276.1	361.4	337.2	633.2	454.8
0 1 0	C-O	146.6	211.0	159.8	222.1	185.8	241.8	240.5	276.1	361.4	337.2	633.2	454.8
0 1 1	C-O	146.6	211.0	159.8	222.1	185.8	241.8	240.5	276.1	361.4	337.2	633.2	454.8
1 0 0	C-O	146.6	211.0	159.8	222.1	185.8	241.8	240.5	276.1	361.4	337.2	633.2	454.8
1 0 1	C-O	146.6	211.0	159.8	222.1	185.8	241.8	240.5	276.1	361.4	337.2	633.2	454.8
1 1 0	C-O	146.6	211.0	159.8	222.1	185.8	241.8	240.5	276.1	361.4	337.2	633.2	454.8
1 1 1	C-O	146.6	211.0	159.8	222.1	185.8	241.8	240.5	276.1	361.4	337.2	633.2	454.8
A C	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 0	B-O	225.7	338.4	241.4	353.1	271.2	379.1	329.3	423.4	451.8	498.6	724.0	632.8
0 1	B-O	225.7	338.4	241.4	353.1	271.2	379.1	329.3	423.4	451.8	498.6	724.0	632.8
1 0	B-O	225.7	338.4	241.4	353.1	271.2	379.1	329.3	423.4	451.8	498.6	724.0	632.8
1 1	B-O	225.7	338.4	241.4	353.1	271.2	379.1	329.3	423.4	451.8	498.6	724.0	632.8

Version : MUX3HLD

Cell Unit = 21

State	Output Load												
	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
B C		tplh	tphl										
0 0	A-O	239.6	349.4	250.3	359.4	271.9	379.1	314.2	413.9	402.2	475.1	604.1	585.9
0 1	A-O	239.6	349.4	250.3	359.4	271.9	379.1	314.2	413.9	402.2	475.1	604.1	585.9
1 0	A-O	239.6	349.4	250.3	359.4	271.9	379.1	314.2	413.9	402.2	475.1	604.1	585.9
1 1	A-O	239.6	349.4	250.3	359.4	271.9	379.1	314.2	413.9	402.2	475.1	604.1	585.9
S0 A B C	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl										
0 0 0 1	S1-O	149.7	228.0	158.9	237.7	177.9	256.7	216.6	291.1	301.5	351.6	502.6	462.0
0 0 1 1	S1-O	149.7	228.0	158.9	237.7	177.9	256.7	216.6	291.1	301.5	351.6	502.6	462.0
0 1 0 0	S1-O	246.5	223.4	257.1	232.3	278.5	249.0	320.7	279.0	408.6	332.4	610.4	431.9
0 1 1 0	S1-O	246.5	223.4	257.1	232.3	278.5	249.0	320.7	279.0	408.6	332.4	610.4	431.9
1 0 0 1	S1-O	149.7	227.1	158.9	236.7	177.9	255.9	216.6	290.1	301.5	350.7	502.6	461.2
1 0 1 0	S1-O	246.6	223.4	257.2	232.3	278.7	249.0	320.8	279.0	408.7	332.4	610.5	431.9
1 1 0 1	S1-O	149.7	227.1	158.9	236.7	177.9	255.9	216.6	290.1	301.5	350.7	502.6	461.2
1 1 1 0	S1-O	246.6	223.4	257.2	232.3	278.7	249.0	320.8	279.0	408.7	332.4	610.5	431.9
A B C	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl										
0 1 0	S0-O	228.9	351.6	239.6	361.6	261.1	381.2	303.3	416.1	391.3	477.4	593.3	588.2
0 1 1	S0-O	228.9	351.6	239.6	361.6	261.1	381.2	303.3	416.1	391.3	477.4	593.3	588.2
1 0 0	S0-O	309.0	341.3	319.7	351.4	341.3	371.2	383.6	405.8	471.5	467.1	673.3	578.2
1 0 1	S0-O	309.0	341.3	319.7	351.4	341.3	371.2	383.6	405.8	471.5	467.1	673.3	578.2
S0 A B	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl										
0 0 0	C-O	169.5	259.8	178.7	268.6	197.4	285.4	235.9	315.6	320.7	369.1	521.8	468.7
0 0 1	C-O	169.5	259.8	178.7	268.6	197.4	285.4	235.9	315.6	320.7	369.1	521.8	468.7
0 1 0	C-O	169.5	259.8	178.7	268.6	197.4	285.4	235.9	315.6	320.7	369.1	521.8	468.7
0 1 1	C-O	169.5	259.8	178.7	268.6	197.4	285.4	235.9	315.6	320.7	369.1	521.8	468.7
1 0 0	C-O	169.5	259.8	178.7	268.6	197.4	285.4	235.9	315.6	320.7	369.1	521.8	468.7
1 0 1	C-O	169.5	259.8	178.7	268.6	197.4	285.4	235.9	315.6	320.7	369.1	521.8	468.7
1 1 0	C-O	169.5	259.8	178.7	268.6	197.4	285.4	235.9	315.6	320.7	369.1	521.8	468.7
1 1 1	C-O	169.5	259.8	178.7	268.6	197.4	285.4	235.9	315.6	320.7	369.1	521.8	468.7
A C	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl										
0 0	B-O	235.4	361.5	246.1	371.9	267.5	391.4	309.8	426.2	397.8	487.6	599.7	598.6
0 1	B-O	235.4	361.5	246.1	371.9	267.5	391.4	309.8	426.2	397.8	487.6	599.7	598.6
1 0	B-O	235.4	361.5	246.1	371.9	267.5	391.4	309.8	426.2	397.8	487.6	599.7	598.6
1 1	B-O	235.4	361.5	246.1	371.9	267.5	391.4	309.8	426.2	397.8	487.6	599.7	598.6

Version : MUX3KLD

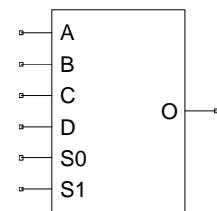
Cell Unit = 27

State	Output Load													
	Path		1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
B C			tplh	tphl	tplh	tphl								
0 0	A-O	254.7	342.4	262.8	349.8	280.9	366.5	318.9	398.9	399.9	459.1	596.0	573.5	
0 1	A-O	254.7	342.4	262.8	349.8	280.9	366.5	318.9	398.9	399.9	459.1	596.0	573.5	
1 0	A-O	254.7	342.4	262.8	349.8	280.9	366.5	318.9	398.9	399.9	459.1	596.0	573.5	
1 1	A-O	254.7	342.4	262.8	349.8	280.9	366.5	318.9	398.9	399.9	459.1	596.0	573.5	
S0 A B C	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff		
		tplh	tphl											
0 0 0 1	S1-O	170.6	290.3	177.4	297.7	192.8	314.5	225.9	346.8	301.1	407.2	494.8	521.6	
0 0 1 1	S1-O	170.6	290.3	177.4	297.7	192.8	314.5	225.9	346.8	301.1	407.2	494.8	521.6	
0 1 0 0	S1-O	273.4	248.2	281.3	254.8	299.4	269.1	337.3	297.5	418.2	350.8	614.1	454.2	
0 1 1 0	S1-O	273.4	248.2	281.3	254.8	299.4	269.1	337.3	297.5	418.2	350.8	614.1	454.2	
1 0 0 1	S1-O	170.6	289.9	177.4	297.4	192.8	314.2	225.9	346.5	301.1	406.9	494.8	521.4	
1 0 1 0	S1-O	273.5	248.2	281.5	254.8	299.6	269.1	337.5	297.5	418.3	350.8	614.2	454.2	
1 1 0 1	S1-O	170.6	289.9	177.4	297.4	192.8	314.2	225.9	346.5	301.1	406.9	494.8	521.4	
1 1 1 0	S1-O	273.5	248.2	281.5	254.8	299.6	269.1	337.5	297.5	418.3	350.8	614.2	454.2	
A B C	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff		
		tplh	tphl											
0 1 0	S0-O	251.1	357.5	259.0	365.0	277.2	381.7	315.0	414.2	396.0	474.5	592.0	589.0	
0 1 1	S0-O	251.1	357.5	259.0	365.0	277.2	381.7	315.0	414.2	396.0	474.5	592.0	589.0	
1 0 0	S0-O	338.5	352.5	346.6	360.1	364.7	376.7	402.7	409.3	483.6	469.5	679.5	584.0	
1 0 1	S0-O	338.5	352.5	346.6	360.1	364.7	376.7	402.7	409.3	483.6	469.5	679.5	584.0	
S0 A B	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff		
		tplh	tphl											
0 0 0	C-O	175.4	269.7	182.2	276.5	197.4	290.8	230.5	319.4	305.7	372.6	499.3	476.0	
0 0 1	C-O	175.4	269.7	182.2	276.5	197.4	290.8	230.5	319.4	305.7	372.6	499.3	476.0	
0 1 0	C-O	175.4	269.7	182.2	276.5	197.4	290.8	230.5	319.4	305.7	372.6	499.3	476.0	
0 1 1	C-O	175.4	269.7	182.2	276.5	197.4	290.8	230.5	319.4	305.7	372.6	499.3	476.0	
1 0 0	C-O	175.4	269.7	182.2	276.5	197.4	290.8	230.5	319.4	305.7	372.6	499.3	476.0	
1 0 1	C-O	175.4	269.7	182.2	276.5	197.4	290.8	230.5	319.4	305.7	372.6	499.3	476.0	
1 1 0	C-O	175.4	269.7	182.2	276.5	197.4	290.8	230.5	319.4	305.7	372.6	499.3	476.0	
1 1 1	C-O	175.4	269.7	182.2	276.5	197.4	290.8	230.5	319.4	305.7	372.6	499.3	476.0	
A C	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff		
		tplh	tphl											
0 0	B-O	247.1	350.8	255.1	358.4	273.1	375.1	311.0	407.6	392.0	467.9	588.0	582.4	
0 1	B-O	247.1	350.8	255.1	358.4	273.1	375.1	311.0	407.6	392.0	467.9	588.0	582.4	
1 0	B-O	247.1	350.8	255.1	358.4	273.1	375.1	311.0	407.6	392.0	467.9	588.0	582.4	
1 1	B-O	247.1	350.8	255.1	358.4	273.1	375.1	311.0	407.6	392.0	467.9	588.0	582.4	

Group Name : MUX4

Symbol

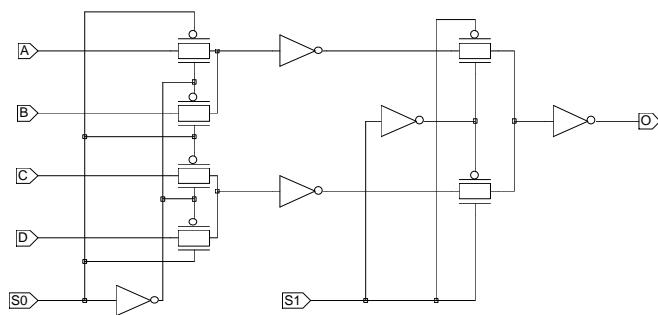
Function : 4 Bit MUX



Truth Table

S1	S0	O
0	0	A
0	1	B
1	0	C
1	1	D

Schematic



Pin Order O S0 S1 A B C D

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance						Maximum Loading	Power Consumption
	S0	S1	A	B	C	D		
MUX4CLD	4.083	2.517	2.005	1.871	1.825	2.027	80.64	10.12
MUX4ELD	4.762	2.679	2.383	2.262	1.818	2.417	138.9	12.68
MUX4HLD	5.209	2.904	2.384	2.262	1.818	2.417	279.3	16.05
MUX4KLD	4.376	2.635	2.130	2.000	1.808	2.165	562.1	29.46

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MUX4CLD

Cell Unit = 25

State	Output Load													
	B C D	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl								
0 0 0	A-O		261.3	318.1	284.8	336.3	329.7	366.9	417.7	419.6	604.4	512.1	1009	686.7
0 0 1	A-O		261.3	318.1	284.8	336.3	329.7	366.9	417.7	419.6	604.4	512.1	1009	686.7
0 1 0	A-O		261.3	318.2	284.8	336.3	329.6	366.9	417.6	419.6	604.4	512.2	1009	686.7
0 1 1	A-O		261.3	318.2	284.8	336.3	329.6	366.9	417.6	419.6	604.4	512.2	1009	686.7
1 0 0	A-O		261.3	318.1	284.8	336.3	329.7	366.9	417.7	419.6	604.4	512.1	1009	686.7
1 0 1	A-O		261.4	318.1	284.8	336.3	329.7	366.9	417.7	419.6	604.4	512.1	1009	686.7
1 1 0	A-O		261.3	318.2	284.8	336.3	329.6	366.9	417.6	419.6	604.4	512.2	1009	686.7
1 1 1	A-O		261.3	318.2	284.8	336.3	329.6	366.9	417.6	419.6	604.4	512.2	1009	686.7
S0 A B C D	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
0 0 0 1 0	S1-O	160.3	181.6	183.7	198.1	228.5	227.2	316.1	278.0	502.9	369.2	907.2	543.0	
0 0 0 1 1	S1-O	160.3	181.6	183.7	198.1	228.5	227.2	316.1	278.0	502.9	369.2	907.2	543.0	
0 0 1 1 0	S1-O	160.3	181.6	183.7	198.1	228.5	227.2	316.1	278.0	502.9	369.2	907.2	543.0	
0 0 1 1 1	S1-O	160.3	181.6	183.7	198.1	228.5	227.2	316.1	278.0	502.9	369.2	907.2	543.0	
0 1 0 0 0	S1-O	239.8	195.4	262.6	213.0	307.0	243.3	394.9	295.9	579.7	389.1	986.1	564.6	
0 1 0 0 1	S1-O	239.8	195.4	262.6	213.0	307.0	243.3	394.9	295.9	579.7	389.1	986.1	564.6	
0 1 1 0 0	S1-O	239.8	195.4	262.6	213.0	307.0	243.3	394.9	295.9	579.7	389.1	986.1	564.6	
0 1 1 0 1	S1-O	239.8	195.4	262.6	213.0	307.0	243.3	394.9	295.9	579.7	389.1	986.1	564.6	
1 0 0 0 1	S1-O	160.6	181.5	184.1	197.9	228.8	227.0	316.2	277.8	503.0	369.0	907.3	542.9	
1 0 0 1 1	S1-O	160.6	181.5	184.1	197.9	228.8	227.0	316.2	277.8	503.0	369.0	907.3	542.9	
1 0 1 0 0	S1-O	239.9	193.4	262.8	210.7	307.2	240.3	395.1	291.8	579.8	383.3	987.5	557.1	
1 0 1 1 0	S1-O	239.9	193.4	262.8	210.7	307.2	240.3	395.1	291.8	579.8	383.3	987.5	557.1	
1 1 0 0 1	S1-O	160.6	181.5	184.1	197.9	228.8	227.0	316.2	277.8	503.0	369.0	907.3	542.9	
1 1 0 1 1	S1-O	160.6	181.5	184.1	197.9	228.8	227.0	316.2	277.8	503.0	369.0	907.3	542.9	
1 1 1 0 0	S1-O	239.9	193.4	262.8	210.7	307.2	240.3	395.1	291.8	579.8	383.3	987.5	557.1	
1 1 1 1 0	S1-O	239.9	193.4	262.8	210.7	307.2	240.3	395.1	291.8	579.8	383.3	987.5	557.1	
S1 A B C D	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
0 0 1 0 0	S0-O	238.7	305.6	262.0	323.5	306.9	354.2	395.1	406.8	581.4	499.3	986.8	673.8	
0 0 1 0 1	S0-O	240.0	304.7	263.3	322.7	307.8	353.5	396.1	406.2	581.7	498.8	988.6	673.3	
0 0 1 1 0	S0-O	237.6	306.9	261.4	324.6	305.7	355.3	393.7	407.8	580.0	500.3	985.3	674.8	
0 0 1 1 1	S0-O	238.9	305.5	262.5	323.5	306.8	354.2	395.0	406.8	579.8	499.3	987.8	673.8	
0 1 0 0 0	S0-O	331.6	303.2	355.1	321.1	400.0	351.9	487.7	404.5	674.4	497.1	1079	671.7	
0 1 0 0 1	S0-O	319.0	301.0	342.4	318.9	387.3	349.8	475.3	402.2	661.8	494.9	1067	669.5	
0 1 0 1 0	S0-O	340.1	304.6	363.7	322.6	408.6	353.5	497.0	406.2	682.8	498.8	1089	673.5	
0 1 0 1 1	S0-O	328.2	303.2	351.8	321.2	396.5	351.9	484.8	404.5	670.6	497.1	1077	671.7	
1 0 0 0 1	S0-O	234.6	316.9	257.8	335.4	302.3	366.4	390.4	420.0	576.4	513.8	982.2	689.7	
1 0 0 1 0	S0-O	327.9	303.0	351.3	320.7	396.1	351.1	484.1	403.3	670.2	495.3	1076	669.3	

<b>1 0 1 0 1</b>	S0-O	234.5	316.9	258.1	335.3	302.3	366.4	389.7	420.0	575.9	513.8	982.4	689.7
<b>1 0 1 1 0</b>	S0-O	315.7	300.4	339.1	318.1	383.8	348.7	471.9	400.7	657.9	492.8	1063	666.8
<b>1 1 0 0 1</b>	S0-O	234.6	316.9	258.3	335.2	302.6	366.4	389.9	420.0	576.2	513.8	982.3	689.7
<b>1 1 0 1 0</b>	S0-O	335.2	305.2	358.8	323.0	403.5	353.4	491.8	405.6	677.4	497.7	1084	671.7
<b>1 1 1 0 1</b>	S0-O	234.4	316.9	258.1	335.4	302.5	366.4	389.9	420.0	576.1	513.8	982.3	689.7
<b>1 1 1 1 0</b>	S0-O	324.5	302.9	348.2	320.7	392.6	351.2	480.5	403.3	665.4	495.4	1072	669.4
<b>A B D</b>	<b>Path</b>	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
<b>0 0 0</b>	C-O	256.3	336.2	279.6	354.6	324.4	385.8	412.5	439.4	598.7	533.2	1004	709.1
<b>0 0 1</b>	C-O	256.3	336.2	279.6	354.6	324.4	385.8	412.5	439.4	598.7	533.2	1004	709.1
<b>0 1 0</b>	C-O	256.3	336.2	279.6	354.6	324.4	385.8	412.5	439.4	598.7	533.2	1004	709.1
<b>0 1 1</b>	C-O	256.3	336.2	279.6	354.6	324.4	385.8	412.5	439.4	598.7	533.2	1004	709.1
<b>1 0 0</b>	C-O	256.3	336.2	279.6	354.6	324.3	385.8	412.5	439.4	598.6	533.2	1004	709.2
<b>1 0 1</b>	C-O	256.3	336.2	279.6	354.6	324.3	385.8	412.5	439.4	598.6	533.2	1004	709.2
<b>1 1 0</b>	C-O	256.3	336.2	279.6	354.6	324.3	385.8	412.5	439.4	598.6	533.2	1004	709.2
<b>1 1 1</b>	C-O	256.3	336.2	279.6	354.6	324.3	385.8	412.5	439.4	598.6	533.2	1004	709.2
<b>A C D</b>	<b>Path</b>	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
<b>0 0 0</b>	B-O	257.6	322.9	281.1	340.9	326.0	371.7	413.5	424.4	600.3	517.0	1005	691.6
<b>0 0 1</b>	B-O	257.6	322.9	281.1	340.9	326.0	371.7	413.5	424.3	600.3	517.0	1005	691.6
<b>0 1 0</b>	B-O	257.6	322.9	281.1	340.9	326.0	371.7	413.5	424.4	600.3	517.0	1005	691.6
<b>0 1 1</b>	B-O	257.6	322.9	281.1	340.9	326.0	371.7	413.5	424.3	600.3	517.0	1005	691.6
<b>1 0 0</b>	B-O	257.6	322.9	281.1	340.9	326.0	371.7	413.5	424.4	600.3	517.0	1005	691.6
<b>1 0 1</b>	B-O	257.6	322.9	281.1	340.9	326.0	371.7	413.5	424.3	600.3	517.0	1005	691.6
<b>1 1 0</b>	B-O	257.6	322.9	281.1	340.9	326.0	371.7	413.5	424.4	600.3	517.0	1005	691.6
<b>1 1 1</b>	B-O	257.6	322.9	281.1	340.9	326.0	371.7	413.5	424.3	600.3	517.0	1005	691.6
<b>A B C</b>	<b>Path</b>	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
<b>0 0 0</b>	D-O	242.4	307.6	265.9	325.5	310.4	355.8	397.5	408.1	584.2	500.1	989.5	674.1
<b>0 0 1</b>	D-O	242.4	307.6	265.9	325.5	310.4	355.8	397.5	408.1	584.2	500.1	989.5	674.1
<b>0 1 0</b>	D-O	242.4	307.6	265.9	325.5	310.4	355.8	397.5	408.1	584.2	500.1	989.5	674.1
<b>0 1 1</b>	D-O	242.4	307.6	265.9	325.5	310.4	355.8	397.5	408.1	584.2	500.1	989.5	674.1
<b>1 0 0</b>	D-O	242.4	307.6	265.9	325.5	310.4	355.8	397.5	408.1	584.2	500.1	989.5	674.1
<b>1 0 1</b>	D-O	242.4	307.6	265.9	325.5	310.4	355.8	397.5	408.1	584.2	500.1	989.5	674.1
<b>1 1 0</b>	D-O	242.4	307.6	265.9	325.5	310.4	355.8	397.5	408.1	584.2	500.1	989.5	674.1
<b>1 1 1</b>	D-O	242.4	307.6	265.9	325.5	310.4	355.8	397.5	408.1	584.2	500.1	989.5	674.1

Version : MUX4ELD

Cell Unit = 25

State	Output Load													
	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B C D			tplh	tphl										
0 0 0	A-O	246.7	306.4	261.3	318.5	289.8	340.1	344.0	376.6	454.1	439.0	690.4	550.8	
0 0 1	A-O	246.7	306.4	261.3	318.5	289.8	340.1	344.0	376.6	454.1	439.0	690.4	550.8	
0 1 0	A-O	246.6	306.4	261.2	318.6	289.8	340.2	343.9	376.6	454.0	439.0	690.3	550.9	
0 1 1	A-O	246.6	306.4	261.2	318.6	289.8	340.2	343.9	376.6	454.0	439.0	690.3	550.9	
1 0 0	A-O	246.7	306.4	261.3	318.5	289.8	340.1	344.0	376.6	454.1	439.0	690.4	550.8	
1 0 1	A-O	246.7	306.4	261.3	318.5	289.8	340.1	344.0	376.6	454.1	439.0	690.4	550.8	
1 1 0	A-O	246.6	306.4	261.2	318.6	289.8	340.2	343.9	376.6	454.0	439.0	690.3	550.9	
1 1 1	A-O	246.6	306.4	261.2	318.6	289.8	340.2	343.9	376.6	454.0	439.0	690.3	550.9	
S0 A B C D	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
	0 0 0 1 0	S1-O	153.2	190.0	168.4	201.6	197.6	222.0	252.7	257.4	363.0	318.8	599.1	430.0
	0 0 0 1 1	S1-O	153.2	190.0	168.4	201.6	197.6	222.0	252.7	257.4	363.0	318.8	599.1	430.0
	0 0 1 1 0	S1-O	153.2	190.0	168.4	201.6	197.6	222.0	252.7	257.4	363.0	318.8	599.1	430.0
	0 0 1 1 1	S1-O	153.2	190.0	168.4	201.6	197.6	222.0	252.7	257.4	363.0	318.8	599.1	430.0
	0 1 0 0 0	S1-O	236.2	210.0	251.2	222.6	279.0	245.1	333.1	283.1	442.9	348.3	679.2	464.2
	0 1 0 0 1	S1-O	236.2	210.0	251.2	222.6	279.0	245.1	333.1	283.1	442.9	348.3	679.2	464.2
	0 1 1 0 0	S1-O	236.2	210.0	251.2	222.6	279.0	245.1	333.1	283.1	442.9	348.3	679.2	464.2
	0 1 1 0 1	S1-O	236.2	210.0	251.2	222.6	279.0	245.1	333.1	283.1	442.9	348.3	679.2	464.2
	1 0 0 0 1	S1-O	151.1	195.0	166.1	206.8	194.6	227.9	249.0	264.1	358.6	326.8	594.4	439.5
	1 0 0 1 1	S1-O	151.1	195.0	166.1	206.8	194.6	227.9	249.0	264.1	358.6	326.8	594.4	439.5
	1 0 1 0 0	S1-O	236.5	199.7	251.4	211.7	279.2	232.6	333.3	268.1	443.2	329.6	679.5	440.6
S1 A B C D	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
	0 0 1 0 0	S0-O	221.4	293.5	236.3	305.9	264.6	327.3	319.1	363.7	428.7	426.1	665.4	537.9
	0 0 1 0 1	S0-O	223.6	292.6	238.7	305.0	266.8	326.4	321.0	362.9	430.5	425.4	666.7	537.2
	0 0 1 1 0	S0-O	219.7	295.1	234.8	307.3	263.6	328.6	317.7	365.0	427.6	427.4	662.8	539.2
	0 0 1 1 1	S0-O	221.7	293.5	236.9	305.9	265.2	327.3	319.4	363.7	429.6	426.1	666.0	537.9
	0 1 0 0 0	S0-O	313.7	306.4	328.8	319.1	357.6	340.9	411.8	378.3	521.4	441.9	756.3	555.3
	0 1 0 0 1	S0-O	299.2	303.5	314.0	316.0	342.6	338.0	397.1	375.3	506.0	439.0	742.4	552.4
	0 1 0 1 0	S0-O	323.7	308.3	338.8	321.1	367.4	343.0	422.0	380.4	530.7	444.2	767.3	557.6
	0 1 0 1 1	S0-O	310.2	306.5	325.0	319.2	353.5	341.0	408.0	378.4	517.2	442.0	753.8	555.4
	1 0 0 0 1	S0-O	217.1	329.9	232.1	342.9	260.4	365.8	314.3	404.5	424.4	470.4	660.7	586.8
	1 0 0 1 0	S0-O	317.4	297.8	332.8	309.8	361.9	331.2	417.1	367.1	526.8	429.1	763.5	540.3
	1 0 1 0 1	S0-O	217.7	329.8	232.7	342.8	261.2	365.8	315.2	404.5	424.6	470.4	659.8	586.8

<b>1 0 1 1 0</b>	<b>S0-O</b>	<b>304.3</b>	<b>294.8</b>	<b>319.7</b>	<b>306.9</b>	<b>348.8</b>	<b>328.3</b>	<b>404.0</b>	<b>364.1</b>	<b>513.3</b>	<b>426.1</b>	<b>750.1</b>	<b>537.4</b>
<b>1 1 0 0 1</b>	<b>S0-O</b>	<b>217.5</b>	<b>330.0</b>	<b>232.1</b>	<b>342.9</b>	<b>260.7</b>	<b>365.8</b>	<b>314.7</b>	<b>404.6</b>	<b>424.2</b>	<b>470.5</b>	<b>659.1</b>	<b>586.9</b>
<b>1 1 0 1 0</b>	<b>S0-O</b>	<b>325.8</b>	<b>300.7</b>	<b>341.3</b>	<b>312.6</b>	<b>370.3</b>	<b>334.0</b>	<b>425.5</b>	<b>370.0</b>	<b>535.8</b>	<b>432.0</b>	<b>772.5</b>	<b>543.3</b>
<b>1 1 1 0 1</b>	<b>S0-O</b>	<b>217.4</b>	<b>329.9</b>	<b>232.0</b>	<b>342.9</b>	<b>260.7</b>	<b>365.8</b>	<b>314.6</b>	<b>404.5</b>	<b>424.4</b>	<b>470.4</b>	<b>659.7</b>	<b>586.8</b>
<b>1 1 1 1 0</b>	<b>S0-O</b>	<b>314.6</b>	<b>298.2</b>	<b>330.0</b>	<b>310.1</b>	<b>359.1</b>	<b>331.6</b>	<b>414.4</b>	<b>367.5</b>	<b>524.1</b>	<b>429.4</b>	<b>760.7</b>	<b>540.7</b>
<b>A B D</b>	<b>Path</b>	<b>1.500 ff</b>		<b>3.306 ff</b>		<b>7.287 ff</b>		<b>16.06 ff</b>		<b>35.40 ff</b>		<b>78.03 ff</b>	
		<b>tplh</b>	<b>tphl</b>										
<b>0 0 0</b>	<b>C-O</b>	<b>252.8</b>	<b>358.1</b>	<b>268.1</b>	<b>371.4</b>	<b>297.2</b>	<b>394.2</b>	<b>352.5</b>	<b>432.9</b>	<b>461.6</b>	<b>498.8</b>	<b>698.4</b>	<b>615.2</b>
<b>0 0 1</b>	<b>C-O</b>	<b>252.8</b>	<b>358.1</b>	<b>268.1</b>	<b>371.4</b>	<b>297.2</b>	<b>394.2</b>	<b>352.5</b>	<b>432.9</b>	<b>461.6</b>	<b>498.8</b>	<b>698.5</b>	<b>615.2</b>
<b>0 1 0</b>	<b>C-O</b>	<b>252.8</b>	<b>358.1</b>	<b>268.1</b>	<b>371.4</b>	<b>297.2</b>	<b>394.2</b>	<b>352.5</b>	<b>432.9</b>	<b>461.6</b>	<b>498.8</b>	<b>698.5</b>	<b>615.2</b>
<b>0 1 1</b>	<b>C-O</b>	<b>252.8</b>	<b>358.1</b>	<b>268.1</b>	<b>371.4</b>	<b>297.2</b>	<b>394.2</b>	<b>352.5</b>	<b>432.9</b>	<b>461.6</b>	<b>498.8</b>	<b>698.5</b>	<b>615.2</b>
<b>1 0 0</b>	<b>C-O</b>	<b>252.7</b>	<b>358.1</b>	<b>268.0</b>	<b>371.4</b>	<b>297.2</b>	<b>394.2</b>	<b>352.4</b>	<b>432.9</b>	<b>461.6</b>	<b>498.9</b>	<b>698.4</b>	<b>615.2</b>
<b>1 0 1</b>	<b>C-O</b>	<b>252.7</b>	<b>358.1</b>	<b>268.0</b>	<b>371.4</b>	<b>297.2</b>	<b>394.2</b>	<b>352.4</b>	<b>432.9</b>	<b>461.6</b>	<b>498.9</b>	<b>698.4</b>	<b>615.2</b>
<b>1 1 0</b>	<b>C-O</b>	<b>252.7</b>	<b>358.1</b>	<b>268.0</b>	<b>371.4</b>	<b>297.2</b>	<b>394.2</b>	<b>352.4</b>	<b>432.9</b>	<b>461.6</b>	<b>498.9</b>	<b>698.4</b>	<b>615.2</b>
<b>1 1 1</b>	<b>C-O</b>	<b>252.7</b>	<b>358.1</b>	<b>268.0</b>	<b>371.4</b>	<b>297.2</b>	<b>394.2</b>	<b>352.4</b>	<b>432.9</b>	<b>461.6</b>	<b>498.9</b>	<b>698.4</b>	<b>615.2</b>
<b>A C D</b>	<b>Path</b>	<b>1.500 ff</b>		<b>3.306 ff</b>		<b>7.287 ff</b>		<b>16.06 ff</b>		<b>35.40 ff</b>		<b>78.03 ff</b>	
		<b>tplh</b>	<b>tphl</b>										
<b>0 0 0</b>	<b>B-O</b>	<b>242.1</b>	<b>318.7</b>	<b>256.7</b>	<b>331.3</b>	<b>285.1</b>	<b>353.5</b>	<b>339.2</b>	<b>390.8</b>	<b>449.2</b>	<b>454.4</b>	<b>685.4</b>	<b>567.8</b>
<b>0 0 1</b>	<b>B-O</b>	<b>242.1</b>	<b>318.7</b>	<b>256.7</b>	<b>331.3</b>	<b>285.1</b>	<b>353.5</b>	<b>339.2</b>	<b>390.7</b>	<b>449.2</b>	<b>454.4</b>	<b>685.4</b>	<b>567.8</b>
<b>0 1 0</b>	<b>B-O</b>	<b>242.1</b>	<b>318.7</b>	<b>256.7</b>	<b>331.3</b>	<b>285.1</b>	<b>353.5</b>	<b>339.2</b>	<b>390.8</b>	<b>449.2</b>	<b>454.4</b>	<b>685.4</b>	<b>567.8</b>
<b>0 1 1</b>	<b>B-O</b>	<b>242.1</b>	<b>318.7</b>	<b>256.7</b>	<b>331.3</b>	<b>285.1</b>	<b>353.5</b>	<b>339.2</b>	<b>390.7</b>	<b>449.2</b>	<b>454.4</b>	<b>685.4</b>	<b>567.8</b>
<b>1 0 0</b>	<b>B-O</b>	<b>242.1</b>	<b>318.7</b>	<b>256.7</b>	<b>331.3</b>	<b>285.1</b>	<b>353.5</b>	<b>339.2</b>	<b>390.8</b>	<b>449.2</b>	<b>454.4</b>	<b>685.4</b>	<b>567.8</b>
<b>1 0 1</b>	<b>B-O</b>	<b>242.1</b>	<b>318.7</b>	<b>256.7</b>	<b>331.3</b>	<b>285.1</b>	<b>353.5</b>	<b>339.2</b>	<b>390.7</b>	<b>449.2</b>	<b>454.4</b>	<b>685.4</b>	<b>567.8</b>
<b>1 1 0</b>	<b>B-O</b>	<b>242.1</b>	<b>318.7</b>	<b>256.7</b>	<b>331.3</b>	<b>285.1</b>	<b>353.5</b>	<b>339.2</b>	<b>390.8</b>	<b>449.2</b>	<b>454.4</b>	<b>685.4</b>	<b>567.8</b>
<b>1 1 1</b>	<b>B-O</b>	<b>242.1</b>	<b>318.7</b>	<b>256.7</b>	<b>331.3</b>	<b>285.1</b>	<b>353.5</b>	<b>339.2</b>	<b>390.7</b>	<b>449.2</b>	<b>454.4</b>	<b>685.4</b>	<b>567.8</b>
<b>A B C</b>	<b>Path</b>	<b>1.500 ff</b>		<b>3.306 ff</b>		<b>7.287 ff</b>		<b>16.06 ff</b>		<b>35.40 ff</b>		<b>78.03 ff</b>	
		<b>tplh</b>	<b>tphl</b>										
<b>0 0 0</b>	<b>D-O</b>	<b>227.8</b>	<b>299.4</b>	<b>242.4</b>	<b>311.4</b>	<b>270.9</b>	<b>332.7</b>	<b>324.9</b>	<b>368.8</b>	<b>434.3</b>	<b>430.8</b>	<b>669.2</b>	<b>542.1</b>
<b>0 0 1</b>	<b>D-O</b>	<b>227.8</b>	<b>299.4</b>	<b>242.4</b>	<b>311.4</b>	<b>270.9</b>	<b>332.7</b>	<b>324.9</b>	<b>368.8</b>	<b>434.3</b>	<b>430.8</b>	<b>669.2</b>	<b>542.1</b>
<b>0 1 0</b>	<b>D-O</b>	<b>227.8</b>	<b>299.4</b>	<b>242.3</b>	<b>311.4</b>	<b>270.9</b>	<b>332.7</b>	<b>324.9</b>	<b>368.8</b>	<b>434.3</b>	<b>430.7</b>	<b>669.2</b>	<b>542.0</b>
<b>0 1 1</b>	<b>D-O</b>	<b>227.8</b>	<b>299.4</b>	<b>242.3</b>	<b>311.4</b>	<b>270.9</b>	<b>332.7</b>	<b>324.9</b>	<b>368.8</b>	<b>434.3</b>	<b>430.7</b>	<b>669.2</b>	<b>542.0</b>
<b>1 0 0</b>	<b>D-O</b>	<b>227.8</b>	<b>299.4</b>	<b>242.4</b>	<b>311.4</b>	<b>270.9</b>	<b>332.7</b>	<b>324.9</b>	<b>368.8</b>	<b>434.3</b>	<b>430.8</b>	<b>669.2</b>	<b>542.1</b>
<b>1 0 1</b>	<b>D-O</b>	<b>227.8</b>	<b>299.4</b>	<b>242.4</b>	<b>311.4</b>	<b>270.9</b>	<b>332.7</b>	<b>324.9</b>	<b>368.9</b>	<b>434.3</b>	<b>430.8</b>	<b>669.2</b>	<b>542.1</b>
<b>1 1 0</b>	<b>D-O</b>	<b>227.8</b>	<b>299.4</b>	<b>242.3</b>	<b>311.4</b>	<b>270.9</b>	<b>332.7</b>	<b>324.9</b>	<b>368.8</b>	<b>434.3</b>	<b>430.7</b>	<b>669.2</b>	<b>542.0</b>
<b>1 1 1</b>	<b>D-O</b>	<b>227.8</b>	<b>299.4</b>	<b>242.3</b>	<b>311.4</b>	<b>270.9</b>	<b>332.7</b>	<b>324.9</b>	<b>368.8</b>	<b>434.3</b>	<b>430.7</b>	<b>669.2</b>	<b>542.0</b>

Version : MUX4HLD

Cell Unit = 27

State	Output Load												
	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
Path		tplh	tphl										
0 0 0	A-O	266.4	349.6	278.6	360.4	303.0	381.5	351.0	418.8	450.4	484.5	680.7	606.1
0 0 1	A-O	266.4	349.6	278.6	360.4	303.0	381.5	351.0	418.8	450.4	484.5	680.7	606.1
0 1 0	A-O	266.4	349.6	278.6	360.5	303.0	381.5	351.0	418.8	450.4	484.6	680.7	606.1
0 1 1	A-O	266.4	349.6	278.6	360.4	303.0	381.5	351.0	418.8	450.4	484.6	680.7	606.1
1 0 0	A-O	266.4	349.6	278.6	360.4	303.0	381.5	351.0	418.8	450.4	484.5	680.7	606.1
1 0 1	A-O	266.4	349.6	278.6	360.4	303.0	381.5	351.0	418.8	450.4	484.5	680.7	606.1
1 1 0	A-O	266.4	349.6	278.6	360.4	303.0	381.5	351.0	418.8	450.4	484.6	680.7	606.1
1 1 1	A-O	266.4	349.6	278.6	360.4	303.0	381.5	351.0	418.8	450.4	484.6	680.7	606.1
S0 A B C D	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
	S1-O	182.3	249.0	194.7	259.9	219.7	280.9	268.6	317.6	369.2	383.4	600.0	504.7
	S1-O	182.3	249.0	194.7	259.9	219.7	280.9	268.6	317.6	369.2	383.4	600.0	504.7
	S1-O	182.3	249.0	194.7	259.9	219.7	280.9	268.6	317.6	369.2	383.4	600.0	504.7
	S1-O	182.3	249.0	194.7	259.9	219.7	280.9	268.6	317.6	369.2	383.4	600.0	504.7
	S1-O	182.3	249.0	194.7	259.9	219.7	280.9	268.6	317.6	369.2	383.4	600.0	504.7
	S1-O	231.6	264.5	243.7	276.5	268.1	298.7	315.9	338.2	415.4	407.7	645.6	534.7
	S1-O	231.6	264.5	243.7	276.5	268.1	298.7	315.9	338.2	415.4	407.7	645.6	534.7
	S1-O	231.6	264.5	243.7	276.5	268.1	298.7	315.9	338.2	415.4	407.7	645.6	534.7
	S1-O	231.6	264.5	243.7	276.5	268.1	298.7	315.9	338.2	415.4	407.7	645.6	534.7
	S1-O	231.6	264.5	243.7	276.5	268.1	298.7	315.9	338.2	415.4	407.7	645.6	534.7
	S1-O	179.1	256.8	191.3	267.9	215.6	289.3	263.5	327.5	362.9	394.6	593.3	518.1
	S1-O	179.1	256.8	191.3	267.9	215.6	289.3	263.5	327.5	362.9	394.6	593.3	518.1
	S1-O	231.9	247.3	244.0	258.0	268.4	278.7	316.2	315.7	415.6	380.9	645.8	501.7
	S1-O	231.9	247.3	244.0	258.0	268.4	278.7	316.2	315.7	415.6	380.9	645.8	501.7
	S1-O	179.1	256.8	191.3	267.9	215.6	289.3	263.5	327.4	362.9	394.6	593.3	518.1
	S1-O	179.1	256.8	191.3	267.9	215.6	289.3	263.5	327.4	362.9	394.6	593.3	518.1
	S1-O	231.9	247.3	244.0	258.0	268.4	278.7	316.2	315.7	415.6	380.9	645.8	501.7
	S1-O	231.9	247.3	244.0	258.0	268.4	278.7	316.2	315.7	415.6	380.9	645.8	501.7
S1 A B C D	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 1 0 0	S0-O	244.9	342.3	257.1	353.2	281.5	374.3	329.5	411.6	428.9	477.4	659.2	599.0
0 0 1 0 1	S0-O	245.6	340.7	257.7	351.5	282.2	372.6	330.1	409.9	429.5	475.8	659.9	597.4
0 0 1 1 0	S0-O	243.7	343.7	255.9	354.5	280.3	375.6	328.3	413.0	427.7	478.8	658.0	600.5
0 0 1 1 1	S0-O	244.9	342.2	257.1	353.0	281.6	374.1	329.4	411.4	428.9	477.3	659.2	598.9
0 1 0 0 0	S0-O	306.2	344.2	318.3	355.2	342.8	376.8	390.7	415.1	490.1	482.5	720.3	606.2
0 1 0 0 1	S0-O	296.7	342.3	308.9	353.5	333.4	375.1	381.2	413.2	480.6	480.7	710.8	604.3
0 1 0 1 0	S0-O	313.0	344.8	325.2	355.9	349.6	377.5	397.6	415.8	497.0	483.2	727.2	606.9
0 1 0 1 1	S0-O	303.7	343.9	315.9	355.0	340.4	376.6	388.3	414.8	487.7	482.3	717.9	606.0
1 0 0 0 1	S0-O	241.4	383.4	253.6	395.4	277.9	417.7	325.8	457.5	425.0	527.4	655.3	654.7
1 0 0 1 0	S0-O	311.6	332.0	324.1	343.2	349.1	363.9	398.1	400.8	498.3	466.3	728.9	587.2
1 0 1 0 1	S0-O	241.3	381.6	253.4	393.2	277.9	415.6	325.6	455.4	424.9	525.4	655.1	652.6

<b>1 0 1 1 0</b>	<b>S0-O</b>	<b>303.6</b>	<b>330.2</b>	<b>316.0</b>	<b>341.0</b>	<b>341.1</b>	<b>361.9</b>	<b>389.9</b>	<b>398.9</b>	<b>490.2</b>	<b>464.2</b>	<b>720.9</b>	<b>585.2</b>
<b>1 1 0 0 1</b>	<b>S0-O</b>	<b>241.5</b>	<b>384.7</b>	<b>253.7</b>	<b>396.2</b>	<b>278.0</b>	<b>418.7</b>	<b>325.9</b>	<b>458.5</b>	<b>425.1</b>	<b>528.5</b>	<b>655.4</b>	<b>655.8</b>
<b>1 1 0 1 0</b>	<b>S0-O</b>	<b>317.2</b>	<b>333.4</b>	<b>329.8</b>	<b>344.6</b>	<b>354.9</b>	<b>365.3</b>	<b>403.7</b>	<b>402.2</b>	<b>504.1</b>	<b>467.7</b>	<b>734.6</b>	<b>588.7</b>
<b>1 1 1 0 1</b>	<b>S0-O</b>	<b>241.4</b>	<b>383.1</b>	<b>253.6</b>	<b>395.1</b>	<b>277.9</b>	<b>417.4</b>	<b>325.7</b>	<b>457.2</b>	<b>425.0</b>	<b>527.1</b>	<b>655.2</b>	<b>654.4</b>
<b>1 1 1 1 0</b>	<b>S0-O</b>	<b>309.9</b>	<b>332.0</b>	<b>322.4</b>	<b>343.1</b>	<b>347.5</b>	<b>363.9</b>	<b>396.3</b>	<b>400.7</b>	<b>496.6</b>	<b>466.2</b>	<b>727.3</b>	<b>587.2</b>
<b>A B D</b>	<b>Path</b>	<b>1.500 ff</b>		<b>3.711 ff</b>		<b>9.182 ff</b>		<b>22.72 ff</b>		<b>56.20 ff</b>		<b>139.0 ff</b>	
		<b>tplh</b>	<b>tphl</b>										
<b>0 0 0</b>	<b>C-O</b>	<b>275.9</b>	<b>406.7</b>	<b>288.4</b>	<b>418.8</b>	<b>313.4</b>	<b>441.0</b>	<b>362.3</b>	<b>480.7</b>	<b>462.7</b>	<b>550.6</b>	<b>693.3</b>	<b>677.9</b>
<b>0 0 1</b>	<b>C-O</b>	<b>275.9</b>	<b>406.7</b>	<b>288.4</b>	<b>418.8</b>	<b>313.4</b>	<b>441.0</b>	<b>362.3</b>	<b>480.7</b>	<b>462.7</b>	<b>550.6</b>	<b>693.3</b>	<b>677.9</b>
<b>0 1 0</b>	<b>C-O</b>	<b>275.9</b>	<b>406.7</b>	<b>288.4</b>	<b>418.8</b>	<b>313.4</b>	<b>441.0</b>	<b>362.3</b>	<b>480.7</b>	<b>462.7</b>	<b>550.6</b>	<b>693.3</b>	<b>677.9</b>
<b>0 1 1</b>	<b>C-O</b>	<b>275.9</b>	<b>406.7</b>	<b>288.4</b>	<b>418.8</b>	<b>313.4</b>	<b>441.0</b>	<b>362.3</b>	<b>480.7</b>	<b>462.7</b>	<b>550.6</b>	<b>693.4</b>	<b>677.9</b>
<b>1 0 0</b>	<b>C-O</b>	<b>275.8</b>	<b>406.7</b>	<b>288.4</b>	<b>418.8</b>	<b>313.4</b>	<b>441.0</b>	<b>362.3</b>	<b>480.7</b>	<b>462.7</b>	<b>550.6</b>	<b>693.3</b>	<b>677.9</b>
<b>1 0 1</b>	<b>C-O</b>	<b>275.8</b>	<b>406.7</b>	<b>288.4</b>	<b>418.8</b>	<b>313.4</b>	<b>441.0</b>	<b>362.3</b>	<b>480.7</b>	<b>462.7</b>	<b>550.6</b>	<b>693.3</b>	<b>677.9</b>
<b>1 1 0</b>	<b>C-O</b>	<b>275.8</b>	<b>406.7</b>	<b>288.4</b>	<b>418.8</b>	<b>313.4</b>	<b>441.0</b>	<b>362.3</b>	<b>480.7</b>	<b>462.7</b>	<b>550.6</b>	<b>693.3</b>	<b>677.9</b>
<b>1 1 1</b>	<b>C-O</b>	<b>275.8</b>	<b>406.7</b>	<b>288.4</b>	<b>418.8</b>	<b>313.4</b>	<b>441.0</b>	<b>362.3</b>	<b>480.7</b>	<b>462.7</b>	<b>550.6</b>	<b>693.3</b>	<b>677.9</b>
<b>A C D</b>	<b>Path</b>	<b>1.500 ff</b>		<b>3.711 ff</b>		<b>9.182 ff</b>		<b>22.72 ff</b>		<b>56.20 ff</b>		<b>139.0 ff</b>	
		<b>tplh</b>	<b>tphl</b>										
<b>0 0 0</b>	<b>B-O</b>	<b>263.5</b>	<b>362.5</b>	<b>275.6</b>	<b>374.2</b>	<b>300.1</b>	<b>395.6</b>	<b>348.0</b>	<b>433.7</b>	<b>447.4</b>	<b>501.1</b>	<b>677.8</b>	<b>624.8</b>
<b>0 0 1</b>	<b>B-O</b>	<b>263.5</b>	<b>362.5</b>	<b>275.6</b>	<b>374.1</b>	<b>300.1</b>	<b>395.5</b>	<b>348.0</b>	<b>433.7</b>	<b>447.4</b>	<b>501.1</b>	<b>677.8</b>	<b>624.8</b>
<b>0 1 0</b>	<b>B-O</b>	<b>263.5</b>	<b>362.5</b>	<b>275.6</b>	<b>374.2</b>	<b>300.1</b>	<b>395.6</b>	<b>348.0</b>	<b>433.7</b>	<b>447.4</b>	<b>501.1</b>	<b>677.8</b>	<b>624.8</b>
<b>0 1 1</b>	<b>B-O</b>	<b>263.5</b>	<b>362.5</b>	<b>275.6</b>	<b>374.1</b>	<b>300.1</b>	<b>395.5</b>	<b>348.0</b>	<b>433.7</b>	<b>447.4</b>	<b>501.1</b>	<b>677.8</b>	<b>624.8</b>
<b>1 0 0</b>	<b>B-O</b>	<b>263.5</b>	<b>362.5</b>	<b>275.6</b>	<b>374.2</b>	<b>300.1</b>	<b>395.6</b>	<b>348.0</b>	<b>433.7</b>	<b>447.4</b>	<b>501.1</b>	<b>677.8</b>	<b>624.8</b>
<b>1 0 1</b>	<b>B-O</b>	<b>263.5</b>	<b>362.5</b>	<b>275.6</b>	<b>374.1</b>	<b>300.1</b>	<b>395.5</b>	<b>348.0</b>	<b>433.7</b>	<b>447.4</b>	<b>501.1</b>	<b>677.8</b>	<b>624.8</b>
<b>1 1 0</b>	<b>B-O</b>	<b>263.5</b>	<b>362.5</b>	<b>275.6</b>	<b>374.2</b>	<b>300.1</b>	<b>395.6</b>	<b>348.0</b>	<b>433.7</b>	<b>447.4</b>	<b>501.1</b>	<b>677.8</b>	<b>624.8</b>
<b>1 1 1</b>	<b>B-O</b>	<b>263.5</b>	<b>362.5</b>	<b>275.6</b>	<b>374.1</b>	<b>300.1</b>	<b>395.5</b>	<b>348.0</b>	<b>433.7</b>	<b>447.4</b>	<b>501.1</b>	<b>677.8</b>	<b>624.8</b>
<b>A B C</b>	<b>Path</b>	<b>1.500 ff</b>		<b>3.711 ff</b>		<b>9.182 ff</b>		<b>22.72 ff</b>		<b>56.20 ff</b>		<b>139.0 ff</b>	
		<b>tplh</b>	<b>tphl</b>										
<b>0 0 0</b>	<b>D-O</b>	<b>251.0</b>	<b>340.8</b>	<b>263.1</b>	<b>351.6</b>	<b>287.5</b>	<b>372.5</b>	<b>335.3</b>	<b>409.5</b>	<b>434.5</b>	<b>474.9</b>	<b>664.8</b>	<b>595.8</b>
<b>0 0 1</b>	<b>D-O</b>	<b>251.0</b>	<b>340.8</b>	<b>263.1</b>	<b>351.6</b>	<b>287.5</b>	<b>372.5</b>	<b>335.3</b>	<b>409.5</b>	<b>434.5</b>	<b>474.9</b>	<b>664.8</b>	<b>595.8</b>
<b>0 1 0</b>	<b>D-O</b>	<b>251.0</b>	<b>340.8</b>	<b>263.1</b>	<b>351.6</b>	<b>287.5</b>	<b>372.5</b>	<b>335.3</b>	<b>409.5</b>	<b>434.5</b>	<b>474.8</b>	<b>664.8</b>	<b>595.8</b>
<b>0 1 1</b>	<b>D-O</b>	<b>251.0</b>	<b>340.8</b>	<b>263.1</b>	<b>351.6</b>	<b>287.5</b>	<b>372.5</b>	<b>335.3</b>	<b>409.5</b>	<b>434.5</b>	<b>474.9</b>	<b>664.8</b>	<b>595.8</b>
<b>1 0 0</b>	<b>D-O</b>	<b>251.0</b>	<b>340.8</b>	<b>263.1</b>	<b>351.6</b>	<b>287.5</b>	<b>372.5</b>	<b>335.3</b>	<b>409.5</b>	<b>434.5</b>	<b>474.9</b>	<b>664.8</b>	<b>595.8</b>
<b>1 0 1</b>	<b>D-O</b>	<b>251.0</b>	<b>340.8</b>	<b>263.1</b>	<b>351.6</b>	<b>287.5</b>	<b>372.5</b>	<b>335.3</b>	<b>409.5</b>	<b>434.5</b>	<b>474.9</b>	<b>664.8</b>	<b>595.8</b>
<b>1 1 0</b>	<b>D-O</b>	<b>251.0</b>	<b>340.8</b>	<b>263.1</b>	<b>351.6</b>	<b>287.5</b>	<b>372.5</b>	<b>335.3</b>	<b>409.5</b>	<b>434.5</b>	<b>474.8</b>	<b>664.8</b>	<b>595.8</b>
<b>1 1 1</b>	<b>D-O</b>	<b>251.0</b>	<b>340.8</b>	<b>263.1</b>	<b>351.6</b>	<b>287.5</b>	<b>372.5</b>	<b>335.3</b>	<b>409.5</b>	<b>434.5</b>	<b>474.9</b>	<b>664.8</b>	<b>595.8</b>

Version : MUX4KLD

Cell Unit = 35

State	Output Load												
	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
Path		tplh	tphl										
0 0 0	A-O	370.7	422.2	376.2	426.7	389.3	436.9	419.9	457.7	499.4	500.0	718.2	595.0
0 0 1	A-O	370.7	422.2	376.2	426.7	389.3	436.9	419.9	457.7	499.4	500.0	718.2	595.0
0 1 0	A-O	370.7	422.2	376.2	426.7	389.3	436.9	419.9	457.7	499.3	500.0	718.2	595.0
0 1 1	A-O	370.7	422.2	376.2	426.7	389.3	436.9	419.9	457.7	499.3	500.0	718.2	595.0
1 0 0	A-O	370.7	422.2	376.2	426.7	389.3	436.9	419.9	457.7	499.4	500.0	718.2	595.0
1 0 1	A-O	370.7	422.2	376.2	426.7	389.3	436.9	419.9	457.7	499.4	500.0	718.2	595.0
1 1 0	A-O	370.7	422.2	376.2	426.7	389.3	436.9	419.9	457.7	499.3	500.0	718.2	595.0
1 1 1	A-O	370.7	422.2	376.2	426.7	389.3	436.9	419.9	457.7	499.3	500.0	718.2	595.0
S0 A B C D	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
	S1-O	264.1	291.7	269.6	296.2	282.5	306.4	313.5	327.5	393.0	369.8	611.8	464.6
	S1-O	264.1	291.7	269.6	296.2	282.5	306.4	313.5	327.5	393.0	369.8	611.8	464.6
	S1-O	264.1	291.7	269.6	296.2	282.5	306.4	313.5	327.5	393.0	369.8	611.8	464.6
	S1-O	264.1	291.7	269.6	296.2	282.5	306.4	313.5	327.5	393.0	369.8	611.8	464.6
	S1-O	264.1	291.7	269.6	296.2	282.5	306.4	313.5	327.5	393.0	369.8	611.8	464.6
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	S1-O	264.1	291.7	269.6	296.2	282.5	306.4	313.5	327.5	393.0	369.8	611.8	464.6
	S1-O	264.1	291.7	269.6	296.2	282.5	306.4	313.5	327.5	393.0	369.8	611.8	464.6
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	S1-O	263.2	226.7	268.6	231.0	281.5	241.2	312.3	262.2	391.7	304.5	610.5	399.4
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0 1 0 0	S0-O	351.1	400.2	356.5	404.7	369.6	415.0	400.2	435.7	479.7	478.1	698.5	573.0
0 0 1 0 1	S0-O	349.8	400.8	355.2	405.3	368.1	415.5	399.0	436.5	478.5	478.8	697.3	573.7
0 0 1 1 0	S0-O	352.3	399.1	357.7	403.6	370.7	413.8	401.6	434.8	481.0	477.2	699.8	572.1
0 0 1 1 1	S0-O	351.0	400.2	356.5	404.7	369.4	415.1	400.2	435.8	479.7	478.1	698.5	573.0
0 1 0 0 0	S0-O	414.0	397.0	419.3	401.5	432.4	411.7	463.3	432.8	542.7	475.1	761.5	570.0
0 1 0 0 1	S0-O	409.2	395.1	414.4	399.6	427.5	409.8	458.3	430.9	537.7	473.2	756.5	568.0
0 1 0 1 0	S0-O	416.4	399.3	421.9	403.8	435.0	414.0	465.6	435.1	545.1	477.4	763.9	572.3
0 1 0 1 1	S0-O	412.4	397.2	417.8	401.7	430.8	411.9	461.7	433.0	541.1	475.3	759.9	570.2
1 0 0 0 1	S0-O	362.9	397.4	368.4	401.8	381.3	412.0	412.3	432.9	491.8	475.3	710.6	570.2
1 0 0 1 0	S0-O	431.8	391.7	437.3	396.2	450.4	406.4	481.0	427.2	560.6	469.5	779.4	564.5
1 0 1 0 1	S0-O	362.5	397.1	368.0	401.6	380.9	411.8	411.9	432.9	491.4	475.2	710.2	570.1

<b>1 0 1 1 0</b>	S0-O	426.2	390.1	431.6	394.6	444.7	404.8	475.3	425.8	554.8	468.1	773.7	563.1
<b>1 1 0 0 1</b>	S0-O	362.8	397.5	368.3	402.0	381.2	412.2	412.1	433.1	491.5	475.4	710.4	570.3
<b>1 1 0 1 0</b>	S0-O	434.9	392.9	440.3	397.3	453.2	407.6	484.0	428.4	563.4	470.7	782.3	565.6
<b>1 1 1 0 1</b>	S0-O	363.0	397.4	368.4	401.9	381.3	412.0	412.3	433.0	491.8	475.3	710.6	570.3
<b>1 1 1 1 0</b>	S0-O	430.2	392.0	435.6	396.5	448.7	406.7	479.3	427.8	558.9	470.1	777.7	565.0
<b>A B D</b>	<b>Path</b>	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
<b>0 0 0</b>	C-O	394.5	428.8	399.9	433.3	412.8	443.5	443.6	464.6	523.1	506.7	741.9	601.6
<b>0 0 1</b>	C-O	394.5	428.8	399.9	433.3	412.8	443.5	443.6	464.6	523.1	506.7	741.9	601.6
<b>0 1 0</b>	C-O	394.5	428.8	399.9	433.3	412.8	443.5	443.6	464.6	523.1	506.7	741.9	601.6
<b>0 1 1</b>	C-O	394.5	428.8	399.9	433.3	412.8	443.5	443.6	464.6	523.1	506.7	741.9	601.6
<b>1 0 0</b>	C-O	394.5	428.8	399.9	433.3	412.8	443.5	443.6	464.6	523.0	506.7	741.8	601.6
<b>1 0 1</b>	C-O	394.5	428.8	399.9	433.3	412.8	443.5	443.6	464.6	523.0	506.7	741.8	601.6
<b>1 1 0</b>	C-O	394.5	428.8	399.9	433.3	412.8	443.5	443.6	464.6	523.0	506.7	741.8	601.6
<b>1 1 1</b>	C-O	394.5	428.8	399.9	433.3	412.8	443.5	443.6	464.6	523.0	506.7	741.8	601.6
<b>A C D</b>	<b>Path</b>	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
<b>0 0 0</b>	B-O	369.1	425.3	374.5	429.8	387.6	440.0	418.2	460.9	497.7	503.2	716.5	598.1
<b>0 0 1</b>	B-O	369.1	425.3	374.5	429.8	387.6	440.0	418.2	460.9	497.7	503.2	716.5	598.1
<b>0 1 0</b>	B-O	369.1	425.3	374.5	429.8	387.6	440.0	418.2	460.9	497.7	503.2	716.5	598.1
<b>0 1 1</b>	B-O	369.1	425.3	374.5	429.8	387.6	440.0	418.2	460.9	497.7	503.2	716.5	598.1
<b>1 0 0</b>	B-O	369.1	425.3	374.5	429.8	387.6	440.0	418.2	460.9	497.7	503.2	716.5	598.1
<b>1 0 1</b>	B-O	369.1	425.3	374.5	429.8	387.6	440.0	418.2	460.9	497.7	503.2	716.5	598.1
<b>1 1 0</b>	B-O	369.1	425.3	374.5	429.8	387.6	440.0	418.2	460.9	497.7	503.2	716.5	598.1
<b>1 1 1</b>	B-O	369.1	425.3	374.5	429.8	387.6	440.0	418.2	460.9	497.7	503.2	716.5	598.1
<b>A B C</b>	<b>Path</b>	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
<b>0 0 0</b>	D-O	372.8	403.8	378.3	408.3	391.2	418.5	422.2	439.6	501.7	481.9	720.5	576.8
<b>0 0 1</b>	D-O	372.8	403.8	378.3	408.3	391.2	418.5	422.2	439.6	501.7	481.9	720.5	576.8
<b>0 1 0</b>	D-O	372.8	403.8	378.3	408.3	391.2	418.5	422.2	439.6	501.7	481.9	720.5	576.8
<b>0 1 1</b>	D-O	372.8	403.8	378.3	408.3	391.2	418.5	422.2	439.6	501.7	481.9	720.5	576.8
<b>1 0 0</b>	D-O	372.8	403.8	378.3	408.3	391.2	418.5	422.2	439.6	501.7	481.9	720.5	576.8
<b>1 0 1</b>	D-O	372.8	403.8	378.3	408.3	391.2	418.5	422.2	439.6	501.7	481.9	720.5	576.8
<b>1 1 0</b>	D-O	372.8	403.8	378.3	408.3	391.2	418.5	422.2	439.6	501.7	481.9	720.5	576.8
<b>1 1 1</b>	D-O	372.8	403.8	378.3	408.3	391.2	418.5	422.2	439.6	501.7	481.9	720.5	576.8

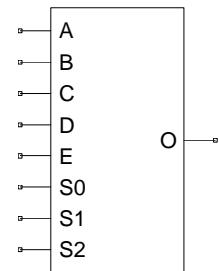
Group Name : MUX5

Symbol

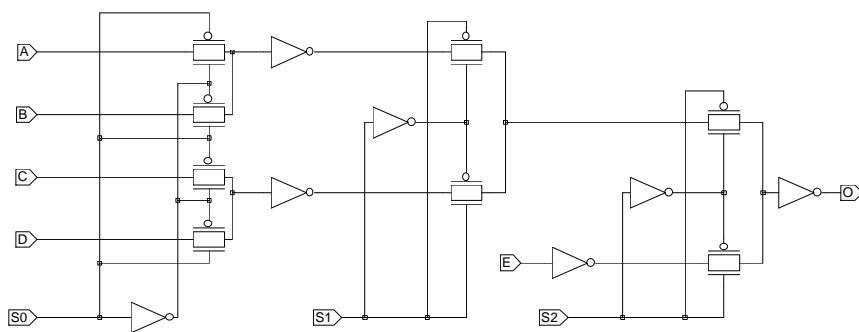
Function : 5 Bit MUX

Truth Table

S2	S1	S0	O
0	0	0	A
0	0	1	B
0	1	0	C
0	1	1	D
1	X	X	E



Schematic



Pin Order O S0 S1 S2 A B C D E

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance								Maximum Loading
	S0	S1	S2	A	B	C	D	E	
MUX5ELD	4.645	2.629	2.683	1.972	1.883	1.827	2.030	2.002	138.9

#### Power Consumption (nW/MHz)

Version	Power Consumption
	O
MUX5ELD	14.66

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MUX5ELD

Cell Unit = 38

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B	C	D	E	tplh	tphl								
0 0 0 0	A-O	416.2	459.6	429.3	469.4	454.9	486.8	505.7	517.0	614.0	570.6	850.3	672.2
0 0 0 1	A-O	416.2	459.6	429.3	469.4	454.9	486.8	505.7	517.0	614.0	570.6	850.3	672.2
0 0 1 0	A-O	416.2	459.6	429.3	469.4	454.9	486.8	505.7	517.0	614.0	570.6	850.3	672.2
0 0 1 1	A-O	416.2	459.6	429.3	469.4	454.9	486.8	505.7	517.0	614.0	570.6	850.3	672.2
0 1 0 0	A-O	416.2	459.6	429.2	469.4	454.8	486.8	505.6	517.0	614.0	570.6	850.3	672.2
0 1 0 1	A-O	416.2	459.6	429.2	469.4	454.8	486.8	505.6	517.0	614.0	570.6	850.3	672.2
0 1 1 0	A-O	416.2	459.6	429.2	469.4	454.8	486.8	505.6	517.0	614.0	570.6	850.3	672.2
0 1 1 1	A-O	416.2	459.6	429.2	469.4	454.8	486.8	505.7	517.0	614.0	570.6	850.3	672.2
1 0 0 0	A-O	416.2	459.6	429.3	469.4	454.9	486.8	505.7	517.0	614.0	570.6	850.3	672.2
1 0 0 1	A-O	416.2	459.6	429.3	469.4	454.9	486.8	505.7	517.0	614.0	570.6	850.3	672.2
1 0 1 0	A-O	416.2	459.6	429.3	469.4	454.9	486.8	505.7	517.0	614.0	570.6	850.3	672.2
1 0 1 1	A-O	416.2	459.6	429.3	469.4	454.9	486.8	505.7	517.0	614.0	570.6	850.3	672.2
1 1 0 0	A-O	416.2	459.6	429.2	469.4	454.8	486.8	505.6	517.0	614.0	570.6	850.3	672.2
1 1 0 1	A-O	416.2	459.6	429.2	469.4	454.8	486.8	505.7	517.0	614.0	570.6	850.3	672.2
1 1 1 0	A-O	416.2	459.6	429.2	469.4	454.8	486.8	505.6	517.0	614.0	570.6	850.3	672.2
1 1 1 1	A-O	416.2	459.6	429.2	469.4	454.8	486.8	505.7	517.0	614.0	570.6	850.3	672.2
S0 S1 A B C D E	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0 0 0 0 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 0 0 0 0 1 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 0 0 0 1 0 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 0 0 0 1 1 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 0 0 1 0 0 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 0 0 1 0 1 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 0 0 1 1 0 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 0 0 1 1 1 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 0 1 0 0 0 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 0 1 0 0 1 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 0 1 0 1 0 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 0 1 0 1 1 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 0 1 1 0 0 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 0 1 1 0 1 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 0 1 1 1 0 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 1 0 0 0 0 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 1 0 0 0 1 1	S2-O	142.6	173.3	155.4	183.1	180.8	200.4	232.0	230.4	339.5	283.9	574.8	385.5
0 1 0 0 1 0 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 1 0 0 1 1 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
0 1 0 0 1 1 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7



1 1 1 1 1 1 0	S2-O	202.7	175.0	215.7	184.6	241.0	202.0	291.4	231.6	399.4	284.6	635.6	385.7
S0 A B C D E	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
		0 0 0 1 0 0	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1
0 0 0 1 0 1	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
0 0 0 1 1 0	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
0 0 0 1 1 1	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
0 0 1 1 0 0	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
0 0 1 1 0 1	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
0 0 1 1 1 0	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
0 0 1 1 1 1	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
0 1 0 0 0 0	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
0 1 0 0 0 1	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
0 1 0 0 1 0	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
0 1 0 0 1 1	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
0 1 1 0 0 0	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
0 1 1 0 0 1	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
0 1 1 0 1 0	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
0 1 1 0 1 1	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
1 0 0 0 1 0	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
1 0 0 0 1 1	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
1 0 0 1 1 0	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
1 0 0 1 1 1	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
1 0 1 0 0 0	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
1 0 1 0 0 1	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
1 0 1 1 0 0	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
1 0 1 1 0 1	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
1 1 0 0 1 0	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
1 1 0 0 1 1	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
1 1 0 1 1 0	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
1 1 0 1 1 1	S1-O	301.1	332.0	314.0	341.9	339.7	359.3	390.8	389.4	498.5	443.1	733.9	544.7
1 1 1 0 0 0	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
1 1 1 0 0 1	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
1 1 1 1 0 0	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
1 1 1 1 0 1	S1-O	297.4	268.7	310.3	278.5	335.9	296.0	386.9	326.1	494.8	379.7	730.3	481.4
S1 A B C D E	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 1 0 0 0	S0-O	389.4	430.5	402.5	440.4	428.1	457.7	479.0	487.9	587.2	541.5	822.9	643.2
0 0 1 0 0 1	S0-O	389.4	430.5	402.5	440.4	428.1	457.7	479.0	487.9	587.2	541.5	822.9	643.2
0 0 1 0 1 0	S0-O	388.3	431.3	401.3	441.1	426.9	458.5	477.6	488.7	586.0	542.3	822.4	643.9
0 0 1 0 1 1	S0-O	388.3	431.3	401.3	441.1	426.9	458.5	477.6	488.7	586.0	542.3	822.4	643.9
0 0 1 1 0 0	S0-O	391.4	429.3	404.5	439.0	429.8	456.5	480.4	486.8	588.5	540.3	824.7	641.8
0 0 1 1 0 1	S0-O	391.4	429.3	404.5	439.0	429.8	456.5	480.4	486.8	588.5	540.3	824.7	641.8

0 0 1 1 1 0	S0-O	389.4	430.6	402.5	440.5	428.1	457.8	478.9	488.0	587.2	541.6	823.6	643.2
0 0 1 1 1 1	S0-O	389.4	430.6	402.5	440.5	428.1	457.8	478.9	488.0	587.2	541.6	823.6	643.2
0 1 0 0 0 0	S0-O	455.2	434.8	468.3	444.6	493.9	462.0	544.7	492.3	653.0	545.8	889.2	647.4
0 1 0 0 0 1	S0-O	455.2	434.8	468.3	444.6	493.9	462.0	544.7	492.3	653.0	545.8	889.2	647.4
0 1 0 0 1 0	S0-O	448.6	432.5	461.6	442.3	487.3	459.7	538.1	489.9	646.4	543.5	882.7	645.1
0 1 0 0 1 1	S0-O	448.6	432.5	461.6	442.3	487.3	459.7	538.1	489.9	646.4	543.5	882.7	645.1
0 1 0 1 0 0	S0-O	458.0	436.9	470.9	446.6	496.5	464.2	547.6	494.4	655.3	547.9	890.6	649.4
0 1 0 1 0 1	S0-O	458.0	436.9	470.9	446.6	496.5	464.2	547.6	494.4	655.3	547.9	890.6	649.4
0 1 0 1 1 0	S0-O	452.9	434.9	465.9	444.6	491.5	462.2	542.4	492.5	650.7	545.8	886.9	647.4
0 1 0 1 1 1	S0-O	452.9	434.9	465.9	444.6	491.5	462.2	542.4	492.5	650.7	545.8	886.9	647.4
1 0 0 0 1 0	S0-O	398.2	428.3	411.3	438.1	436.7	455.7	487.3	485.9	595.6	539.3	832.0	640.9
1 0 0 0 1 1	S0-O	398.2	428.3	411.3	438.1	436.7	455.7	487.3	485.9	595.6	539.3	832.0	640.9
1 0 0 1 0 0	S0-O	466.1	429.9	479.2	439.7	504.6	457.1	555.2	487.3	663.5	540.9	899.7	642.5
1 0 0 1 0 1	S0-O	466.1	429.9	479.2	439.7	504.6	457.1	555.2	487.3	663.5	540.9	899.7	642.5
1 0 1 0 1 0	S0-O	397.7	428.0	410.8	437.8	436.1	455.2	486.8	485.5	595.0	539.0	831.3	640.5
1 0 1 0 1 1	S0-O	397.7	428.0	410.8	437.8	436.1	455.2	486.8	485.5	595.0	539.0	831.3	640.5
1 0 1 1 0 0	S0-O	458.9	428.1	471.9	437.9	497.5	455.3	548.5	485.5	656.7	539.1	892.4	640.7
1 0 1 1 0 1	S0-O	458.9	428.1	471.9	437.9	497.5	455.3	548.5	485.5	656.7	539.1	892.4	640.7
1 1 0 0 1 0	S0-O	398.8	428.5	411.8	438.3	437.3	455.9	487.9	486.1	596.2	539.5	832.6	641.1
1 1 0 0 1 1	S0-O	398.8	428.5	411.8	438.3	437.3	455.9	487.9	486.1	596.2	539.5	832.6	641.1
1 1 0 1 0 0	S0-O	469.3	431.2	482.2	440.9	507.8	458.4	558.9	488.8	666.7	542.1	902.1	643.7
1 1 0 1 0 1	S0-O	469.3	431.2	482.2	440.9	507.8	458.4	558.9	488.8	666.7	542.1	902.1	643.7
1 1 1 0 1 0	S0-O	397.9	428.4	410.9	438.1	436.5	455.6	487.5	485.9	595.7	539.3	831.3	640.9
1 1 1 0 1 1	S0-O	397.9	428.4	410.9	438.1	436.5	455.6	487.5	485.9	595.7	539.3	831.3	640.9
1 1 1 1 0 0	S0-O	463.7	430.1	476.7	440.0	502.1	457.3	552.8	487.6	661.0	541.2	897.2	642.8
1 1 1 1 0 1	S0-O	463.7	430.1	476.7	440.0	502.1	457.3	552.8	487.6	661.0	541.2	897.2	642.8
S0 S1 A B C D	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0 0 0	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 0 0 0 1	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 0 0 1 0	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 0 0 1 1	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 0 1 0 0	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 0 1 0 1	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 0 1 1 0	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 0 1 1 1	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 1 0 0 0	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 1 0 0 1	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 1 0 1 0	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 1 0 1 1	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 1 1 0 0	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 1 1 0 1	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
0 0 1 1 1 0	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7



<b>1 1 1 0 1 0</b>	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
<b>1 1 1 0 1 1</b>	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
<b>1 1 1 1 0 0</b>	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
<b>1 1 1 1 0 1</b>	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
<b>1 1 1 1 1 0</b>	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
<b>1 1 1 1 1 1</b>	E-O	156.8	191.5	169.6	201.2	194.8	218.6	245.6	248.4	353.5	301.6	589.5	402.7
<b>A B D E</b>	<b>Path</b>	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
<b>0 0 0 0</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.7	579.9	859.1	681.5
<b>0 0 0 1</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.7	579.9	859.1	681.5
<b>0 0 1 0</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.7	579.9	859.1	681.5
<b>0 0 1 1</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.7	579.9	859.1	681.5
<b>0 1 0 0</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.7	579.9	859.1	681.5
<b>0 1 0 1</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.7	579.9	859.1	681.5
<b>0 1 1 0</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.7	579.9	859.1	681.5
<b>0 1 1 1</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.7	579.9	859.1	681.5
<b>1 0 0 0</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.6	579.9	859.1	681.5
<b>1 0 0 1</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.6	579.9	859.1	681.5
<b>1 0 1 0</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.6	579.9	859.1	681.5
<b>1 0 1 1</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.6	579.9	859.1	681.5
<b>1 1 0 0</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.6	579.9	859.1	681.5
<b>1 1 0 1</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.6	579.9	859.1	681.5
<b>1 1 1 0</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.6	579.9	859.1	681.5
<b>1 1 1 1</b>	C-O	425.0	468.9	438.0	478.8	463.5	496.1	514.2	526.3	622.6	579.9	859.1	681.5
<b>A C D E</b>	<b>Path</b>	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
<b>0 0 0 0</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>0 0 0 1</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>0 0 1 0</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>0 0 1 1</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>0 1 0 0</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>0 1 0 1</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>0 1 1 0</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>0 1 1 1</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>1 0 0 0</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>1 0 0 1</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>1 0 1 0</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>1 0 1 1</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>1 1 0 0</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>1 1 0 1</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>1 1 1 0</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8
<b>1 1 1 1</b>	B-O	415.0	463.3	428.1	473.1	453.7	490.5	504.5	520.8	612.8	574.2	849.1	675.8

A B C E	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0 0	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
0 0 0 1	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
0 0 1 0	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
0 0 1 1	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
0 1 0 0	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
0 1 0 1	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
0 1 1 0	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
0 1 1 1	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
1 0 0 0	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
1 0 0 1	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
1 0 1 0	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
1 0 1 1	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
1 1 0 0	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
1 1 0 1	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
1 1 1 0	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0
1 1 1 1	D-O	413.6	441.5	426.6	451.2	452.1	468.7	502.8	499.1	611.3	552.4	847.7	654.0

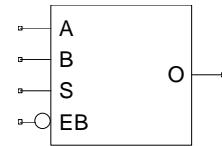
Group Name : MUXB2

Function : 2 Bit MUX, Active Low

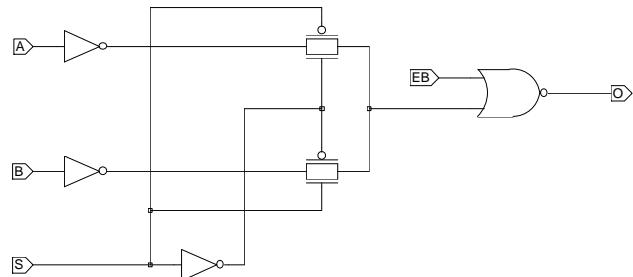
Truth Table

A	B	S	EB	O
A	X	0	0	A
X	B	1	0	B
X	X	X	1	0

Symbol



Schematic



Pin Order O S A B EB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading	Power Consumption
	S	A	B	EB	O	
MUXB2BLD	1.961	2.111	1.939	1.701	51.79	5.419
MUXB2CLD	2.074	2.348	2.054	2.031	66.02	6.297

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MUXB2BLD

Cell Unit = 11

State	Output Load												
	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
B		tplh	tphl										
0	A-O	169.4	206.4	193.4	221.1	240.0	245.8	333.6	287.8	520.0	362.0	891.2	501.7
1	A-O	169.4	206.4	193.4	221.1	240.0	245.8	333.6	287.8	520.0	362.0	891.2	501.7
A B	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 1	S-O	152.1	202.7	176.1	217.2	222.6	242.0	316.4	284.0	502.6	358.3	874.1	498.1
1 0	S-O	231.8	201.3	255.6	216.1	301.7	241.2	395.0	283.7	581.5	358.6	952.9	498.8
S A B	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 1 0	EB-O	114.0	70.04	138.0	81.83	184.9	102.8	277.7	140.6	463.4	211.1	835.2	349.2
0 1 1	EB-O	114.0	70.04	138.0	81.83	184.9	102.8	277.7	140.6	463.4	211.1	835.2	349.2
1 0 1	EB-O	114.0	70.04	138.1	81.83	184.9	102.8	277.7	140.6	463.4	211.1	835.2	349.2
1 1 1	EB-O	114.0	70.04	138.1	81.83	184.9	102.8	277.7	140.6	463.4	211.1	835.2	349.2
A	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0	B-O	165.6	221.5	189.3	236.3	236.4	261.6	329.9	304.4	515.7	379.3	887.7	519.6
1	B-O	165.6	221.5	189.3	236.3	236.4	261.6	329.9	304.4	515.7	379.3	887.7	519.6

Version : MUXB2CLD

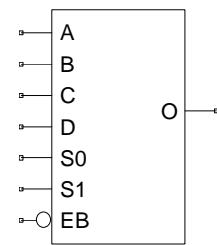
Cell Unit = 11

State	Output Load												
	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff		
B	Path	tplh	tphl	tplh	tphl								
0	A-O	169.6	192.7	188.8	204.6	225.8	225.3	299.7	259.8	445.9	320.1	739.0	432.4
1	A-O	169.6	192.7	188.8	204.6	225.8	225.3	299.7	259.8	445.9	320.1	739.0	432.4
A B	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl	tplh	tphl								
0 1	S-O	148.7	190.7	167.9	202.6	205.2	222.9	279.1	257.5	425.3	318.0	718.6	430.3
1 0	S-O	236.4	197.9	255.5	210.3	292.8	231.3	366.2	266.7	512.1	328.2	806.1	441.4
S A B	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl	tplh	tphl								
0 1 0	EB-O	106.6	67.47	125.8	77.26	162.9	94.74	236.7	125.9	383.2	183.2	676.6	293.6
0 1 1	EB-O	106.6	67.47	125.8	77.26	162.9	94.74	236.7	125.9	383.2	183.2	676.6	293.6
1 0 1	EB-O	106.6	67.47	125.8	77.26	162.9	94.74	236.7	125.9	383.2	183.2	676.6	293.6
1 1 1	EB-O	106.6	67.47	125.8	77.26	162.9	94.74	236.7	125.9	383.2	183.2	676.6	293.6
A	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl	tplh	tphl								
0	B-O	163.9	214.3	183.2	226.7	220.5	247.9	293.8	283.5	440.2	345.1	734.0	458.3
1	B-O	163.9	214.3	183.2	226.7	220.5	247.9	293.8	283.5	440.2	345.1	734.0	458.3

Group Name : MUXB4

Symbol

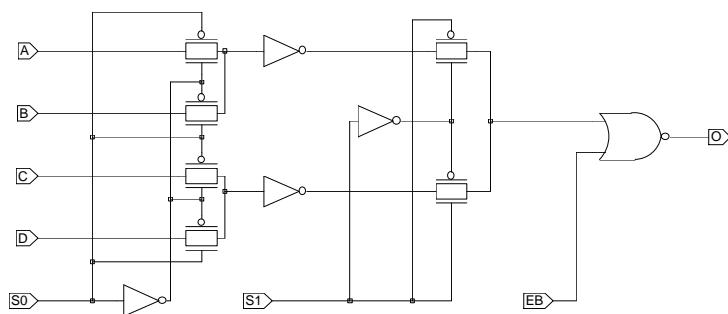
Function : 4 Bit MUX, Active Low



Truth Table

S1	S0	EB	O
0	0	0	A
0	1	0	B
1	0	0	C
1	1	0	D
X	X	1	0

Schematic



Pin Order O S0 S1 A B C D EB

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance							Maximum Loading
	S0	S1	A	B	C	D	EB	
MUXB4CLD	4.416	2.657	2.508	2.389	1.823	2.564	2.083	65.66

#### Power Consumption (nW/MHz)

Version	Power Consumption
	O
MUXB4CLD	8.969

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MUXB4CLD

Cell Unit = 27

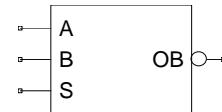
State	Output Load												
	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
B C D		tplh	tphl										
0 0 0	A-O	246.3	331.6	266.7	346.8	305.7	372.5	379.3	414.9	527.2	485.6	821.8	607.9
0 0 1	A-O	246.3	331.6	266.7	346.7	305.7	372.5	379.3	414.9	527.2	485.6	821.8	607.9
0 1 0	A-O	246.1	331.7	266.6	346.8	305.5	372.6	379.2	415.0	526.7	485.6	821.7	608.0
0 1 1	A-O	246.1	331.7	266.6	346.8	305.5	372.6	379.2	415.0	526.7	485.6	821.7	608.0
1 0 0	A-O	246.3	331.6	266.7	346.7	305.7	372.5	379.3	414.9	527.2	485.6	821.8	607.9
1 0 1	A-O	246.3	331.6	266.7	346.7	305.7	372.5	379.3	414.9	527.2	485.6	821.8	607.9
1 1 0	A-O	246.1	331.7	266.6	346.8	305.5	372.6	379.2	415.0	526.7	485.6	821.7	608.0
1 1 1	A-O	246.1	331.7	266.6	346.8	305.5	372.6	379.2	415.0	526.7	485.6	821.7	608.0
S0 A B C D		1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0 0 1 0	S1-O	166.8	216.6	187.9	231.2	227.2	256.3	301.6	298.0	449.5	368.0	744.1	489.9
0 0 0 1 1	S1-O	166.8	216.6	187.9	231.2	227.2	256.3	301.6	298.0	449.5	368.0	744.1	489.9
0 0 1 1 0	S1-O	166.8	216.6	187.9	231.2	227.2	256.3	301.6	298.0	449.5	368.0	744.1	489.9
0 0 1 1 1	S1-O	166.8	216.6	187.9	231.2	227.2	256.3	301.6	298.0	449.5	368.0	744.1	489.9
0 1 0 0 0	S1-O	239.2	237.4	259.5	253.2	298.1	279.7	372.5	323.8	519.8	396.8	814.1	522.1
0 1 0 0 1	S1-O	239.2	237.4	259.5	253.2	298.1	279.7	372.5	323.8	519.8	396.8	814.1	522.1
0 1 1 0 0	S1-O	239.2	237.4	259.5	253.2	298.1	279.7	372.5	323.8	519.8	396.8	814.1	522.1
0 1 1 0 1	S1-O	239.2	237.4	259.5	253.2	298.1	279.7	372.5	323.8	519.8	396.8	814.1	522.1
1 0 0 0 1	S1-O	162.8	216.3	183.3	230.9	222.2	255.9	296.0	297.6	444.0	367.7	738.3	489.6
1 0 0 1 1	S1-O	162.8	216.3	183.3	230.9	222.2	255.9	296.0	297.6	444.0	367.7	738.3	489.6
1 0 1 0 0	S1-O	239.4	227.7	259.7	242.3	298.3	267.6	372.7	309.5	520.0	379.5	814.2	501.2
1 0 1 1 0	S1-O	239.4	227.7	259.7	242.3	298.3	267.6	372.7	309.5	520.0	379.5	814.2	501.2
1 1 0 0 1	S1-O	162.8	216.3	183.3	230.9	222.2	255.9	296.0	297.6	444.0	367.7	738.3	489.6
1 1 0 1 1	S1-O	162.8	216.3	183.3	230.9	222.2	255.9	296.0	297.6	444.0	367.7	738.3	489.6
1 1 1 0 0	S1-O	239.4	227.7	259.7	242.3	298.3	267.6	372.7	309.5	520.0	379.5	814.2	501.2
1 1 1 1 0	S1-O	239.4	227.7	259.7	242.3	298.3	267.6	372.7	309.5	520.0	379.5	814.2	501.2
S1 A B C D		1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0 1 0 0	S0-O	225.5	331.8	245.9	346.7	284.6	372.5	359.0	415.0	506.0	485.8	799.4	608.2
0 0 1 0 1	S0-O	227.1	330.9	247.4	346.0	286.4	371.8	359.9	414.4	507.2	485.2	802.3	607.6
0 0 1 1 0	S0-O	224.7	332.8	245.2	347.7	284.1	373.6	357.7	416.1	505.0	486.8	800.0	609.2
0 0 1 1 1	S0-O	225.7	331.8	246.0	346.7	285.0	372.4	358.5	415.0	506.0	485.8	801.0	608.2
0 1 0 0 0	S0-O	318.7	323.3	339.4	338.3	378.5	364.0	452.1	406.5	599.5	477.2	894.2	599.5
0 1 0 0 1	S0-O	307.0	320.8	327.8	336.1	366.5	361.6	440.0	404.1	587.0	474.8	882.1	597.2
0 1 0 1 0	S0-O	327.7	325.5	348.3	340.4	387.2	366.1	460.6	408.7	607.4	479.4	902.8	601.8
0 1 0 1 1	S0-O	316.5	323.9	337.1	338.8	375.8	364.6	450.3	407.1	597.5	477.7	891.6	600.1
1 0 0 0 1	S0-O	221.4	364.4	241.6	380.6	280.6	407.6	354.0	452.2	501.9	525.9	795.9	651.7
1 0 0 1 0	S0-O	324.5	323.3	345.4	338.3	384.8	363.9	459.0	406.1	605.8	476.4	901.2	598.5

1 0 1 0 1	S0-O	221.6	363.9	241.8	380.0	280.4	407.0	354.4	451.6	502.4	525.3	796.7	651.2
1 0 1 1 0	S0-O	313.0	320.8	334.0	335.8	373.3	361.2	448.4	403.5	595.1	473.9	889.0	595.9
1 1 0 0 1	S0-O	221.4	364.5	242.2	380.6	281.0	407.7	354.5	452.3	502.0	526.0	796.9	651.8
1 1 0 1 0	S0-O	332.4	326.2	353.5	341.2	392.7	366.7	466.9	409.0	613.9	479.4	909.1	601.4
1 1 1 0 1	S0-O	221.6	364.4	241.9	380.6	280.7	407.5	354.1	452.2	501.2	525.8	796.4	651.6
1 1 1 1 0	S0-O	322.4	323.9	343.3	338.6	382.6	364.4	456.8	406.6	604.0	477.0	899.1	599.0
S0 S1 A B C D	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0 1 0 0 0	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.1	294.0
0 0 1 0 0 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.1	294.0
0 0 1 0 1 0	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.1	294.0
0 0 1 0 1 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.1	294.0
0 0 1 1 0 0	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.1	294.0
0 0 1 1 0 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.1	294.0
0 0 1 1 1 0	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.1	294.0
0 0 1 1 1 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.1	294.0
0 1 0 0 1 0	EB-O	108.2	67.78	127.7	77.56	165.6	95.02	239.6	126.2	385.9	183.5	679.5	294.0
0 1 0 0 1 1	EB-O	108.2	67.78	127.7	77.56	165.6	95.02	239.6	126.2	385.9	183.5	679.5	294.0
0 1 0 1 1 0	EB-O	108.2	67.78	127.7	77.56	165.6	95.02	239.6	126.2	385.9	183.5	679.5	294.0
0 1 0 1 1 1	EB-O	108.2	67.78	127.7	77.56	165.6	95.02	239.6	126.2	385.9	183.5	679.5	294.0
0 1 1 0 1 0	EB-O	108.2	67.78	127.7	77.56	165.6	95.02	239.6	126.2	385.9	183.5	679.5	294.0
0 1 1 0 1 1	EB-O	108.2	67.78	127.7	77.56	165.6	95.02	239.6	126.2	385.9	183.5	679.5	294.0
0 1 1 1 1 0	EB-O	108.2	67.78	127.7	77.56	165.6	95.02	239.6	126.2	385.9	183.5	679.5	294.0
0 1 1 1 1 1	EB-O	108.2	67.78	127.7	77.56	165.6	95.02	239.6	126.2	385.9	183.5	679.5	294.0
1 0 0 1 0 0	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 0 0 1 0 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 0 0 1 1 0	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 0 0 1 1 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 0 1 1 0 0	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 0 1 1 0 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 0 1 1 1 0	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 0 1 1 1 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 1 0 0 0 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 1 0 0 1 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 1 0 1 0 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 1 0 1 1 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 1 1 0 0 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 1 1 0 1 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 1 1 1 0 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
1 1 1 1 1 1	EB-O	108.1	67.78	127.5	77.57	165.2	95.03	239.1	126.2	385.3	183.5	679.2	294.0
A B D	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0 0	C-O	261.8	377.3	283.1	393.1	322.6	420.0	396.6	464.6	544.5	538.3	839.3	664.0

0 0 1	C-O	261.8	377.3	283.1	393.1	322.6	420.0	396.6	464.6	544.5	538.3	839.3	664.0
0 1 0	C-O	261.8	377.3	283.1	393.1	322.6	420.0	396.6	464.6	544.5	538.3	839.3	664.0
0 1 1	C-O	261.8	377.3	283.1	393.1	322.6	420.0	396.6	464.6	544.5	538.3	839.3	664.0
1 0 0	C-O	261.7	377.3	283.0	393.1	322.5	420.0	396.6	464.6	544.4	538.3	839.2	664.0
1 0 1	C-O	261.7	377.3	283.0	393.1	322.5	420.0	396.6	464.6	544.4	538.3	839.2	664.0
1 1 0	C-O	261.7	377.3	283.0	393.1	322.5	420.0	396.6	464.6	544.4	538.3	839.2	664.0
1 1 1	C-O	261.7	377.3	283.0	393.1	322.5	420.0	396.6	464.6	544.4	538.3	839.2	664.0
A C D	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0 0	B-O	241.9	335.9	262.3	351.5	300.9	376.9	375.3	419.3	522.1	490.1	817.1	612.5
0 0 1	B-O	241.9	335.9	262.3	351.5	300.9	376.9	375.3	419.3	522.1	490.1	817.1	612.5
0 1 0	B-O	241.9	335.9	262.3	351.5	300.9	376.9	375.3	419.3	522.1	490.1	817.1	612.5
0 1 1	B-O	241.9	335.9	262.3	351.5	300.9	376.9	375.3	419.3	522.1	490.1	817.1	612.5
1 0 0	B-O	241.9	335.9	262.3	351.5	300.9	376.9	375.3	419.3	522.1	490.1	817.1	612.5
1 0 1	B-O	241.9	335.9	262.3	351.5	300.9	376.9	375.3	419.3	522.1	490.1	817.1	612.5
1 1 0	B-O	241.9	335.9	262.3	351.5	300.9	376.9	375.3	419.3	522.1	490.1	817.1	612.5
1 1 1	B-O	241.9	335.9	262.3	351.5	300.9	376.9	375.3	419.3	522.1	490.1	817.1	612.5
A B C	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0 0	D-O	228.9	324.5	249.5	339.5	288.2	365.3	361.6	407.5	509.1	477.8	804.0	599.9
0 0 1	D-O	228.9	324.5	249.5	339.5	288.2	365.3	361.6	407.5	509.1	477.8	804.0	599.9
0 1 0	D-O	228.9	324.5	249.5	339.5	288.2	365.3	361.6	407.4	509.1	477.8	804.0	599.8
0 1 1	D-O	228.9	324.5	249.5	339.5	288.2	365.3	361.6	407.4	509.1	477.8	804.0	599.8
1 0 0	D-O	228.9	324.5	249.5	339.5	288.2	365.3	361.6	407.5	509.1	477.8	804.0	599.9
1 0 1	D-O	228.9	324.5	249.5	339.5	288.2	365.3	361.6	407.5	509.1	477.8	804.0	599.9
1 1 0	D-O	228.9	324.5	249.5	339.5	288.2	365.3	361.6	407.4	509.1	477.8	804.0	599.8
1 1 1	D-O	228.9	324.5	249.5	339.5	288.2	365.3	361.6	407.4	509.1	477.8	804.0	599.8

Group Name : MXL2

Symbol

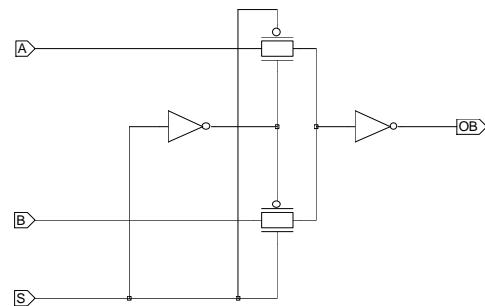


Function : 2 Bit MUX, Inverted Output

Truth Table

A	B	S	OB
0	X	0	1
1	X	0	0
X	0	1	1
X	1	1	0

Schematic



Pin Order OB S A B

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading	Power Consumption
	S	A	B	OB	OB
MXL2CLD	3.390	2.061	2.124	63.17	6.025
MXL2ELD	1.863	1.322	1.356	140.2	9.785
MXL2HLD	1.961	2.038	2.061	281.3	14.47
MXL2KLD	2.076	2.034	2.053	562.3	23.17
MXL2MLD	4.857	2.689	2.714	844.1	36.91
MXL2NLD	4.857	2.689	2.714	1124.7	44.33

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MXL2CLD

Cell Unit = 9

State	Output Load												
	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
B		tplh	tphl										
0	A-OB	90.85	68.27	106.1	78.29	135.2	95.97	190.9	129.1	299.7	191.2	516.3	312.6
1	A-OB	126.6	69.02	145.8	78.05	184.1	96.62	258.3	129.4	405.8	191.5	700.9	312.9
A B	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 1	S-OB	156.1	81.83	173.7	91.17	210.6	109.2	283.6	142.4	429.7	204.9	723.8	327.4
1 0	S-OB	164.8	178.8	183.2	187.7	220.5	204.6	294.3	236.1	440.7	297.1	734.6	418.0
A	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0	B-OB	129.7	94.40	144.4	103.5	173.1	121.0	230.5	153.9	344.2	216.4	569.5	338.8
1	B-OB	168.5	86.50	187.4	96.29	223.7	114.2	299.5	147.3	445.0	210.3	741.6	333.0

Version : MXL2ELD

Cell Unit = 12

State	Output Load												
	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
B		tplh	tphl										
0	A-OB	268.1	219.4	279.8	227.0	304.5	241.5	358.3	267.6	479.1	319.3	750.9	429.8
1	A-OB	268.1	219.4	279.8	227.1	304.5	241.5	358.3	267.6	479.1	319.3	750.9	429.8
A B	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 1	S-OB	251.5	194.7	263.2	202.3	287.8	216.8	341.8	242.9	462.5	294.6	734.3	405.1
1 0	S-OB	246.8	278.4	258.6	286.0	283.4	300.5	337.2	326.6	457.9	378.3	729.7	488.8
A	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0	B-OB	282.0	223.0	293.8	230.6	318.4	245.0	372.4	271.1	493.2	322.7	765.0	433.2
1	B-OB	282.0	223.0	293.8	230.6	318.4	245.0	372.4	271.1	493.2	322.7	765.0	433.2

Version : MXL2HLD

Cell Unit = 14

State		Output Load											
B	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-OB	256.9	215.4	264.4	221.1	280.4	232.3	315.9	253.2	399.4	293.1	600.3	377.2
1	A-OB	256.9	215.4	264.4	221.1	280.4	232.3	315.9	253.2	399.4	293.1	600.3	377.2
A B	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-OB	252.0	198.4	259.4	204.2	275.7	215.2	310.9	236.1	394.5	275.9	595.3	360.1
1 0	S-OB	246.4	277.7	253.9	283.4	269.9	294.7	305.4	315.5	388.9	355.3	589.8	439.5
A	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-OB	261.4	212.1	268.8	217.9	284.8	228.9	320.2	249.8	403.7	289.6	604.5	373.8
1	B-OB	261.4	212.1	268.8	217.9	284.8	228.9	320.2	249.8	403.7	289.6	604.5	373.8

Version : MXL2KLD

Cell Unit = 17

State		Output Load											
B	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-OB	280.7	242.4	285.9	246.7	297.9	256.4	326.5	275.6	398.0	314.4	590.9	398.9
1	A-OB	280.7	242.4	285.9	246.7	297.9	256.4	326.5	275.6	398.0	314.4	590.9	398.9
A B	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-OB	272.5	225.1	277.6	229.4	289.6	238.9	318.0	258.4	389.5	297.2	582.3	381.7
1 0	S-OB	268.7	310.1	273.9	314.4	286.2	324.1	314.5	343.4	386.1	382.2	579.0	466.7
A	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-OB	285.9	238.2	291.1	242.5	303.1	252.0	331.5	271.5	403.0	310.3	595.8	394.8
1	B-OB	285.9	238.2	291.1	242.5	303.1	252.0	331.5	271.5	403.0	310.3	595.8	394.8

Version : MXL2MLD

Cell Unit = 21

State		Output Load											
B	Path	1.500 ff		4.356 ff		12.65 ff		36.74 ff		106.7 ff		309.9 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-OB	297.6	228.6	301.4	231.5	311.1	238.7	335.4	254.7	400.6	288.8	587.8	369.2
1	A-OB	297.6	228.6	301.4	231.5	311.1	238.7	335.4	254.7	400.6	288.8	587.8	369.2
A B	Path	1.500 ff		4.356 ff		12.65 ff		36.74 ff		106.7 ff		309.9 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-OB	272.0	204.2	275.8	207.1	285.5	214.3	310.0	230.3	375.1	264.4	562.3	344.7
1 0	S-OB	272.2	263.1	276.1	266.0	285.7	273.2	310.0	289.2	375.1	323.3	562.3	403.6
A	Path	1.500 ff		4.356 ff		12.65 ff		36.74 ff		106.7 ff		309.9 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-OB	300.4	225.1	304.2	228.0	314.0	235.3	338.2	251.1	403.6	285.4	590.9	365.6
1	B-OB	300.4	225.1	304.2	228.0	314.0	235.3	338.2	251.1	403.6	285.4	590.9	365.6

Version : MXL2NLD

Cell Unit = 24

State		Output Load											
B	Path	3.000 ff		8.143 ff		22.10 ff		60.00 ff		162.9 ff		442.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	A-OB	312.6	249.2	317.8	253.4	330.0	263.0	358.6	282.1	430.2	320.7	623.0	404.8
1	A-OB	312.6	249.2	317.8	253.4	330.0	263.0	358.6	282.1	430.2	320.7	623.0	404.8
A B	Path	3.000 ff		8.143 ff		22.10 ff		60.00 ff		162.9 ff		442.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	S-OB	287.2	224.6	292.4	228.8	304.6	238.4	332.9	257.6	404.6	296.1	597.3	380.3
1 0	S-OB	287.0	283.4	292.3	287.6	304.4	297.1	332.9	316.4	404.7	354.9	597.5	439.1
A	Path	3.000 ff		8.143 ff		22.10 ff		60.00 ff		162.9 ff		442.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	B-OB	315.4	245.7	320.7	249.9	333.0	259.3	361.5	278.6	433.0	317.1	625.8	401.2
1	B-OB	315.4	245.7	320.7	249.9	333.0	259.3	361.5	278.6	433.0	317.1	625.8	401.2

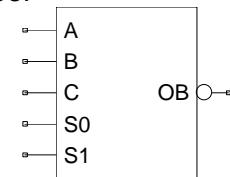
Group Name : MXL3

Function : 3 Bit MUX with Inverted Output

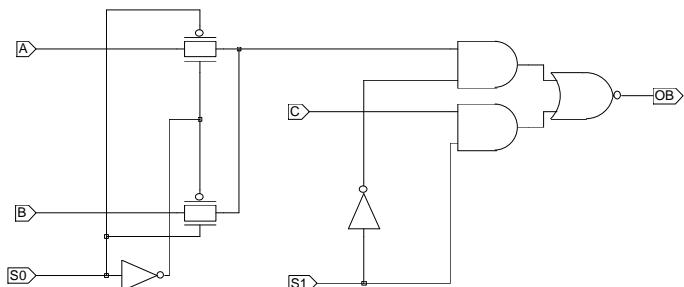
Truth Table

S1	S0	A	B	C	OB
0	0	0	X	X	1
0	0	1	X	X	0
0	1	X	0	X	1
0	1	X	1	X	0
1	X	X	X	0	1
1	X	X	X	1	0

Symbol



Schematic



Pin Order OB S0 S1 A B C

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance					Maximum Loading	Power Consumption
	S0	S1	A	B	C		
MXL3CLD	1.934	1.942	2.045	1.995	1.442	80.70	9.629
MXL3ELD	1.866	1.876	1.982	1.933	1.410	140.2	11.60
MXL3HLD	1.934	1.940	2.045	1.995	1.402	280.9	14.90
MXL3KLD	1.934	1.940	2.045	1.995	1.402	560.4	22.28

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : MXL3CLD

Cell Unit = 18

State	Output Load												
	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0	A-OB	378.9	300.5	395.2	310.3	425.7	326.6	485.2	354.0	604.2	403.1	843.6	497.2
0 1	A-OB	378.9	300.5	395.2	310.3	425.7	326.6	485.2	354.0	604.2	403.1	843.6	497.3
1 0	A-OB	378.9	300.5	395.2	310.3	425.7	326.6	485.2	354.0	604.2	403.1	843.6	497.3
1 1	A-OB	378.9	300.5	395.2	310.3	425.7	326.6	485.2	354.0	604.2	403.1	843.6	497.3
S0 A B C	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0 0 1	S1-OB	274.7	200.8	290.7	210.3	321.0	226.5	380.9	253.8	499.7	302.7	737.9	396.8
0 0 1 1	S1-OB	274.7	200.8	290.7	210.3	321.0	226.5	380.9	253.8	499.7	302.7	737.9	396.8
0 1 0 0	S1-OB	251.2	312.7	266.7	322.5	297.1	338.8	356.6	366.2	476.3	415.3	715.7	509.5
0 1 1 0	S1-OB	251.2	312.7	266.7	322.5	297.1	338.8	356.6	366.2	476.3	415.3	715.7	509.5
1 0 0 1	S1-OB	274.5	200.8	290.5	210.3	320.8	226.5	380.7	253.8	499.5	302.7	737.7	396.8
1 0 1 0	S1-OB	251.2	312.8	266.7	322.6	297.1	338.8	356.6	366.3	476.3	415.4	715.7	509.5
1 1 0 1	S1-OB	274.5	200.8	290.5	210.3	320.8	226.5	380.7	253.8	499.5	302.7	737.7	396.8
1 1 1 0	S1-OB	251.2	312.8	266.7	322.6	297.1	338.8	356.6	366.3	476.3	415.4	715.7	509.5
A B C	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 1 0	S0-OB	401.7	283.8	417.6	293.6	448.1	309.6	508.0	337.2	627.4	386.3	866.3	480.5
0 1 1	S0-OB	401.7	283.8	417.6	293.6	448.1	309.6	508.0	337.2	627.4	386.3	866.4	480.5
1 0 0	S0-OB	371.6	361.5	387.6	371.2	418.6	387.5	478.2	414.9	597.9	464.0	837.5	558.2
1 0 1	S0-OB	371.6	361.5	387.6	371.2	418.6	387.5	478.2	414.9	597.9	464.0	837.5	558.2
S0 A B	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0 0	C-OB	274.8	225.3	290.2	234.8	320.5	250.7	380.1	278.1	499.8	327.1	739.2	421.3
0 0 1	C-OB	274.8	225.3	290.2	234.8	320.5	250.7	380.1	278.1	499.8	327.1	739.2	421.3
0 1 0	C-OB	274.8	225.3	290.2	234.8	320.5	250.7	380.1	278.1	499.8	327.1	739.2	421.3
0 1 1	C-OB	274.8	225.3	290.2	234.8	320.5	250.7	380.1	278.1	499.8	327.1	739.2	421.3
1 0 0	C-OB	274.8	225.3	290.2	234.8	320.5	250.7	380.1	278.1	499.8	327.1	739.2	421.3
1 0 1	C-OB	274.8	225.3	290.2	234.8	320.5	250.7	380.1	278.1	499.8	327.1	739.2	421.3
1 1 0	C-OB	274.8	225.3	290.2	234.8	320.5	250.7	380.1	278.1	499.8	327.1	739.2	421.3
1 1 1	C-OB	274.8	225.3	290.2	234.8	320.5	250.7	380.1	278.1	499.8	327.1	739.2	421.3
A C	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl										
0 0	B-OB	385.5	297.7	401.6	307.3	432.4	323.7	491.4	351.1	611.1	400.2	850.5	494.3
0 1	B-OB	385.5	297.7	401.6	307.3	432.4	323.7	491.4	351.1	611.1	400.2	850.5	494.3
1 0	B-OB	385.5	297.7	401.6	307.3	432.4	323.7	491.4	351.1	611.1	400.2	850.5	494.3
1 1	B-OB	385.5	297.7	401.6	307.3	432.4	323.7	491.4	351.1	611.1	400.2	850.5	494.3

Version : MXL3ELD

Cell Unit = 18

State	Output Load												
	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
B C		tplh	tphl										
0 0	A-OB	394.5	303.5	406.9	311.6	431.9	326.4	485.5	353.6	606.4	405.8	878.3	516.6
0 1	A-OB	394.5	303.5	406.9	311.6	431.9	326.4	485.5	353.6	606.4	405.8	878.3	516.6
1 0	A-OB	394.5	303.5	406.9	311.6	431.9	326.4	485.5	353.6	606.4	405.8	878.3	516.6
1 1	A-OB	394.5	303.5	406.9	311.6	431.9	326.4	485.5	353.6	606.4	405.8	878.3	516.6
S0 A B C	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 0 0 1	S1-OB	291.1	203.3	303.1	211.3	328.0	225.7	382.0	252.7	502.8	304.8	774.7	415.6
0 0 1 1	S1-OB	291.1	203.3	303.1	211.3	328.0	225.7	382.0	252.7	502.8	304.8	774.7	415.6
0 1 0 0	S1-OB	258.5	315.0	270.3	323.1	295.1	337.9	348.9	365.1	469.7	417.4	741.5	528.1
0 1 1 0	S1-OB	258.5	315.0	270.3	323.1	295.1	337.9	348.9	365.1	469.7	417.4	741.5	528.1
1 0 0 1	S1-OB	290.9	203.3	302.9	211.3	327.8	225.7	381.7	252.7	502.6	304.8	774.4	415.6
1 0 1 0	S1-OB	258.5	315.1	270.3	323.2	295.1	338.0	348.9	365.2	469.7	417.4	741.5	528.2
1 1 0 1	S1-OB	290.9	203.3	302.9	211.3	327.8	225.7	381.7	252.7	502.6	304.8	774.4	415.6
1 1 1 0	S1-OB	258.5	315.1	270.3	323.2	295.1	338.0	348.9	365.2	469.7	417.4	741.5	528.2
A B C	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 1 0	S0-OB	418.1	286.7	430.3	294.6	455.4	309.4	509.1	336.6	629.9	388.8	901.9	499.6
0 1 1	S0-OB	418.1	286.7	430.3	294.6	455.4	309.4	509.1	336.6	629.9	388.8	901.9	499.6
1 0 0	S0-OB	388.6	363.9	400.7	372.1	425.6	387.0	479.4	414.1	600.2	466.4	872.1	577.2
1 0 1	S0-OB	388.6	363.9	400.7	372.1	425.6	387.0	479.4	414.1	600.2	466.4	872.1	577.2
S0 A B	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 0 0	C-OB	282.9	226.8	294.9	234.7	319.6	249.5	373.5	276.2	494.3	328.3	766.1	439.0
0 0 1	C-OB	282.9	226.8	294.9	234.7	319.6	249.5	373.5	276.2	494.3	328.3	766.1	439.0
0 1 0	C-OB	282.9	226.8	294.9	234.7	319.6	249.5	373.5	276.2	494.3	328.3	766.1	439.0
0 1 1	C-OB	282.9	226.8	294.9	234.7	319.6	249.5	373.5	276.2	494.3	328.3	766.1	439.0
1 0 0	C-OB	282.9	226.8	294.9	234.7	319.6	249.5	373.5	276.2	494.3	328.3	766.1	439.0
1 0 1	C-OB	282.9	226.8	294.9	234.7	319.6	249.5	373.5	276.2	494.3	328.3	766.1	439.0
1 1 0	C-OB	282.9	226.8	294.9	234.7	319.6	249.5	373.5	276.2	494.3	328.3	766.1	439.0
1 1 1	C-OB	282.9	226.8	294.9	234.7	319.6	249.5	373.5	276.2	494.3	328.3	766.1	439.0
A C	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl										
0 0	B-OB	401.7	300.3	414.0	308.5	439.0	323.5	492.8	350.5	613.5	402.8	885.4	513.6
0 1	B-OB	401.7	300.3	414.0	308.5	439.0	323.5	492.8	350.5	613.5	402.8	885.4	513.6
1 0	B-OB	401.7	300.3	414.0	308.5	439.0	323.5	492.8	350.5	613.5	402.8	885.4	513.6
1 1	B-OB	401.7	300.3	414.0	308.5	439.0	323.5	492.8	350.5	613.5	402.8	885.4	513.6

Version : MXL3HLD

Cell Unit = 20

State	Output Load												
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
B C		tplh	tphl										
0 0	A-OB	420.6	340.1	429.7	347.1	448.4	360.9	487.7	386.1	580.7	433.3	809.2	531.4
0 1	A-OB	420.6	340.1	429.7	347.1	448.4	360.9	487.7	386.1	580.7	433.3	809.2	531.4
1 0	A-OB	420.6	340.1	429.7	347.1	448.4	360.9	487.7	386.1	580.7	433.3	809.2	531.4
1 1	A-OB	420.6	340.1	429.7	347.1	448.4	360.9	487.7	386.1	580.7	433.3	809.2	531.4
S0 A B C	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0 1	S1-OB	317.1	238.4	326.0	245.2	344.6	258.8	384.1	284.0	477.0	330.9	705.5	429.0
0 0 1 1	S1-OB	317.1	238.4	326.0	245.2	344.6	258.8	384.1	284.0	477.0	330.9	705.5	429.0
0 1 0 0	S1-OB	279.1	351.9	287.5	358.9	305.5	372.6	344.6	397.8	437.7	445.1	666.3	543.2
0 1 1 0	S1-OB	279.1	351.9	287.5	358.9	305.5	372.6	344.6	397.8	437.7	445.1	666.3	543.2
1 0 0 1	S1-OB	316.9	238.4	325.8	245.2	344.4	258.8	383.8	284.0	476.7	330.9	705.3	429.0
1 0 1 0	S1-OB	279.1	352.0	287.5	359.0	305.5	372.7	344.6	397.9	437.7	445.2	666.3	543.3
1 1 0 1	S1-OB	316.9	238.4	325.8	245.2	344.4	258.8	383.8	284.0	476.7	330.9	705.3	429.0
1 1 1 0	S1-OB	279.1	352.0	287.5	359.0	305.5	372.7	344.6	397.9	437.7	445.2	666.3	543.3
A B C	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0	S0-OB	444.4	323.3	453.4	330.3	472.1	344.1	511.4	369.4	604.5	416.4	832.9	514.5
0 1 1	S0-OB	444.4	323.3	453.4	330.3	472.1	344.1	511.4	369.4	604.5	416.4	832.9	514.5
1 0 0	S0-OB	414.5	400.8	423.5	407.7	442.1	421.3	481.6	446.6	574.5	493.8	803.0	591.9
1 0 1	S0-OB	414.5	400.8	423.5	407.7	442.1	421.3	481.6	446.6	574.5	493.8	803.0	591.9
S0 A B	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0 0	C-OB	302.9	261.0	311.4	267.8	329.3	281.3	368.3	306.4	461.3	353.4	689.9	451.5
0 0 1	C-OB	302.9	261.0	311.4	267.8	329.3	281.3	368.3	306.4	461.3	353.4	689.9	451.5
0 1 0	C-OB	302.9	261.0	311.4	267.8	329.3	281.3	368.3	306.4	461.3	353.4	689.9	451.5
0 1 1	C-OB	302.9	261.0	311.4	267.8	329.3	281.3	368.3	306.4	461.3	353.4	689.9	451.5
1 0 0	C-OB	302.9	261.0	311.4	267.8	329.3	281.3	368.3	306.4	461.3	353.4	689.9	451.5
1 0 1	C-OB	302.9	261.0	311.4	267.8	329.3	281.3	368.3	306.4	461.3	353.4	689.9	451.5
1 1 0	C-OB	302.9	261.0	311.4	267.8	329.3	281.3	368.3	306.4	461.3	353.4	689.9	451.5
1 1 1	C-OB	302.9	261.0	311.4	267.8	329.3	281.3	368.3	306.4	461.3	353.4	689.9	451.5
A C	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 0	B-OB	427.9	337.3	436.9	344.2	455.5	357.8	495.0	383.1	587.8	430.2	816.4	528.4
0 1	B-OB	427.9	337.3	436.9	344.2	455.5	357.8	495.0	383.1	587.8	430.2	816.4	528.4
1 0	B-OB	427.9	337.3	436.9	344.2	455.5	357.8	495.0	383.1	587.8	430.2	816.4	528.4
1 1	B-OB	427.9	337.3	436.9	344.2	455.5	357.8	495.0	383.1	587.8	430.2	816.4	528.4

Version : MXL3KLD

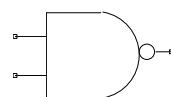
Cell Unit = 22

State	Output Load												
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
B C		tplh	tphl										
0 0	A-OB	471.0	415.1	478.2	421.3	494.5	435.2	529.5	462.9	610.9	515.7	829.7	622.8
0 1	A-OB	471.0	415.1	478.2	421.3	494.5	435.2	529.5	462.9	610.9	515.7	829.7	622.8
1 0	A-OB	471.0	415.1	478.2	421.3	494.5	435.2	529.5	462.9	610.9	515.7	829.7	622.8
1 1	A-OB	471.0	415.1	478.2	421.3	494.5	435.2	529.5	462.9	610.9	515.7	829.7	622.8
S0 A B C	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0 0 1	S1-OB	366.5	312.1	373.6	318.2	390.0	332.2	424.8	360.1	506.2	412.5	725.1	519.6
0 0 1 1	S1-OB	366.5	312.1	373.6	318.2	390.0	332.2	424.8	360.1	506.2	412.5	725.1	519.6
0 1 0 0	S1-OB	322.0	426.8	328.6	433.0	344.1	446.9	378.1	474.6	459.2	527.4	678.2	634.5
0 1 1 0	S1-OB	322.0	426.8	328.6	433.0	344.1	446.9	378.1	474.6	459.2	527.4	678.2	634.5
1 0 0 1	S1-OB	366.3	312.1	373.5	318.2	389.8	332.2	424.6	360.1	506.1	412.5	724.9	519.6
1 0 1 0	S1-OB	322.0	426.9	328.6	433.1	344.1	447.0	378.1	474.7	459.2	527.5	678.2	634.6
1 1 0 1	S1-OB	366.3	312.1	373.5	318.2	389.8	332.2	424.6	360.1	506.1	412.5	724.9	519.6
1 1 1 0	S1-OB	322.0	426.9	328.6	433.1	344.1	447.0	378.1	474.7	459.2	527.5	678.2	634.6
A B C	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0	S0-OB	494.7	398.2	502.0	404.4	518.3	418.4	553.2	446.2	634.7	498.9	853.5	605.9
0 1 1	S0-OB	494.7	398.2	502.0	404.4	518.3	418.4	553.2	446.2	634.7	498.9	853.5	605.9
1 0 0	S0-OB	464.7	475.7	472.0	481.7	488.5	495.7	523.3	523.4	604.8	576.1	823.5	683.2
1 0 1	S0-OB	464.7	475.7	472.0	481.7	488.5	495.7	523.3	523.4	604.8	576.1	823.5	683.2
S0 A B	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0 0	C-OB	345.6	334.4	352.4	340.8	367.9	354.7	401.9	382.5	483.0	434.9	702.0	542.0
0 0 1	C-OB	345.6	334.4	352.4	340.8	367.9	354.7	401.9	382.5	483.0	434.9	702.0	542.0
0 1 0	C-OB	345.6	334.4	352.4	340.8	367.9	354.7	401.9	382.5	483.0	434.9	702.0	542.0
0 1 1	C-OB	345.6	334.4	352.4	340.8	367.9	354.7	401.9	382.5	483.0	434.9	702.0	542.0
1 0 0	C-OB	345.6	334.4	352.4	340.8	367.9	354.7	401.9	382.5	483.0	434.9	702.0	542.0
1 0 1	C-OB	345.6	334.4	352.4	340.8	367.9	354.7	401.9	382.5	483.0	434.9	702.0	542.0
1 1 0	C-OB	345.6	334.4	352.4	340.8	367.9	354.7	401.9	382.5	483.0	434.9	702.0	542.0
1 1 1	C-OB	345.6	334.4	352.4	340.8	367.9	354.7	401.9	382.5	483.0	434.9	702.0	542.0
A C	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 0	B-OB	478.1	411.9	485.3	418.3	501.8	432.3	536.7	460.1	618.2	512.7	836.9	619.8
0 1	B-OB	478.1	411.9	485.3	418.3	501.8	432.3	536.7	460.1	618.2	512.7	836.9	619.8
1 0	B-OB	478.1	411.9	485.3	418.3	501.8	432.3	536.7	460.1	618.2	512.7	836.9	619.8
1 1	B-OB	478.1	411.9	485.3	418.3	501.8	432.3	536.7	460.1	618.2	512.7	836.9	619.8

Group Name : ND2

Symbol

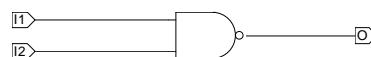
Function : 2 Input NAND



Truth Table

Schematic

I1	I2	O
1	1	0
OTHERS		1



Pin Order O I1 I2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I1	I2	O		O	
ND2CLD	1.662	2.147		79.60		2.158
ND2DLD	1.859	2.346		103.0		2.448
ND2HLD	4.197	5.091		252.6		6.084
ND2KLD	8.878	10.42		522.9		11.52
ND2MLD	14.50	16.56		796.5		18.46
ND2NLD	19.92	22.67		1081.6		25.50

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

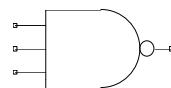
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
ND2CLD	4		tplh	tphl										
	I1-O	82.70	55.09	103.7	68.29	145.6	93.34	231.2	140.8	417.1	236.5	822.9	443.4	
	I2-O	101.0	54.86	120.8	65.53	161.7	87.24	246.8	131.9	433.0	226.8	838.4	433.4	
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
ND2DLD	4	Path	tplh	tphl										
		I1-O	74.60	57.70	91.80	70.70	125.6	95.55	193.7	142.9	338.2	238.6	653.1	445.5
		I2-O	89.20	57.02	105.2	67.63	138.1	89.30	205.5	134.2	349.6	229.0	665.0	435.6
		Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
ND2HLD	7	Path	tplh	tphl										
		I1-O	64.41	50.24	73.87	57.36	93.93	72.31	135.8	102.2	229.5	166.4	451.7	313.2
		I2-O	76.94	55.83	84.73	61.43	102.0	74.53	139.4	102.8	224.0	165.5	424.8	312.1

ND2KLD	12	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
			tplh	tphl										
		I1-O	60.53	53.99	66.42	59.15	80.73	71.66	113.6	100.1	192.2	168.3	398.2	342.9
		I2-O	69.86	57.52	74.90	61.97	87.37	73.21	117.4	100.4	190.6	167.2	383.3	341.6
ND2MLD	17	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		I1-O	59.44	47.08	63.96	50.54	76.16	59.91	106.8	82.45	184.9	139.2	406.8	291.9
		I2-O	74.58	52.15	78.44	55.01	89.36	63.01	118.2	83.99	195.2	138.5	416.9	290.8
ND2NLD	23	Path	1.500 ff		4.676 ff		14.57 ff		45.43 ff		141.6 ff		441.4 ff	
			tplh	tphl										
		I1-O	59.25	46.58	62.85	49.31	73.18	57.15	100.6	77.04	172.7	129.2	385.5	273.5
		I2-O	74.88	51.97	77.94	54.21	87.08	60.83	112.6	79.18	183.6	128.8	396.0	272.5

Group Name : ND3

Symbol

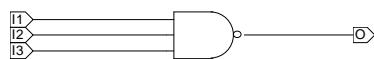
Function : 3 Input NAND



Truth Table

Schematic

I1	I2	I3	O
1	1	1	0
OTHERS			1



Pin Order O I1 I2 I3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading			Power Consumption		
	I1	I2	I3	O			O		
ND3CLD	2.006	1.991	2.211		91.61		3.996		
ND3ELD	3.673	4.139	4.866		179.5		7.216		
ND3HLD	1.865	1.846	2.006		281.2		14.34		
ND3KLD	1.857	1.894	2.087		562.5		23.79		

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

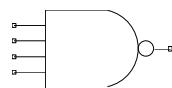
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
ND3CLD	6		tplh	tphl										
	I1-O	91.96	66.61	109.4	79.21	145.0	104.9	218.6	155.3	376.1	260.9	722.4	490.3	
	I2-O	109.5	73.57	126.1	85.24	160.9	109.1	233.5	158.3	390.6	263.3	737.3	492.6	
	I3-O	122.9	75.68	139.2	86.52	173.5	109.5	246.2	158.1	404.3	262.9	750.6	492.3	
ND3ELD	9	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
			tplh	tphl										
		I1-O	81.04	60.64	91.14	68.17	112.1	83.03	155.3	114.6	248.2	180.1	454.7	323.4
		I2-O	99.12	68.30	108.3	75.18	128.2	89.76	170.5	120.2	263.0	185.1	469.4	328.3
		I3-O	112.2	70.68	121.4	77.06	141.1	90.83	183.4	120.5	276.1	184.8	482.9	327.9
ND3HLD	11	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		I1-O	216.6	194.3	225.0	200.9	245.0	214.7	293.5	242.0	420.6	299.3	754.5	436.3
		I2-O	240.9	200.8	249.2	207.5	269.0	221.3	317.7	248.5	444.6	305.6	778.6	442.4
		I3-O	262.7	202.5	270.9	209.2	290.8	223.0	339.4	250.2	466.4	307.4	800.3	444.2

ND3KLD	14	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		I1-O	240.6	202.8	245.9	207.2	260.1	217.4	297.6	240.1	405.3	290.7	722.7	421.5
		I2-O	265.3	209.5	270.8	213.9	284.9	224.4	322.4	246.9	430.0	297.6	747.5	428.3
		I3-O	285.7	209.9	291.1	214.3	305.3	224.7	342.8	247.4	450.4	298.1	767.9	429.0

Group Name : ND4

Symbol

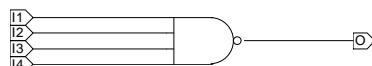
Function : 4 Input NAND



Truth Table

Schematic

I1	I2	I3	I4	O
1	1	1	1	0
OTHERS				1



Pin Order O I1 I2 I3 I4

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading				Power Consumption			
	I1	I2	I3	I4	O				O			
ND4CLD	1.012	1.070	1.060	1.103	80.72				6.958			
ND4ELD	1.110	1.182	1.140	1.196	139.2				8.925			
ND4HLD	1.330	1.431	1.330	1.418	281.2				13.99			
ND4KLD	1.489	1.622	1.481	1.601	562.1				26.11			

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

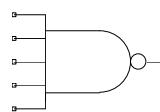
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
ND4CLD	12		tplh	tphl										
	I1-O	234.7	222.0	253.2	234.9	292.2	258.2	376.4	301.0	561.7	380.3	968.8	544.4	
	I2-O	248.5	222.3	267.0	235.5	305.9	258.4	390.7	300.6	576.3	380.3	982.3	544.7	
	I3-O	247.1	242.8	265.6	255.7	304.8	279.1	389.5	321.8	574.4	401.2	981.7	565.4	
	I4-O	261.2	242.7	279.8	255.6	319.2	279.2	404.2	321.6	590.1	401.2	995.5	565.6	
ND4ELD	12	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I1-O	235.0	228.2	249.2	239.0	281.2	260.7	357.2	302.8	543.4	386.3	998.9	573.5
		I2-O	248.9	228.7	263.2	239.6	295.1	261.1	371.0	302.9	557.2	386.9	1013	573.8
		I3-O	248.0	249.4	262.1	260.0	294.5	281.8	370.5	323.0	556.7	407.6	1012	594.8
		I4-O	262.4	249.6	276.4	260.8	308.4	282.0	384.4	323.4	569.9	407.6	1027	594.9

	14	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
ND4HLD	I1-O	223.5 241.7	232.1 250.1	252.4 267.1	301.2 299.9	428.1 364.5	762.2 507.0							
	I2-O	237.7 242.5	246.3 250.9	266.6 268.1	315.4 300.7	442.4 365.2	776.4 507.7							
	I3-O	235.5 265.0	244.2 273.3	264.4 290.3	313.3 323.2	440.4 387.6	774.7 530.1							
	I4-O	249.9 265.8	258.7 274.1	278.8 291.2	327.8 323.9	454.8 388.5	789.2 531.0							
	18	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
ND4KLD	I1-O	256.5 259.0	262.1 264.4	276.5 277.2	314.3 305.0	421.9 363.1	739.5 500.6							
	I2-O	269.9 258.8	275.6 264.3	290.0 277.1	327.8 304.5	435.4 362.9	753.0 500.4							
	I3-O	268.3 283.9	273.9 289.3	288.4 302.3	326.1 329.9	434.1 388.1	751.8 525.7							
	I4-O	282.1 283.7	287.6 289.1	302.1 302.1	339.8 329.7	447.7 387.9	765.5 525.5							

Group Name : ND5

Symbol

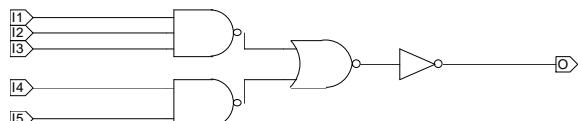
Function : 5 Input NAND



Truth Table

Schematic

I1	I2	I3	I4	I5	O
1	1	1	1	1	0
OTHERS					1



Pin Order O I1 I2 I3 I4 I5

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance					Maximum Loading			Power Consumption		
	I1	I2	I3	I4	I5	O			O		
ND5ELD	1.784	1.837	2.016	1.888	2.072	138.9			12.19		
ND5HLD	1.874	1.899	2.069	1.964	2.174	281.1			16.04		

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
ND5ELD	14		tplh	tphl										
	I1-O	230.0	204.2	243.2	214.1	274.6	234.2	350.5	274.0	535.6	354.8	990.8	541.0	
	I2-O	254.2	211.0	267.4	221.2	298.6	240.8	374.7	280.1	559.4	361.3	1016	547.3	
	I3-O	276.3	212.9	289.7	223.0	321.2	242.6	397.1	281.7	582.9	362.8	1039	549.1	
	I4-O	199.4	202.0	212.8	212.1	244.2	232.3	320.4	271.7	506.6	352.7	962.6	538.8	
	I5-O	220.2	206.2	233.6	216.2	264.9	236.0	341.1	275.1	526.4	356.4	982.6	542.5	
ND5HLD	15	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		I1-O	240.3	248.2	248.7	256.5	268.6	273.7	317.3	306.7	444.4	371.6	778.3	514.5
		I2-O	265.1	254.1	273.6	262.6	293.3	279.5	342.1	312.7	469.0	377.6	803.0	520.5
		I3-O	288.1	255.7	296.5	264.0	316.2	281.2	365.0	314.2	491.9	379.3	825.9	522.2
		I4-O	205.1	240.8	213.4	249.1	233.2	266.3	282.0	299.5	409.2	364.4	743.3	507.3
		I5-O	227.5	244.0	235.7	252.4	255.5	269.6	304.4	302.6	431.4	367.7	765.6	510.6

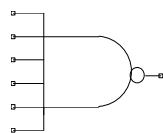
Group Name : ND6

Function : 6 Input NAND

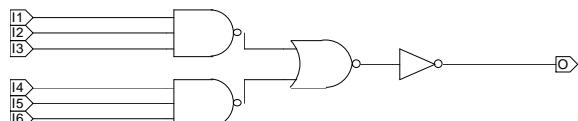
Truth Table

I1	I2	I3	I4	I5	I6	O
1	1	1	1	1	1	0
OTHERS						1

Symbol



Schematic



Pin Order O I1 I2 I3 I4 I5 I6

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance						Maximum Loading		Power Consumption	
	I1	I2	I3	I4	I5	I6	O		O	
ND6ELD	1.737	1.808	1.966	1.711	1.759	1.946	139.1		11.45	

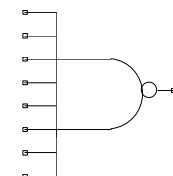
**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
ND6ELD	15		tplh	tphl									
	I1-O	235.2	217.2	249.0	228.0	280.2	249.1	356.2	290.0	541.7	372.5	998.1	559.7
	I2-O	257.5	224.2	271.4	234.9	302.6	255.7	378.2	296.4	564.0	379.2	1021	565.9
	I3-O	278.6	226.1	292.4	237.0	323.8	257.4	399.5	298.0	585.5	380.7	1042	567.7
	I4-O	231.4	227.2	245.3	237.9	277.0	258.8	353.1	299.0	539.6	382.0	995.5	568.9
	I5-O	254.8	233.7	268.4	245.1	300.4	265.6	376.3	306.2	562.9	389.0	1018	575.9
	I6-O	276.1	236.3	289.9	247.1	321.7	267.8	397.9	308.2	584.1	391.2	1040	578.1

Group Name : ND8

Symbol

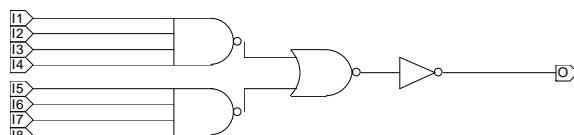
Function : 8 Input NAND



Truth Table

Schematic

I1	...	I8	O
1	...	1	0
OTHERS			1



Pin Order O I1 I2 I3 I4 I5 I6 I7 I8

**Input Capacitance (ff) & Maximum Loading (ff)**

Version	Input Capacitance								Maximum Loading
	I1	I2	I3	I4	I5	I6	I7	I8	
ND8DLD	1.330	1.528	1.357	1.449	1.289	1.504	1.368	1.436	107.5

**Power Consumption (nW/MHz)**

Version	Power Consumption	
	O	
ND8DLD	10.00	

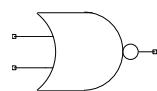
**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff
ND8DLD	22		tplh	tphl									
	I1-O	234.1	300.5	248.2	314.4	277.4	340.0	341.0	386.3	477.4	470.7	776.6	639.4
	I2-O	252.1	303.1	266.3	316.8	295.6	342.2	358.7	387.7	495.6	473.8	795.1	641.9
	I3-O	236.6	288.5	250.5	301.6	279.9	327.3	343.2	373.7	480.0	458.8	778.8	627.5
	I4-O	253.8	290.0	267.9	303.9	297.1	329.4	360.8	375.3	497.4	460.2	795.8	628.2
	I5-O	229.4	261.5	242.8	272.8	272.0	294.5	334.8	335.8	472.2	416.6	772.3	582.2
	I6-O	247.6	263.9	261.2	275.2	290.2	296.9	353.0	338.1	490.3	419.0	790.5	585.1
	I7-O	236.9	252.1	250.4	263.4	279.4	285.2	342.4	326.3	478.9	407.3	778.6	573.2
	I8-O	253.9	253.8	267.5	265.0	296.5	286.9	359.5	328.2	496.2	408.9	795.9	574.6

Group Name : NR2

Symbol

Function : 2 Input NOR



Truth Table

Schematic

I1	I2	O
0	0	1
OTHERS		0



Pin Order O I1 I2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I1	I2	O		O	
NR2BLD	1.675	1.459	52.40		2.221	
NR2CLD	2.304	1.855	59.02		2.813	
NR2ELD	4.228	4.074	131.8		6.059	
NR2GLD	6.455	5.495	199.6		8.066	
NR2HLD	9.184	8.080	266.1		10.91	
NR2ILD	10.62	8.879	334.0		12.15	
NR2KLD	18.70	16.40	531.3		22.48	
NR2MLD	25.69	22.00	806.1		30.77	
NR2NLD	34.07	29.03	1081.7		40.02	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
NR2BLD	4		tplh	tphl										
	I2-O	93.57	59.03	123.7	74.06	186.0	101.8	318.5	154.9	607.3	263.2	1240	498.0	
	I1-O	110.1	69.49	138.6	83.73	199.2	111.0	331.0	163.5	619.8	271.9	1252	507.2	
NR2CLD	4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		I2-O	98.35	46.78	124.7	56.16	179.0	72.69	296.6	104.3	550.8	163.3	1106	284.8
		I1-O	112.5	53.89	137.5	61.88	191.0	78.54	306.8	109.5	560.8	168.4	1116	290.1

NR2ELD	7	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
			tplh	tphl											
			I2-O	83.11	51.91	98.34	59.57	133.8	75.72	215.9	108.1	413.9	178.3	899.8	342.7
NR2GLD	9	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff		
			tplh	tphl											
		I2-O	74.24	49.49	85.69	56.14	114.4	70.81	184.7	101.6	365.1	171.1	839.4	342.9	
		I1-O	91.43	61.51	102.2	66.55	129.2	80.16	198.1	110.5	377.8	179.6	851.6	351.8	
NR2HLD	12	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
			tplh	tphl											
		I2-O	71.76	45.47	81.22	50.81	106.2	63.34	169.4	90.52	338.4	152.9	803.6	310.9	
		I1-O	91.50	58.36	100.3	62.14	123.6	73.51	185.2	99.95	353.3	161.8	817.9	319.9	
NR2ILD	13	Path	1.500 ff		3.806 ff		9.655 ff		24.50 ff		62.14 ff		157.7 ff		
			tplh	tphl											
		I2-O	67.13	48.70	74.34	53.10	90.63	63.00	128.8	83.12	219.2	125.9	444.1	221.4	
		I1-O	82.91	61.95	89.32	65.67	104.5	73.80	140.9	93.16	230.1	135.0	454.4	230.5	
NR2KLD	23	Path	1.500 ff		4.573 ff		13.94 ff		42.50 ff		129.6 ff		394.9 ff		
			tplh	tphl											
		I2-O	70.69	45.53	76.55	48.66	92.52	57.27	137.8	77.77	267.7	128.2	657.6	261.7	
		I1-O	90.55	57.56	95.65	59.45	110.7	67.06	154.1	87.00	282.9	136.6	672.0	270.6	
NR2MLD	31	Path	1.500 ff		4.768 ff		15.16 ff		48.19 ff		153.2 ff		487.0 ff		
			tplh	tphl											
		I2-O	63.71	43.77	68.08	46.36	80.60	53.86	116.7	73.21	221.5	120.0	546.2	247.7	
		I1-O	85.30	59.55	88.98	61.70	100.4	67.45	134.1	85.24	237.3	131.2	561.3	258.5	
NR2NLD	40	Path	3.000 ff		8.914 ff		26.48 ff		78.69 ff		233.8 ff		694.7 ff		
			tplh	tphl											
		I2-O	63.42	43.73	69.28	47.21	84.83	56.42	126.7	78.36	241.2	128.6	575.2	260.1	
		I1-O	84.26	59.36	89.22	62.25	103.4	69.59	143.0	89.84	256.1	139.5	589.5	270.6	

Group Name : NR3

Symbol

Function : 3 Input NOR



Truth Table

Schematic

I1	I2	I3	O
0	0	0	1
OTHERS			0



Pin Order O I1 I2 I3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading			Power Consumption		
	I1	I2	I3	O			O		
NR3BLD	1.929	1.714	1.629		41.83		3.344		
NR3ELD	1.889	1.656	1.626		139.4		9.223		
NR3HLD	1.889	1.654	1.618		281.2		14.04		
NR3KLD	2.010	1.750	1.670		562.6		23.67		

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

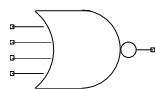
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
NR3BLD	6		tplh	tphl										
	I3-O	113.0	69.68	147.7	84.55	221.7	113.1	381.5	169.3	733.0	285.4	1501	538.7	
	I2-O	145.8	83.82	179.9	97.82	253.1	125.5	411.9	181.2	762.4	297.3	1530	551.2	
	I1-O	157.4	89.63	191.4	104.0	263.4	132.2	422.8	188.9	773.4	306.6	1541	561.6	
NR3ELD	9	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I3-O	221.8	197.5	235.8	207.5	267.9	226.5	343.8	264.3	530.0	344.0	985.0	529.3
		I2-O	255.0	214.6	269.2	224.6	301.0	243.7	376.8	281.7	563.1	361.5	1019	546.5
		I1-O	267.2	224.7	281.3	234.6	312.9	254.1	388.8	292.3	574.3	372.2	1031	557.8
NR3HLD	10	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		I3-O	240.4	196.0	249.0	202.6	269.1	216.3	318.0	243.4	444.9	300.5	778.9	437.2
		I2-O	273.6	212.5	282.3	219.1	302.3	233.0	351.1	259.9	478.0	316.8	812.0	453.6
		I1-O	285.0	221.9	293.8	228.5	313.9	242.3	362.7	269.4	489.7	326.7	823.6	463.3

NR3KLD	13	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		I3-O	289.5	213.0	295.3	217.3	310.1	227.6	347.9	249.8	455.6	300.1	773.2	430.6
		I2-O	322.5	228.4	328.3	232.6	343.0	242.8	380.7	265.1	488.3	315.4	805.9	445.9
		I1-O	334.1	238.6	339.9	243.0	354.5	253.3	392.3	275.6	499.8	325.9	817.4	456.5

Group Name : NR4

Symbol

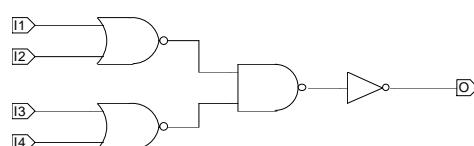
Function : 4 Input NOR



Truth Table

Schematic

I1	I2	I3	I4	O
0	0	0	0	1
OTHERS				0



Pin Order O I1 I2 I3 I4

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading				Power Consumption			
	I1	I2	I3	I4	O				O			
NR4CLD	1.427	1.309	1.421	1.274	80.63				7.049			
NR4ELD	1.427	1.309	1.421	1.274	139.1				8.512			
NR4HLD	1.448	1.299	1.420	1.268	280.9				13.56			
NR4KLD	2.186	1.916	2.248	1.961	561.8				25.37			

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

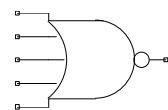
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
NR4CLD	11		tplh	tphl										
	I4-O	254.6	208.2	274.2	220.3	314.0	242.0	398.9	281.3	585.2	358.6	990.7	521.9	
	I3-O	268.6	218.6	288.1	230.8	328.1	252.3	413.2	291.7	599.5	369.0	1005	532.4	
	I2-O	240.3	188.8	260.1	200.7	300.4	221.9	385.5	261.6	570.2	338.7	976.9	501.4	
	I1-O	254.6	199.3	274.4	211.1	314.7	232.5	399.7	272.5	584.7	349.4	991.2	512.0	
NR4ELD	11	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I4-O	262.6	227.9	278.4	238.7	312.7	259.7	389.8	300.1	575.9	382.6	1032	569.1
		I3-O	276.6	238.3	292.3	249.0	326.6	270.2	403.7	310.5	589.8	393.0	1046	578.6
		I2-O	248.9	208.4	264.8	219.1	298.7	240.1	375.7	280.9	561.3	362.7	1017	548.9
		I1-O	263.5	218.9	279.2	229.7	313.5	250.8	390.5	291.7	576.5	373.3	1033	559.8

	12	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl	tplh	tphl								
NR4HLD	I4-O	278.7 222.0	288.8	229.3	311.0	244.3	361.7	273.5	489.2	333.0	823.4	471.4		
	I3-O	291.8 231.2	301.9	238.5	324.1	253.5	374.8	282.7	502.3	342.2	836.4	480.6		
	I2-O	262.3 204.2	272.3	211.5	294.6	226.3	345.0	255.3	472.5	314.4	806.7	452.4		
	I1-O	275.6 213.3	285.5	220.6	307.6	235.6	358.1	264.5	485.5	323.7	819.7	461.8		
	19	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl	tplh	tphl								
NR4KLD	I4-O	261.4 218.7	267.9	223.5	284.2	234.9	324.1	259.2	432.8	312.2	750.5	444.9		
	I3-O	274.0 228.4	280.5	233.1	296.8	244.5	336.7	269.0	445.3	322.0	763.0	454.7		
	I2-O	264.1 207.2	270.5	211.9	286.6	223.2	326.3	247.2	434.8	299.7	752.6	431.8		
	I1-O	276.3 216.4	282.7	221.2	299.0	232.5	338.8	256.6	447.3	309.1	765.1	441.3		

Group Name : NR5

Symbol

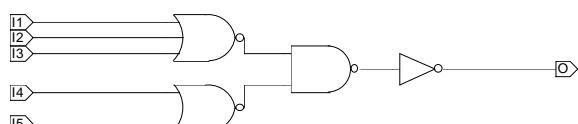
Function : 5 Input NOR



Truth Table

Schematic

I1	I2	I3	I4	I5	O
0	0	0	0	0	1
OTHERS					0



Pin Order O I1 I2 I3 I4 I5

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance					Maximum Loading		Power Consumption	
	I1	I2	I3	I4	I5	O		O	
NR5ELD	1.774	1.620	1.626	1.400	1.245	139.2		9.282	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
NR5ELD	13		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	I5-O	249.5	219.9	265.3	230.6	299.6	251.6	376.1	291.7	562.0	373.9	1019	560.4
	I4-O	264.3	230.7	280.0	241.4	314.1	262.5	391.3	302.6	577.5	384.2	1034	570.5
	I3-O	279.4	225.5	295.3	236.3	329.7	256.8	406.4	297.0	592.7	378.9	1049	564.7
	I2-O	315.9	242.1	331.9	252.9	366.4	273.4	443.4	313.6	629.7	395.6	1086	581.5
	I1-O	327.8	252.4	343.8	262.8	378.2	283.9	454.8	323.7	640.4	406.5	1096	592.4

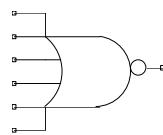
Group Name : NR6

Function : 6 Input NOR

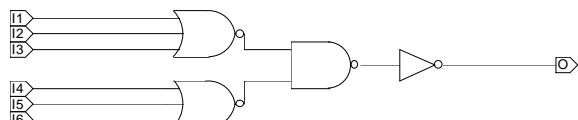
Truth Table

I1	I2	I3	I4	I5	I6	O
0	0	0	0	0	0	1
OTHERS						0

Symbol



Schematic



Pin Order O I1 I2 I3 I4 I5 I6

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

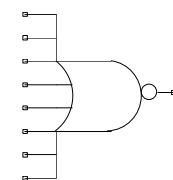
Version	Input Capacitance						Maximum Loading	Power Consumption
	I1	I2	I3	I4	I5	I6		
NR6ELD	1.782	1.622	1.610	1.768	1.608	1.554	139.2	9.719

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
NR6ELD	14		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
	I6-O	267.1	233.8	282.9	244.6	317.3	265.4	394.2	305.6	580.3	387.6	1037	574.0
	I5-O	301.4	249.8	317.2	260.5	351.6	281.4	428.2	321.6	614.4	403.8	1071	590.2
	I4-O	313.8	260.6	329.7	271.6	364.1	292.5	441.0	332.5	627.1	414.5	1084	600.8
	I3-O	280.1	225.8	296.0	236.6	330.5	257.1	407.1	297.4	593.4	379.2	1050	565.1
	I2-O	316.5	242.4	332.4	253.2	366.9	273.7	443.9	313.9	630.2	395.9	1087	581.8
	I1-O	328.3	252.7	344.4	263.1	378.6	284.2	455.6	324.0	642.0	406.8	1098	592.7

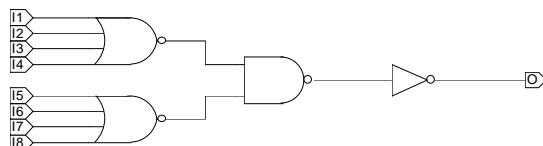
Group Name : NR8

Symbol



Function : 8 Input NOR

Schematic



Truth Table

I1 . . . I8	O
0 . . . 0	1
OTHERS	0

Pin Order O I1 I2 I3 I4 I5 I6 I7 I8

**Input Capacitance (ff) & Maximum Loading (ff)**

Version	Input Capacitance								Maximum Loading
	I1	I2	I3	I4	I5	I6	I7	I8	
NR8ELD	1.328	1.423	1.282	1.436	1.358	1.396	1.259	1.447	132.1

**Power Consumption (nW/MHz)**

Version	Power Consumption	
	O	
NR8ELD	12.97	

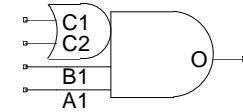
**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Path	Output Load										
			1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
NR8ELD	23		tplh tphl		tplh tphl		tplh tphl		tplh tphl		tplh tphl		
			320.6	267.4	335.8	276.0	370.4	295.0	453.1	334.6	651.2	416.2	1136 603.9
		I7-O	297.1	265.8	312.7	274.6	347.3	293.6	428.4	332.2	626.8	414.1	1112 601.8
		I6-O	312.4	277.1	327.6	286.1	363.2	304.8	444.8	343.4	642.7	425.5	1128 613.2
		I5-O	306.6	257.2	322.7	265.7	357.5	284.7	439.1	324.3	637.2	405.9	1122 593.6
		I4-O	306.8	269.8	322.4	280.6	358.0	302.5	440.3	345.3	638.7	430.0	1125 618.2
		I3-O	283.0	267.5	298.6	278.5	334.3	300.6	416.4	342.8	614.9	427.3	1101 615.3
		I2-O	298.4	279.4	313.9	290.1	349.7	311.8	431.0	353.9	629.0	438.7	1115 627.0
		I1-O	292.4	259.4	308.2	270.3	343.5	292.2	425.3	334.9	624.5	419.6	1110 607.7

Group Name : OA112

Symbol

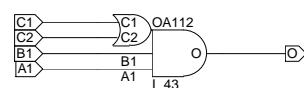
Function : OR2 into AN3



Truth Table

Schematic

A1	B1	C1	C2	O
0	X	X	X	0
X	0	X	X	0
X	X	0	0	0
OTHERS				1



Pin Order O A1 B1 C1 C2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	B1	C1	C2	O	
OA112CLD	1.246	1.387	1.712	1.858	80.51	5.976
OA112ELD	1.660	1.833	2.236	2.462	139.1	8.432
OA112HLD	1.883	2.059	2.236	2.463	279.5	12.73
OA112KLD	1.873	2.057	2.235	2.463	557.8	19.95

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OA112CLD

Cell Unit = 9

State	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	155.2	203.7	175.6	220.9	216.2	250.6	301.7	300.1	487.7	386.6
1 0	A1-O	140.8	196.9	160.8	210.7	201.0	234.5	286.4	276.7	472.3	356.1
1 1	A1-O	131.6	196.3	151.0	210.2	190.2	234.0	275.5	276.1	461.2	355.6
0 1	B1-O	160.0	230.9	180.1	248.3	220.7	278.5	306.4	328.2	492.0	415.3
1 0	B1-O	146.2	224.1	166.3	237.9	206.7	262.2	292.0	304.8	477.7	384.7
1 1	B1-O	134.7	223.3	154.2	237.2	193.8	261.4	278.9	304.0	464.7	383.9
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C2-O	168.2	249.4	188.4	263.5	229.3	288.2	314.4	331.8	499.5	413.1
	C1-O	156.8	237.8	176.5	251.8	216.7	276.5	302.4	320.1	488.1	401.4
										892.9	567.0

Version : OA112ELD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	148.7	179.0	161.5	190.0	186.8	209.8	237.6	243.2	346.2	299.6	582.8	403.1
1 0	A1-O	133.3	173.7	146.0	182.4	171.1	198.2	221.1	225.7	329.3	275.4	565.4	373.5
1 1	A1-O	124.3	173.0	136.5	182.0	160.8	197.8	210.3	225.2	318.6	274.9	554.9	373.0
0 1	B1-O	153.1	200.8	166.0	211.9	191.4	231.9	242.0	265.5	350.6	322.3	587.2	426.2
1 0	B1-O	138.9	195.3	151.5	204.2	176.6	220.1	227.4	247.9	335.6	298.0	571.9	396.6
1 1	B1-O	127.6	194.7	139.5	203.6	163.8	219.5	213.8	247.2	321.9	297.4	557.9	395.9
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C2-O	160.2	231.9	173.1	241.3	198.3	258.2	248.8	287.6	357.6	340.1	594.3	440.9
	C1-O	148.2	220.6	160.8	230.0	185.6	246.9	236.3	276.4	344.5	328.8	580.8	429.6

Version : OA112HLD

Cell Unit = 11

State	Output Load													
	Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
C1 C2			tplh	tphl	tplh	tphl								
0 1	A1-O	169.9	174.3	179.3	181.6	199.2	196.5	241.1	224.7	335.8	276.3	565.0	378.3	
1 0	A1-O	155.5	171.2	164.8	177.7	184.4	190.2	226.0	214.4	320.4	260.5	549.2	357.8	
1 1	A1-O	143.8	170.8	152.4	177.1	171.1	189.8	211.3	214.0	305.0	260.1	533.7	357.4	
0 1	B1-O	174.7	189.2	184.1	196.5	204.0	211.6	246.0	240.1	340.7	291.8	569.9	394.1	
1 0	B1-O	160.8	186.0	169.8	192.4	189.6	205.2	231.3	229.4	325.7	276.0	554.5	373.6	
1 1	B1-O	146.2	185.5	154.9	191.9	173.5	204.7	213.9	228.9	307.5	275.4	536.2	373.1	
Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		tplh	tphl											
	C2-O		180.4	271.8	189.8	279.6	209.8	295.0	251.6	323.8	346.3	377.3	575.6	482.4
	C1-O		168.5	260.9	177.8	268.5	197.3	284.0	239.0	312.9	333.4	366.3	562.2	471.4

Version : OA112KLD

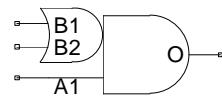
Cell Unit = 13

State	Output Load													
	Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
C1 C2			tplh	tphl	tplh	tphl								
0 1	A1-O	208.4	223.8	215.9	229.7	233.2	243.4	271.2	272.2	357.0	326.8	577.9	435.4	
1 0	A1-O	194.3	221.9	201.6	227.2	218.7	239.7	256.4	265.0	341.9	314.0	562.4	416.9	
1 1	A1-O	177.1	221.5	183.8	226.8	199.8	239.3	235.5	264.6	318.8	313.6	538.5	416.5	
0 1	B1-O	212.8	238.3	220.3	244.3	237.7	258.1	275.6	286.9	361.4	341.9	582.3	450.7	
1 0	B1-O	198.7	236.3	206.1	241.7	223.2	254.3	261.0	279.6	346.5	329.0	567.0	432.2	
1 1	B1-O	178.6	235.7	185.4	241.2	201.4	253.6	237.1	279.0	320.4	328.4	540.2	431.6	
Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
		tplh	tphl											
	C2-O		218.2	343.2	225.6	349.9	242.9	364.7	280.9	395.3	366.7	452.9	587.6	567.6
	C1-O		206.2	332.5	213.5	339.0	230.8	354.4	268.5	384.4	354.0	442.2	574.5	556.9

Group Name : OA12

Symbol

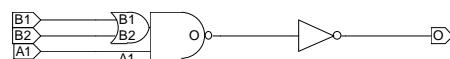
Function : OR2 into AN2



Truth Table

Schematic

A1	B1	B2	O
0	X	X	0
X	0	0	0
OTHERS			1



Pin Order O A1 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	A1	B1	B2	O		O	
OA12CLD	1.323	1.367	1.462	80.59		5.556	
OA12ELD	1.774	1.692	1.802	139.1		7.872	
OA12HLD	2.083	1.922	2.118	279.8		12.51	
OA12KLD	2.312	2.020	2.216	559.6		19.97	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version : OA12CLD

Cell Unit = 8

State	Output Load													
	B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl	tplh	tphl								
0 1	A1-O		160.2	228.0	180.1	244.8	220.3	274.0	305.5	322.8	492.1	408.5	896.7	576.2
1 0	A1-O		148.3	222.0	167.8	235.8	207.6	259.8	292.9	302.1	478.8	381.7	883.6	546.2
1 1	A1-O		139.6	232.4	159.2	246.2	198.8	270.1	284.0	312.5	469.7	392.2	874.0	556.6
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
	B2-O	155.4	202.3	175.4	216.3	216.0	241.1	301.1	284.2	486.0	365.0	893.5	529.5	
	B1-O	144.2	189.5	164.0	203.6	204.1	228.2	289.2	271.5	474.3	352.3	880.5	516.8	

Version : OA12ELD

Cell Unit = 8

State		Output Load												
B1 B2		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
0 1	A1-O		145.6	198.6	157.6	209.1	182.2	228.1	232.5	260.3	340.9	315.3	577.3	417.7
1 0	A1-O		134.9	194.0	146.9	202.7	171.2	218.3	221.4	245.7	329.1	295.4	564.0	393.7
1 1	A1-O		127.2	203.1	139.3	211.9	163.3	227.6	213.0	254.9	319.9	304.6	557.2	402.9
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
	B2-O		140.5	199.8	152.8	209.4	177.4	226.9	227.4	256.6	335.9	309.4	572.5	410.3
	B1-O		130.8	187.4	143.0	197.1	167.4	214.5	217.0	244.2	325.3	297.2	561.7	398.0

Version : OA12HLD

Cell Unit = 10

State		Output Load												
B1 B2		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
0 1	A1-O		156.0	191.6	164.5	199.0	183.1	214.0	223.2	242.3	316.9	294.0	545.8	396.1
1 0	A1-O		144.8	188.5	153.3	194.8	171.5	207.5	211.5	231.6	304.9	277.9	533.5	375.5
1 1	A1-O		134.5	195.9	142.6	202.1	160.6	214.8	199.9	239.0	293.1	285.3	521.6	382.9
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
	B2-O		151.9	216.9	160.4	224.4	178.9	239.0	219.0	266.9	312.7	318.5	541.6	421.6
	B1-O		141.6	205.3	150.1	212.6	168.4	227.4	208.2	255.2	301.7	306.8	530.4	409.9

Version : OA12KLD

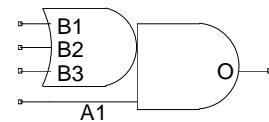
Cell Unit = 13

State		Output Load												
B1 B2		Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
0 1	A1-O		174.3	222.4	180.6	228.0	195.7	240.9	229.8	267.9	311.8	320.0	531.4	425.3
1 0	A1-O		164.3	220.6	170.7	225.6	185.7	237.2	219.7	261.1	301.4	308.2	520.7	408.7
1 1	A1-O		149.6	227.6	155.5	232.7	169.7	244.4	202.4	268.2	283.3	315.4	502.4	415.8
		Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
	B2-O		170.6	291.1	176.9	297.8	192.0	312.4	226.0	342.1	308.0	398.8	527.6	511.8
	B1-O		161.8	279.9	168.2	286.4	183.2	301.0	217.1	330.8	298.9	387.4	518.2	500.6

Group Name : OA13

Symbol

Function : OR3 into AN2



Truth Table

Schematic

A1	B1	B2	B3	O
0	X	X	X	0
X	0	0	0	0
OTHERS				1



Pin Order O A1 B1 B2 B3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	B1	B2	B3	O	
OA13CLD	1.253	1.624	1.678	1.790	80.58	5.733
OA13ELD	1.520	2.004	2.081	2.247	139.1	7.868
OA13HLD	1.902	2.228	2.316	2.510	280.5	11.66
OA13KLD	1.892	2.227	2.310	2.498	559.7	18.82

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OA13CLD

Cell Unit = 8

State		Output Load													
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff			
B1 B2 B3	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
		0 0 1	A1-O	172.6	169.0	193.3	184.9	234.6	214.1	320.9	267.2	508.1	360.9	914.7	534.1
	Path	0 1 0	A1-O	160.9	169.1	180.7	184.7	221.0	212.3	306.1	259.0	491.7	342.2	899.4	507.9
		0 1 1	A1-O	142.8	168.6	161.9	184.3	201.2	211.9	286.8	258.6	473.0	341.8	877.7	507.5
		1 0 0	A1-O	141.9	162.2	161.7	174.2	201.9	195.9	286.7	235.0	471.4	311.7	878.4	474.4
		1 0 1	A1-O	128.0	161.8	147.0	173.7	186.0	195.5	271.2	234.5	457.1	311.2	861.2	473.9
		1 1 0	A1-O	128.0	161.8	147.0	173.7	186.0	195.5	271.2	234.5	457.1	311.2	861.2	473.9
		1 1 1	A1-O	123.6	161.6	142.2	173.5	181.0	195.3	266.1	234.4	451.8	311.1	857.1	473.7
				1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
				tplh	tphl										
	B3-O	179.9	287.7	200.7	303.8	242.3	331.8	328.3	380.1	514.6	466.9	922.8	636.2		
	B2-O	171.1	275.6	191.0	291.6	231.2	319.7	317.0	368.0	503.4	454.8	908.5	624.1		
	B1-O	154.6	239.0	174.1	255.0	213.9	282.9	299.4	331.3	485.4	418.2	889.5	587.5		

Version : OA13ELD

Cell Unit = 8

State		Output Load													
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff			
B1 B2 B3	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
		0 0 1	A1-O	151.3	169.0	163.9	180.0	189.2	200.3	240.3	236.7	349.1	301.5	586.6	414.7
	Path	0 1 0	A1-O	141.8	169.1	154.0	180.1	178.7	199.8	228.7	233.1	337.3	289.3	574.0	392.5
		0 1 1	A1-O	126.6	168.6	138.3	179.6	161.8	199.4	211.6	232.7	319.0	288.9	554.3	392.1
		1 0 0	A1-O	126.2	163.4	138.4	172.0	162.7	187.4	212.2	214.0	320.6	262.9	556.9	360.3
		1 0 1	A1-O	114.0	162.9	125.6	171.5	149.0	186.9	198.5	213.5	305.5	262.4	540.8	359.8
		1 1 0	A1-O	114.0	162.9	125.6	171.5	149.0	186.9	198.5	213.5	305.5	262.4	540.8	359.8
		1 1 1	A1-O	110.2	162.8	121.6	171.3	144.7	186.8	194.2	213.3	301.5	262.2	536.4	359.6
				1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
				tplh	tphl										
	B3-O	158.0	292.8	170.7	304.0	195.8	323.7	247.1	357.8	356.3	416.6	593.6	523.9		
	B2-O	151.3	281.0	163.7	292.2	187.9	311.9	238.4	345.9	346.9	404.7	582.7	512.0		
	B1-O	137.7	245.0	149.9	256.1	174.0	276.1	223.9	310.0	331.4	368.7	567.2	476.1		

Version : OA13HLD

Cell Unit = 9

State		Output Load													
B1 B2 B3		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
				tplh	tphl	tplh	tphl								
0 0 1	A1-O	153.5	151.0	162.6	158.2	181.7	172.8	222.4	200.7	316.8	255.2	546.3	362.5		
0 1 0	A1-O	146.0	151.0	154.9	158.2	173.5	172.7	213.6	199.7	307.3	249.3	536.3	349.2		
0 1 1	A1-O	132.5	150.7	140.6	157.9	158.4	172.4	197.4	199.4	290.8	249.0	519.7	348.9		
1 0 0	A1-O	133.7	148.5	142.4	154.7	160.9	166.9	200.7	189.8	294.1	233.9	522.8	329.5		
1 0 1	A1-O	122.1	148.2	130.3	154.4	147.9	166.6	187.0	189.4	280.0	233.6	508.5	329.2		
1 1 0	A1-O	122.1	148.2	130.3	154.4	147.9	166.6	187.0	189.4	280.0	233.6	508.5	329.2		
1 1 1	A1-O	118.5	148.1	126.3	154.2	143.7	166.5	182.5	189.3	275.5	233.5	504.1	329.0		
Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff			
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
	B3-O	155.5	358.0	164.5	368.1	183.8	387.3	224.6	422.3	319.1	484.6	548.5	600.8		
	B2-O	149.7	346.6	158.5	356.7	177.3	376.2	217.6	410.9	311.4	473.2	540.3	589.4		
	B1-O	138.9	310.9	147.7	320.9	166.2	340.4	206.2	375.3	299.6	437.5	528.2	553.7		

Version : OA13KLD

Cell Unit = 12

State		Output Load													
B1 B2 B3		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
				tplh	tphl	tplh	tphl								
0 0 1	A1-O	186.9	194.7	194.0	200.4	210.1	213.4	245.6	240.7	328.8	295.7	549.2	408.5		
0 1 0	A1-O	178.8	194.7	185.6	200.4	201.6	213.4	236.6	240.4	319.2	292.2	539.0	396.9		
0 1 1	A1-O	159.8	194.3	166.1	200.0	180.8	213.0	213.9	240.1	294.9	291.8	514.3	396.6		
1 0 0	A1-O	166.7	193.0	173.5	198.2	189.2	210.0	223.9	233.7	306.2	279.9	525.7	379.0		
1 0 1	A1-O	150.1	192.6	156.2	197.8	170.7	209.4	203.6	233.3	284.4	279.5	503.5	378.6		
1 1 0	A1-O	150.1	192.6	156.2	197.8	170.7	209.4	203.6	233.3	284.4	279.5	503.5	378.6		
1 1 1	A1-O	144.8	192.4	150.9	197.6	164.9	209.2	197.2	233.2	277.6	279.4	496.7	378.5		
Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff			
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
	B3-O	188.1	465.4	195.2	474.0	211.4	493.0	246.9	530.1	330.2	599.1	550.6	730.0		
	B2-O	181.5	453.6	188.4	462.1	204.3	481.2	239.4	518.3	322.0	587.2	541.8	718.2		
	B1-O	170.8	418.5	177.5	426.8	193.2	445.9	228.0	483.1	310.4	552.1	529.9	683.0		

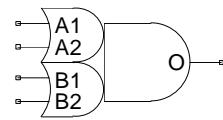
Group Name : OA22

Symbol

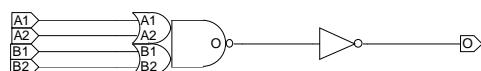
Function : 2 OR2 into AN2

Truth Table

Schematic



A1	A2	B1	B2	O
0	0	X	X	0
X	X	0	0	0
OTHERS				1



Pin Order O A1 A2 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	A2	B1	B2	O	
OA22CLD	1.565	1.413	1.529	1.644	80.52	6.197
OA22ELD	1.967	1.746	1.906	2.077	139.1	8.631
OA22HLD	2.376	2.100	2.306	2.534	279.9	13.56
OA22KLD	2.377	2.100	2.305	2.534	559.7	20.82

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OA22CLD

Cell Unit = 9

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A2-O	143.7	198.2	163.0	215.3	202.5	245.0	288.1	294.8	474.3	382.2	879.0	551.0
1 0	A2-O	132.5	192.3	151.9	206.6	191.5	231.2	276.6	274.8	461.9	355.9	867.5	520.6
1 1	A2-O	120.7	191.6	139.2	206.0	178.2	230.5	262.9	274.1	448.4	355.2	854.6	519.9
0 1	A1-O	153.1	213.3	172.8	230.5	212.8	260.0	298.4	309.9	484.1	397.3	890.7	566.1
1 0	A1-O	142.3	207.4	161.9	221.5	201.6	246.3	287.1	289.9	472.7	371.0	878.6	535.7
1 1	A1-O	128.4	206.8	147.0	220.9	186.2	245.7	270.8	289.3	456.4	370.4	863.4	535.1
A1 A2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	B2-O	153.0	259.4	172.2	274.0	212.2	299.6	297.3	344.4	483.6	426.9	888.5	593.2
1 0	B2-O	163.6	265.4	183.0	283.2	223.2	314.6	308.1	366.3	494.2	455.8	901.3	626.6
1 1	B2-O	144.1	273.5	163.4	288.2	203.1	313.8	288.2	358.6	474.1	441.1	878.3	607.3
0 1	B1-O	144.7	247.1	163.9	261.8	203.8	287.4	288.4	332.2	474.6	414.7	878.9	581.0
1 0	B1-O	155.3	253.2	174.8	271.1	214.6	302.3	300.1	354.2	486.0	443.6	891.3	614.4
1 1	B1-O	137.5	261.4	156.7	276.0	196.2	301.6	280.5	346.3	466.5	428.9	871.0	595.1

Version : OA22ELD

Cell Unit = 9

State	Output Load													
	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2			tplh	tphl	tplh	tphl								
0 1	A2-O	132.5	194.0	144.6	205.8	168.6	226.8	218.7	262.3	327.0	321.8	563.3	428.7	
1 0	A2-O	122.2	189.0	134.1	198.8	158.2	216.2	207.7	246.1	315.9	299.4	552.0	400.5	
1 1	A2-O	110.8	188.3	122.4	198.1	145.5	215.6	195.2	245.5	302.5	298.7	537.6	399.8	
0 1	A1-O	141.3	208.3	153.3	220.1	177.9	241.2	227.7	276.8	336.3	336.1	572.9	442.9	
1 0	A1-O	131.2	203.5	143.3	213.2	167.5	230.8	217.0	260.6	325.5	313.8	561.9	414.8	
1 1	A1-O	118.1	202.9	129.5	212.6	152.7	230.2	202.2	260.0	310.0	313.2	545.4	414.3	
A1 A2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl											
0 1	B2-O	140.0	251.1	151.9	261.3	175.9	279.0	225.9	309.9	334.1	364.1	570.2	466.5	
1 0	B2-O	149.8	256.1	161.6	268.4	186.0	290.3	236.3	327.2	344.8	388.5	581.3	497.2	
1 1	B2-O	131.7	265.2	143.7	275.2	167.6	293.1	217.4	323.9	324.6	378.2	559.6	480.6	
0 1	B1-O	132.3	239.4	144.1	249.5	168.0	267.3	217.7	298.2	325.7	352.4	561.4	454.7	
1 0	B1-O	142.0	244.4	153.9	256.6	178.1	278.6	228.1	315.6	336.5	376.8	572.7	485.4	
1 1	B1-O	125.5	253.4	137.3	263.5	161.1	281.3	211.0	312.1	318.7	366.4	554.1	468.8	

Version : OA22HLD

Cell Unit = 11

State	Output Load													
	Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
B1 B2			tplh	tphl	tplh	tphl								
0 1	A2-O	136.9	212.5	145.1	221.2	163.1	239.1	202.5	272.4	295.3	331.3	524.2	441.7	
1 0	A2-O	127.5	208.9	135.5	216.4	153.2	231.5	192.6	259.6	285.8	311.7	514.4	415.3	
1 1	A2-O	115.0	208.2	122.4	215.7	139.4	231.0	177.8	258.9	270.9	310.9	499.4	414.6	
0 1	A1-O	144.8	226.3	153.1	234.9	171.0	252.8	210.7	286.0	304.2	344.9	533.3	455.3	
1 0	A1-O	135.7	222.7	143.7	230.1	161.6	245.1	200.9	273.3	294.5	325.3	523.3	429.0	
1 1	A1-O	121.5	222.1	129.0	229.5	146.0	244.5	184.7	272.6	277.9	324.7	506.6	428.3	
A1 A2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		tplh	tphl											
0 1	B2-O	143.7	267.9	151.8	275.5	169.7	291.0	209.1	319.7	302.6	372.8	531.3	477.6	
1 0	B2-O	153.0	271.5	161.1	280.4	179.1	299.0	218.8	333.4	312.4	393.9	541.5	506.2	
1 1	B2-O	133.5	281.5	141.5	289.2	159.1	304.5	198.4	333.5	291.6	386.4	520.3	491.3	
0 1	B1-O	136.0	256.5	144.1	264.3	161.9	279.5	201.2	308.2	294.5	361.4	523.0	466.3	
1 0	B1-O	145.5	260.1	153.6	269.1	171.5	287.4	210.9	322.0	304.5	382.6	533.3	494.9	
1 1	B1-O	127.4	270.1	135.3	277.8	152.9	293.2	192.0	321.9	285.1	375.0	513.5	479.9	

Version : OA22KLD

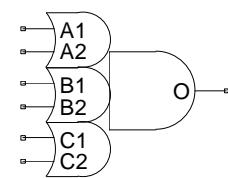
Cell Unit = 14

State	Path	Output Load											
		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
B1 B2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A2-O	161.9	282.6	168.1	289.7	182.8	306.1	216.3	340.5	297.8	403.9	517.3	524.7
1 0	A2-O	152.8	280.3	158.9	286.8	173.4	301.4	206.7	331.2	288.0	387.9	507.3	501.3
1 1	A2-O	135.7	279.4	141.2	285.8	154.5	300.5	186.0	330.3	266.1	387.0	485.2	500.3
0 1	A1-O	170.4	296.0	176.5	302.9	191.3	319.3	224.9	353.7	306.7	417.1	526.4	537.8
1 0	A1-O	161.1	293.3	167.3	300.0	182.1	314.6	215.6	344.4	297.1	401.1	516.6	514.4
1 1	A1-O	142.1	292.5	147.7	299.2	161.3	313.9	192.8	343.6	273.1	400.3	492.3	513.6
A1 A2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	B2-O	168.1	338.8	174.2	345.4	188.9	360.3	222.4	390.6	303.9	448.1	523.5	562.5
1 0	B2-O	177.4	341.2	183.7	348.4	198.5	365.0	232.2	400.2	314.0	465.3	533.8	588.0
1 1	B2-O	152.6	352.4	158.4	358.9	172.4	374.2	204.9	404.2	285.7	461.8	505.0	576.2
0 1	B1-O	160.6	327.6	166.8	334.4	181.2	349.2	214.6	379.5	296.0	437.1	515.2	551.5
1 0	B1-O	170.0	330.0	176.1	337.3	190.8	354.0	224.3	389.0	306.0	454.3	525.5	577.0
1 1	B1-O	146.8	341.3	152.5	347.9	166.4	362.8	198.8	393.1	279.5	450.6	498.6	565.1

Group Name : OA222

Symbol

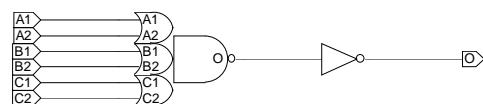
Function : 3 OR2 into AN3



Truth Table

Schematic

A1	A2	B1	B2	C1	C2	O
0	0	X	X	X	X	0
X	X	0	0	X	X	0
X	X	X	X	0	0	0
OTHERS						1



Pin Order O A1 A2 B1 B2 C1 C2

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance						Maximum Loading	Power Consumption
	A1	A2	B1	B2	C1	C2		
OA222CLD	1.906	1.706	1.737	1.934	1.933	1.827	80.58	8.756
OA222ELD	2.310	2.055	2.093	2.344	1.953	2.225	138.8	11.58
OA222HLD	2.310	2.053	2.092	2.344	1.953	2.224	278.9	15.58
OA222KLD	2.310	2.051	2.091	2.344	1.953	2.224	555.9	23.01

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OA222CLD

Cell Unit = 13

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1	B2	C1	C2	tplh	tphl								
0 1 0 1	A2-O	180.5	199.1	202.1	216.4	244.4	246.5	330.8	297.0	517.1	384.9	922.9	554.1
0 1 1 0	A2-O	198.1	204.6	220.3	225.0	262.8	260.6	349.4	317.9	535.5	413.0	943.3	588.1
0 1 1 1	A2-O	166.8	198.7	187.2	216.0	228.0	246.0	313.4	296.6	499.2	384.5	906.3	553.6
1 0 0 1	A2-O	163.6	193.3	185.1	207.8	226.9	232.6	313.0	276.5	497.4	357.9	904.9	522.8
1 0 1 0	A2-O	182.0	199.2	203.6	216.7	245.9	247.3	332.5	298.8	518.8	387.6	924.6	557.4
1 0 1 1	A2-O	152.6	192.9	172.9	207.3	213.6	232.1	299.0	276.1	484.1	357.5	890.3	522.4
1 1 0 1	A2-O	151.4	192.8	172.1	207.3	213.1	232.1	298.7	276.0	483.9	357.4	890.2	522.3
1 1 1 0	A2-O	166.8	198.7	187.5	216.2	228.8	246.8	314.5	298.3	500.3	387.1	907.4	556.9
1 1 1 1	A2-O	139.9	192.3	159.5	206.8	199.2	231.5	284.4	275.5	469.6	356.9	875.4	521.8
0 1 0 1	A1-O	194.4	211.9	216.4	229.2	259.0	259.2	345.2	309.5	532.0	397.5	938.5	566.6
0 1 1 0	A1-O	211.9	217.4	234.2	237.8	277.0	273.5	364.1	330.5	551.4	425.7	957.6	600.7
0 1 1 1	A1-O	178.8	211.5	199.3	228.9	240.5	258.8	326.2	309.2	512.3	397.1	919.8	566.3
1 0 0 1	A1-O	178.2	206.0	199.8	220.3	242.1	245.3	328.4	289.2	514.6	370.6	920.8	535.5
1 0 1 0	A1-O	195.8	211.9	217.9	229.5	260.5	260.1	346.8	311.3	533.5	400.2	940.6	569.9
1 0 1 1	A1-O	164.6	205.7	185.2	219.9	226.3	245.0	311.4	288.8	496.8	370.2	903.9	535.1
1 1 0 1	A1-O	163.4	205.6	184.3	219.9	225.7	244.9	311.2	288.8	496.6	370.2	903.5	535.1
1 1 1 0	A1-O	178.5	211.5	199.7	229.0	241.5	259.7	327.2	310.9	512.7	399.7	920.7	569.5
1 1 1 1	A1-O	149.5	205.2	169.3	219.4	209.3	244.5	294.6	288.4	480.1	369.8	886.4	534.6
A1 A2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1	B2-O	197.0	250.8	218.9	265.6	261.2	291.3	347.7	336.3	532.5	418.9	940.3	585.1
0 1 1 0	B2-O	214.4	256.7	236.3	274.7	279.2	306.1	365.9	358.6	552.7	448.7	959.0	619.8
0 1 1 1	B2-O	178.5	250.1	198.9	264.9	239.8	290.6	325.2	335.6	510.8	418.2	918.1	584.4
1 0 0 1	B2-O	212.9	256.7	234.6	274.5	277.5	305.2	364.1	356.6	550.8	445.6	957.2	616.0
1 0 1 0	B2-O	230.0	262.2	252.5	283.1	295.4	319.6	382.2	377.8	568.7	474.0	977.0	650.2
1 0 1 1	B2-O	191.5	256.0	212.3	273.8	253.8	304.5	339.0	355.9	525.0	444.9	932.8	615.3
1 1 0 1	B2-O	187.6	263.1	209.4	277.8	252.0	303.5	337.5	348.5	523.4	431.2	930.7	597.3
1 1 1 0	B2-O	202.4	269.0	224.5	287.0	267.4	318.5	353.7	370.9	539.0	460.9	946.4	632.0
1 1 1 1	B2-O	168.4	262.4	189.0	277.1	229.7	302.8	315.4	347.8	501.1	430.4	906.7	596.6
0 1 0 1	B1-O	183.3	238.5	204.8	253.2	247.1	279.0	332.7	323.8	517.3	406.5	924.6	572.7
0 1 1 0	B1-O	200.5	244.4	222.6	262.3	264.9	293.8	351.3	346.2	536.7	436.3	944.3	607.4
0 1 1 1	B1-O	167.0	237.6	187.3	252.4	228.1	278.1	313.3	323.0	497.7	405.7	905.0	571.9
1 0 0 1	B1-O	199.0	244.3	221.0	262.0	263.3	292.8	349.5	344.2	534.9	433.2	942.4	603.6
1 0 1 0	B1-O	216.3	249.8	238.2	270.8	281.1	307.2	367.7	365.3	554.5	461.5	961.3	637.8
1 0 1 1	B1-O	180.2	243.5	200.7	261.2	241.6	292.0	327.5	343.4	513.0	432.4	919.4	602.8
1 1 0 1	B1-O	175.2	250.7	196.8	265.5	239.1	291.2	324.6	336.2	509.4	418.8	915.9	585.0
1 1 1 0	B1-O	190.3	256.7	212.2	274.7	254.9	306.0	340.6	358.6	526.2	448.6	933.8	619.7
1 1 1 1	B1-O	158.5	249.9	178.9	264.6	219.5	290.3	304.9	335.3	490.3	417.9	895.6	584.1

A1 A2 B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1	C2-O	205.8	275.9	227.6	294.4	269.9	326.0	356.4	378.6	541.5	469.0	949.1	640.9
0 1 1 0	C2-O	190.4	269.9	211.6	285.2	253.6	311.7	339.4	357.7	525.1	441.7	931.4	609.3
0 1 1 1	C2-O	178.2	279.4	198.9	294.9	239.8	321.4	325.4	367.7	509.8	452.0	917.1	619.8
1 0 0 1	C2-O	221.6	281.4	243.4	302.9	286.2	339.7	372.8	398.1	559.6	494.7	966.0	671.6
1 0 1 0	C2-O	205.6	275.9	227.5	294.4	269.7	325.9	356.2	378.4	541.3	468.6	948.8	640.4
1 0 1 1	C2-O	190.8	285.4	211.6	303.9	252.9	335.8	338.2	388.4	523.9	479.0	931.3	651.0
1 1 0 1	C2-O	193.9	289.8	215.6	308.0	258.3	339.7	343.8	392.1	529.6	482.4	937.0	654.0
1 1 1 0	C2-O	181.3	283.9	202.7	299.0	244.4	325.4	330.8	371.3	516.4	455.1	921.8	622.5
1 1 1 1	C2-O	167.8	294.1	188.5	309.4	229.7	336.1	315.1	381.9	500.7	465.9	906.0	633.4
0 1 0 1	C1-O	221.2	290.8	243.0	309.1	285.9	340.9	372.6	393.5	559.4	483.9	965.8	655.7
0 1 1 0	C1-O	205.2	284.9	227.2	300.0	269.5	326.4	356.0	372.5	541.0	456.5	948.9	624.1
0 1 1 1	C1-O	190.5	294.3	211.3	309.7	252.6	336.4	338.1	382.6	523.9	466.9	931.3	634.7
1 0 0 1	C1-O	236.7	296.3	258.9	317.7	302.1	354.6	388.9	412.8	576.0	509.4	983.4	686.3
1 0 1 0	C1-O	221.0	290.8	242.8	309.1	285.7	340.7	372.4	393.2	559.2	483.5	965.6	655.3
1 0 1 1	C1-O	203.5	300.3	224.5	318.7	266.1	350.6	352.0	403.3	538.2	493.9	945.7	665.9
1 1 0 1	C1-O	206.8	304.7	228.8	322.8	271.8	354.6	357.9	406.9	543.6	497.2	951.7	668.9
1 1 1 0	C1-O	193.4	298.8	215.2	313.8	257.8	340.2	343.5	386.1	529.5	469.9	936.7	637.3
1 1 1 1	C1-O	178.2	309.1	198.8	324.3	239.9	350.9	325.3	396.9	511.5	480.8	918.1	648.4

Version : OA222ELD

Cell Unit = 13

State		Output Load															
B1	B2	C1	C2	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
				tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0	1	0	1	A2-O	164.9	196.1	179.0	208.1	205.3	229.4	257.3	265.4	365.6	325.6	601.4	433.2	
0	1	1	0	A2-O	188.9	200.9	203.4	214.9	231.2	240.3	284.4	282.0	393.9	348.4	629.8	462.4	
0	1	1	1	A2-O	154.1	195.7	167.3	207.7	192.5	229.0	243.5	265.0	351.5	325.2	588.2	432.8	
1	0	0	1	A2-O	149.7	191.3	163.3	201.5	189.7	218.8	241.4	249.2	349.4	302.8	584.8	404.3	
1	0	1	0	A2-O	172.8	196.4	187.3	208.3	214.5	229.8	267.4	266.3	376.4	326.9	612.6	434.9	
1	0	1	1	A2-O	140.9	190.9	153.9	200.9	179.1	218.4	229.5	248.8	337.1	302.4	573.3	403.9	
1	1	0	1	A2-O	138.4	190.7	151.5	200.7	177.0	218.3	227.6	248.6	335.2	302.3	571.1	403.8	
1	1	1	0	A2-O	158.9	195.9	172.9	207.9	199.1	229.3	251.0	265.8	359.2	326.5	595.0	434.4	
1	1	1	1	A2-O	129.3	190.3	141.6	200.3	166.0	217.9	215.7	248.2	324.0	301.9	560.4	403.3	
0	1	0	1	A1-O	177.8	208.4	191.7	220.4	218.6	241.7	270.8	277.9	380.2	337.9	617.1	445.3	
0	1	1	0	A1-O	202.5	213.3	217.2	227.2	245.3	252.6	298.8	294.3	408.8	360.7	646.2	474.7	
0	1	1	1	A1-O	165.3	208.1	178.5	220.1	204.1	241.4	255.5	277.5	363.8	337.5	600.6	445.0	
1	0	0	1	A1-O	162.7	203.6	176.8	213.5	203.1	231.3	255.1	261.5	363.3	315.2	599.0	416.6	
1	0	1	0	A1-O	186.6	208.6	201.0	220.6	228.8	242.2	281.8	278.7	391.6	339.2	628.8	447.1	
1	0	1	1	A1-O	152.2	203.3	165.1	213.2	190.7	231.0	241.7	261.2	350.3	314.8	586.9	416.3	
1	1	0	1	A1-O	149.4	203.2	162.5	213.1	188.2	230.9	239.3	261.1	347.5	314.7	584.7	416.2	
1	1	1	0	A1-O	171.0	208.2	184.7	220.2	211.6	241.8	264.0	278.3	373.2	338.8	610.1	446.7	
1	1	1	1	A1-O	138.2	202.8	150.5	212.7	175.2	230.6	225.3	260.7	333.8	314.4	570.4	415.8	
A1 A2 C1 C2				Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
				tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0	1	0	1	B2-O	181.1	249.8	195.1	260.2	221.7	278.1	273.7	309.4	382.8	364.1	617.7	466.9	
0	1	1	0	B2-O	207.9	255.1	222.4	267.5	249.9	289.6	303.6	326.8	412.2	388.6	648.7	497.8	
0	1	1	1	B2-O	166.2	249.2	179.3	259.5	204.7	277.5	256.0	308.7	364.2	363.5	600.8	466.3	
1	0	0	1	B2-O	195.6	254.7	209.6	267.0	236.3	288.9	289.0	325.7	397.2	386.8	633.5	495.5	
1	0	1	0	B2-O	223.4	259.7	238.2	274.0	266.4	300.0	320.0	342.5	430.0	410.0	667.4	525.2	
1	0	1	1	B2-O	178.5	254.1	191.6	266.4	217.5	288.3	269.0	325.1	377.8	386.2	614.7	494.9	
1	1	0	1	B2-O	172.5	262.6	186.2	272.8	213.1	291.0	265.2	322.1	374.2	376.9	610.7	479.6	
1	1	1	0	B2-O	197.2	267.9	211.7	280.1	239.4	302.2	293.0	339.6	401.6	401.3	638.0	510.5	
1	1	1	1	B2-O	156.8	261.9	169.9	272.1	195.3	290.4	245.7	321.4	354.1	376.2	588.8	479.0	
0	1	0	1	B1-O	169.0	237.9	182.4	248.1	209.0	266.2	260.6	297.5	369.4	352.1	605.8	454.9	
0	1	1	0	B1-O	194.4	243.2	208.4	255.5	236.1	277.8	289.1	315.0	398.5	376.6	634.3	485.8	
0	1	1	1	B1-O	155.7	237.1	168.6	247.3	193.9	265.4	244.4	296.7	353.0	351.3	589.3	454.1	
1	0	0	1	B1-O	183.3	242.7	196.9	255.0	223.7	277.0	275.8	313.7	384.9	374.8	621.1	483.4	
1	0	1	0	B1-O	209.9	247.8	224.3	262.0	252.0	288.0	305.7	330.6	414.7	398.2	650.9	513.2	
1	0	1	1	B1-O	167.9	242.0	180.9	254.3	206.3	276.3	257.0	313.0	365.8	374.1	602.5	482.7	
1	1	0	1	B1-O	161.2	250.6	174.8	260.8	201.4	278.9	253.3	310.1	362.0	364.8	598.2	467.6	
1	1	1	0	B1-O	184.9	255.9	199.1	268.3	226.9	290.3	280.0	327.6	389.4	389.4	626.0	498.6	
1	1	1	1	B1-O	147.7	249.8	160.6	260.0	185.9	278.1	236.2	309.3	344.4	364.1	579.1	466.9	

A1 A2 B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1	C2-O	189.6	298.6	203.2	312.0	230.0	336.2	282.1	375.7	391.1	440.5	627.8	553.3
0 1 1 0	C2-O	175.3	293.3	188.8	304.5	215.1	324.0	267.2	357.5	375.2	415.2	611.2	521.4
0 1 1 1	C2-O	164.2	304.7	177.2	315.8	202.4	335.6	253.3	369.1	360.9	427.1	597.9	533.5
1 0 0 1	C2-O	203.6	303.5	217.8	319.1	244.5	347.4	296.8	392.8	405.4	464.0	641.7	583.5
1 0 1 0	C2-O	189.4	298.6	203.0	312.0	229.8	336.1	282.0	375.5	391.0	440.2	627.6	552.9
1 0 1 1	C2-O	175.6	309.9	188.6	323.3	214.4	347.3	265.9	387.2	374.4	452.1	611.0	565.0
1 1 0 1	C2-O	178.1	314.5	191.9	327.8	218.5	351.7	270.5	391.3	379.2	456.0	616.2	568.6
1 1 1 0	C2-O	166.0	309.2	179.8	320.2	206.0	340.0	257.5	373.2	365.7	430.8	600.6	536.7
1 1 1 1	C2-O	154.2	321.4	167.3	332.6	192.8	352.1	243.3	385.5	351.5	443.3	586.0	549.4
0 1 0 1	C1-O	217.2	315.7	231.9	329.1	259.6	353.2	312.9	392.8	422.2	457.7	658.8	570.5
0 1 1 0	C1-O	201.6	310.4	215.9	321.6	243.4	341.1	296.8	374.7	405.7	432.4	641.9	538.5
0 1 1 1	C1-O	189.5	321.8	203.5	333.1	229.8	352.8	282.0	386.3	389.9	444.3	626.1	550.7
1 0 0 1	C1-O	233.1	320.6	247.9	336.3	275.6	364.5	329.4	409.9	438.9	481.2	676.2	600.6
1 0 1 0	C1-O	217.0	315.7	231.7	329.1	259.4	353.1	312.7	392.6	422.0	457.4	658.6	570.1
1 0 1 1	C1-O	202.8	327.0	217.0	340.5	243.5	364.4	295.8	404.3	404.2	469.2	640.4	582.2
1 1 0 1	C1-O	204.7	331.6	219.3	344.9	247.0	368.8	300.8	408.4	409.6	473.1	645.3	585.7
1 1 1 0	C1-O	191.0	326.3	205.5	337.4	232.9	357.1	286.0	390.4	394.7	448.0	630.3	553.9
1 1 1 1	C1-O	178.4	338.5	192.3	349.6	219.0	369.3	270.7	402.7	379.3	460.5	615.7	566.6

Version : OA222HLD

Cell Unit = 14

State		Output Load											
B1 B2 C1 C2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1	A2-O	181.0	230.2	191.0	239.2	212.0	257.8	255.4	292.6	351.0	353.8	580.5	467.0
0 1 1 0	A2-O	206.3	233.6	216.8	243.8	238.8	265.2	283.7	305.6	380.7	373.7	610.8	494.3
0 1 1 1	A2-O	168.1	229.7	177.4	238.7	197.3	257.4	239.1	292.2	333.7	353.4	562.8	466.6
1 0 0 1	A2-O	166.2	226.8	176.1	234.7	196.8	250.5	239.9	280.0	335.3	334.3	564.3	440.3
1 0 1 0	A2-O	190.2	230.4	200.6	239.4	222.3	258.2	266.9	293.3	363.5	355.0	593.2	468.7
1 0 1 1	A2-O	155.4	226.3	164.4	234.2	184.0	250.1	225.6	279.6	320.0	333.8	548.7	439.8
1 1 0 1	A2-O	152.4	226.2	161.5	234.1	181.2	249.9	223.0	279.5	317.5	333.7	546.2	439.7
1 1 1 0	A2-O	173.9	229.9	183.7	238.9	204.5	257.6	247.7	292.7	343.3	354.4	572.6	468.1
1 1 1 1	A2-O	141.2	225.7	149.7	233.6	168.3	249.4	208.4	279.1	302.1	333.1	530.7	439.2
0 1 0 1	A1-O	193.6	242.0	203.7	251.1	224.8	269.8	268.5	304.6	364.6	365.8	594.3	478.9
0 1 1 0	A1-O	220.1	245.5	230.6	255.6	252.9	277.2	298.0	317.6	395.3	385.5	625.8	506.2
0 1 1 1	A1-O	178.9	241.6	188.3	250.7	208.4	269.6	250.3	304.3	345.2	365.4	574.7	478.5
1 0 0 1	A1-O	178.9	238.6	188.8	246.7	209.9	262.5	253.2	292.1	348.9	346.2	578.3	452.2
1 0 1 0	A1-O	203.9	242.2	214.4	251.3	236.4	270.3	281.2	305.2	378.2	366.8	608.3	480.5
1 0 1 1	A1-O	166.2	238.2	175.6	246.1	195.4	262.2	237.2	291.7	331.8	345.9	560.9	451.8
1 1 0 1	A1-O	162.9	238.1	172.3	246.0	192.3	262.0	234.3	291.6	328.9	345.7	558.1	451.7
1 1 1 0	A1-O	185.6	241.7	195.6	250.8	216.6	269.8	260.0	304.8	355.9	366.4	585.6	480.0
1 1 1 1	A1-O	150.1	237.7	158.8	245.6	177.4	261.6	217.8	291.1	311.6	345.3	540.5	451.2
A1 A2 C1 C2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1	B2-O	198.4	284.8	208.4	292.9	229.4	309.2	272.8	339.5	368.6	394.7	598.0	502.0
0 1 1 0	B2-O	226.6	288.6	237.1	297.9	259.2	317.1	304.0	353.2	401.0	415.8	631.1	530.7
0 1 1 1	B2-O	180.9	284.1	190.2	292.2	210.1	308.5	251.9	338.9	346.6	394.0	575.7	501.3
1 0 0 1	B2-O	212.7	288.2	222.9	297.5	244.0	316.6	287.7	352.3	383.8	414.3	613.6	528.6
1 0 1 0	B2-O	242.5	291.9	253.1	302.3	275.3	324.2	320.4	365.5	417.7	434.5	648.2	556.2
1 0 1 1	B2-O	193.2	287.6	202.6	296.8	222.6	316.0	264.7	351.6	359.6	413.6	589.1	527.9
1 1 0 1	B2-O	185.6	297.5	195.5	305.7	216.5	321.9	259.7	352.2	355.1	407.4	584.3	514.7
1 1 1 0	B2-O	212.0	301.4	222.5	310.8	244.5	329.9	289.2	365.7	386.0	428.5	615.9	543.4
1 1 1 1	B2-O	167.9	296.8	177.1	305.0	196.5	321.2	238.0	351.4	332.4	406.7	561.3	514.0
0 1 0 1	B1-O	185.8	272.9	195.7	281.1	216.6	297.4	259.7	327.5	355.0	382.9	584.1	490.2
0 1 1 0	B1-O	212.7	276.8	223.2	286.2	245.0	305.3	289.6	341.3	386.3	404.0	615.9	519.0
0 1 1 1	B1-O	170.3	272.2	179.4	280.4	199.1	296.6	240.7	326.8	335.0	382.1	563.8	489.4
1 0 0 1	B1-O	200.2	276.4	210.2	285.8	231.2	304.8	274.6	340.4	370.4	402.4	599.8	516.8
1 0 1 0	B1-O	228.6	280.1	239.2	290.6	261.2	312.5	306.0	353.7	403.1	422.7	633.1	544.4
1 0 1 1	B1-O	182.4	275.6	191.8	285.0	211.7	304.0	253.4	339.6	348.1	401.7	577.3	516.1
1 1 0 1	B1-O	175.1	285.7	184.6	293.8	205.3	310.2	248.3	340.4	343.6	395.6	572.5	502.9
1 1 1 0	B1-O	200.0	289.5	210.4	298.8	232.2	318.2	276.7	354.1	373.1	416.7	602.7	531.7
1 1 1 1	B1-O	159.1	284.9	168.2	293.0	187.5	309.4	228.8	339.6	322.8	394.8	551.6	502.0

A1 A2 B1 B2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0 1	C2-O	206.3	336.9	216.2	346.9	237.4	367.7	280.7	406.1	376.4	472.3	605.9	591.8
0 1 1 0	C2-O	191.9	333.2	201.8	341.9	222.6	359.7	265.8	392.0	361.1	450.6	590.2	562.2
0 1 1 1	C2-O	178.0	344.5	187.3	353.4	206.9	371.3	248.8	403.6	343.3	462.5	572.1	574.4
1 0 0 1	C2-O	220.7	340.4	230.8	351.7	251.9	375.6	295.6	419.8	391.7	492.9	621.5	619.7
1 0 1 0	C2-O	206.1	336.9	216.1	346.9	237.2	367.7	280.6	406.0	376.3	472.1	605.7	591.4
1 0 1 1	C2-O	189.7	348.3	199.0	358.4	219.1	379.4	261.0	417.8	355.9	484.0	585.0	603.6
1 1 0 1	C2-O	191.6	352.5	201.3	362.6	222.2	383.3	265.4	421.6	360.9	487.7	590.2	607.0
1 1 1 0	C2-O	179.2	348.8	189.0	357.7	209.8	375.4	252.8	407.5	347.9	466.1	576.8	577.5
1 1 1 1	C2-O	164.5	360.9	173.6	369.9	193.3	387.6	234.8	420.0	329.1	478.6	557.8	590.2
0 1 0 1	C1-O	236.1	353.8	246.6	363.9	268.7	384.6	313.5	423.1	410.5	489.3	640.6	608.7
0 1 1 0	C1-O	220.2	350.0	230.6	359.1	252.5	376.7	297.1	408.9	393.7	467.6	623.4	579.2
0 1 1 1	C1-O	205.0	361.4	214.9	370.4	235.7	388.2	279.0	420.6	374.6	479.5	603.9	591.4
1 0 0 1	C1-O	252.0	357.3	262.6	368.6	284.8	392.4	329.9	436.8	427.2	509.7	657.7	636.7
1 0 1 0	C1-O	236.0	353.8	246.5	363.9	268.5	384.6	313.4	423.0	410.3	489.0	640.4	608.3
1 0 1 1	C1-O	218.3	365.1	228.2	375.4	249.3	396.4	292.8	434.7	388.6	501.0	618.4	620.6
1 1 0 1	C1-O	220.0	369.6	230.5	379.6	252.5	400.3	297.2	438.7	394.0	504.7	623.9	624.0
1 1 1 0	C1-O	206.2	365.9	216.7	374.7	238.4	392.3	282.9	424.5	379.4	483.1	608.9	594.5
1 1 1 1	C1-O	190.2	377.9	200.0	386.8	220.6	404.6	263.8	437.1	359.2	495.6	588.3	607.1

Version : OA222KLD

Cell Unit = 17

State		Output Load											
B1 B2 C1 C2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1	A2-O	218.9	300.2	226.6	307.5	244.8	324.4	284.3	360.0	372.0	425.7	593.6	549.7
0 1 1 0	A2-O	247.4	302.7	255.6	310.5	274.8	329.0	316.0	369.3	405.9	442.4	628.8	574.3
0 1 1 1	A2-O	201.2	299.8	208.4	307.0	225.4	323.9	262.7	359.6	347.8	425.3	568.4	549.2
1 0 0 1	A2-O	204.2	298.0	211.8	304.6	229.9	319.9	269.1	350.9	356.5	409.6	577.7	525.8
1 0 1 0	A2-O	231.2	300.5	239.4	307.7	258.3	324.6	299.3	360.4	388.8	426.7	611.3	551.2
1 0 1 1	A2-O	188.5	297.5	195.7	304.2	212.5	319.4	249.6	350.4	334.5	409.3	554.7	525.3
1 1 0 1	A2-O	184.7	297.4	191.8	304.0	208.7	319.3	245.8	350.2	330.8	409.1	551.1	525.1
1 1 1 0	A2-O	209.4	299.9	217.0	307.1	234.8	324.0	273.8	359.8	360.9	426.1	582.3	550.6
1 1 1 1	A2-O	168.8	296.8	175.3	303.5	190.8	318.7	225.6	349.7	308.2	408.5	527.8	524.6
0 1 0 1	A1-O	231.3	311.6	239.2	318.8	257.4	336.1	297.2	371.5	385.2	437.3	607.2	561.1
0 1 1 0	A1-O	261.2	314.0	269.4	321.8	288.7	340.7	330.1	380.7	420.4	454.0	643.7	585.7
0 1 1 1	A1-O	211.9	311.2	219.2	318.4	236.2	335.8	273.8	371.1	359.2	437.0	580.1	560.7
1 0 0 1	A1-O	216.7	309.3	224.4	316.0	242.5	331.6	282.0	362.3	369.7	421.2	591.3	537.3
1 0 1 0	A1-O	244.9	311.8	253.1	319.0	272.3	336.4	313.4	371.9	403.3	438.3	626.2	562.6
1 0 1 1	A1-O	199.2	308.9	206.4	315.6	223.4	331.2	260.7	361.9	345.9	420.8	566.4	536.9
1 1 0 1	A1-O	195.1	308.8	202.3	315.4	219.2	331.0	256.6	361.8	341.9	420.7	562.5	536.8
1 1 1 0	A1-O	221.0	311.3	228.7	318.5	246.7	335.9	285.8	371.3	373.3	437.8	595.0	562.1
1 1 1 1	A1-O	177.4	308.3	184.0	315.1	199.6	330.4	234.7	361.3	317.6	420.2	537.4	536.3
A1 A2 C1 C2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1	B2-O	235.7	355.6	243.5	362.4	261.6	378.4	301.2	409.7	388.9	469.4	610.5	586.7
0 1 1 0	B2-O	267.4	358.3	275.6	365.7	294.9	383.3	336.0	419.5	425.9	486.7	648.8	612.4
0 1 1 1	B2-O	213.3	354.9	220.6	361.7	237.5	377.7	274.8	409.0	360.0	468.7	580.6	585.9
1 0 0 1	B2-O	250.2	357.9	258.0	365.3	276.4	382.9	316.1	418.8	404.2	485.4	626.2	610.4
1 0 1 0	B2-O	283.5	360.5	291.8	368.6	311.0	387.8	352.4	428.4	442.7	502.3	666.0	635.3
1 0 1 1	B2-O	225.7	357.2	233.0	364.6	250.2	382.2	287.6	418.1	373.1	484.7	594.1	609.7
1 1 0 1	B2-O	217.0	368.5	224.5	375.3	242.2	391.1	280.8	422.4	367.7	482.1	588.7	599.4
1 1 1 0	B2-O	246.9	371.2	254.9	378.6	273.7	396.2	314.3	432.1	403.3	499.5	625.7	625.1
1 1 1 1	B2-O	194.2	367.7	201.0	374.6	217.3	390.4	253.6	421.7	337.7	481.4	557.8	598.7
0 1 0 1	B1-O	223.3	344.2	230.9	351.1	249.0	366.6	288.2	398.3	375.6	457.9	596.9	575.2
0 1 1 0	B1-O	253.6	346.9	261.7	354.5	280.7	371.7	321.7	408.0	411.3	475.3	633.8	600.9
0 1 1 1	B1-O	202.7	343.4	209.8	350.3	226.7	365.8	263.8	397.5	348.7	457.1	568.9	574.4
1 0 0 1	B1-O	237.7	346.5	245.5	354.0	263.6	371.2	303.1	407.3	390.8	473.9	612.5	598.9
1 0 1 0	B1-O	269.6	349.2	277.8	357.3	297.0	376.2	338.2	417.0	428.1	490.8	651.0	623.8
1 0 1 1	B1-O	215.0	345.7	222.3	353.2	239.2	370.4	276.5	406.5	361.7	473.1	582.3	598.1
1 1 0 1	B1-O	206.3	356.8	213.8	363.6	231.4	379.5	269.9	410.8	356.4	470.5	577.1	587.8
1 1 1 0	B1-O	234.9	359.5	242.9	366.9	261.5	384.5	301.9	420.6	390.6	487.9	612.6	613.6
1 1 1 1	B1-O	185.3	355.9	192.2	362.7	208.5	378.7	244.5	409.9	328.3	469.7	548.2	587.0

A1 A2 B1 B2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0 1	C2-O	243.7	415.9	251.4	423.9	269.5	442.7	309.0	481.4	396.8	552.8	618.5	684.1
0 1 1 0	C2-O	229.1	413.4	236.8	420.8	254.9	437.9	294.0	471.5	381.5	535.1	602.7	657.9
0 1 1 1	C2-O	209.2	424.8	216.3	432.4	233.1	449.4	270.3	483.3	355.4	547.0	575.7	670.1
1 0 0 1	C2-O	258.1	418.4	266.0	426.9	284.3	447.5	324.0	491.1	412.1	569.8	634.1	709.1
1 0 1 0	C2-O	243.5	415.9	251.3	423.9	269.4	442.7	308.9	481.4	396.6	552.6	618.3	683.7
1 0 1 1	C2-O	221.2	427.3	228.4	435.6	245.3	454.4	282.7	493.2	368.1	564.6	588.8	696.0
1 1 0 1	C2-O	222.6	431.1	230.1	439.4	247.9	458.2	286.6	496.9	373.4	568.0	594.5	699.2
1 1 1 0	C2-O	210.3	428.6	217.7	436.4	235.2	453.2	273.8	486.8	360.2	550.3	581.0	673.0
1 1 1 1	C2-O	189.1	441.0	196.0	448.4	212.3	465.5	248.6	499.3	332.8	562.8	552.7	685.7
0 1 0 1	C1-O	276.9	432.6	285.0	440.6	304.2	459.5	345.4	498.2	435.3	569.5	658.3	700.8
0 1 1 0	C1-O	260.8	429.9	268.8	437.6	287.9	454.5	328.8	488.1	418.4	551.7	640.9	674.6
0 1 1 1	C1-O	239.8	441.6	247.4	449.0	265.3	466.1	304.2	500.0	391.4	563.7	612.8	686.8
1 0 0 1	C1-O	292.8	435.1	301.2	443.6	320.3	464.2	361.8	507.8	452.1	586.5	675.4	725.8
1 0 1 0	C1-O	276.7	432.6	284.9	440.6	304.0	459.5	345.2	498.1	435.1	569.2	658.1	700.4
1 0 1 1	C1-O	253.3	444.1	261.0	452.2	278.9	471.1	318.1	509.9	405.6	581.3	627.4	712.7
1 1 0 1	C1-O	254.8	447.9	262.7	456.4	281.4	474.9	322.0	513.5	411.2	584.7	633.5	715.9
1 1 1 0	C1-O	240.8	445.4	248.7	453.0	267.4	469.9	307.7	503.5	396.5	567.0	618.4	689.7
1 1 1 1	C1-O	218.5	457.8	225.9	465.2	243.4	482.2	281.7	516.1	368.0	579.6	588.9	702.4

Group Name : OA2222

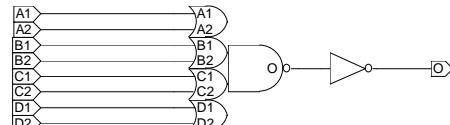
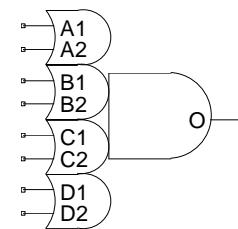
Symbol

Function : 4 OR2 into AN4

Truth Table

Schematic

A1 A2	B1 B2	C1 C2	D1 D2	O
0 0	X X	X X	X X	0
X X	0 0	X X	X X	0
X X	X X	0 0	X X	0
X X	X X	X X	0 0	0
OTHERS				1



Pin Order O A1 A2 B1 B2 C1 C2 D1 D2

**Input Capacitance (ff) & Maximum Loading (ff)**

Version	Input Capacitance								Maximum Loading
	A1	A2	B1	B2	C1	C2	D1	D2	
OA2222CLD	1.798	1.572	1.693	1.863	1.848	1.632	1.742	1.905	65.66
OA2222ELD	2.225	1.936	2.103	2.331	2.265	2.002	2.151	2.356	130.9
OA2222HLD	2.225	1.935	2.102	2.331	2.241	2.001	2.151	2.356	263.3
OA2222KLD	2.295	2.024	2.187	2.395	2.409	2.092	2.244	2.432	527.7

**Power Consumption (nW/MHz)**

Version	Power Consumption
	O
OA2222CLD	8.710
OA2222ELD	14.85
OA2222HLD	24.26
OA2222KLD	39.22

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OA2222CLD

Cell Unit = 17

State B1 B2 C1 C2 D1 D2	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1 0 1	A2-O	197.5	222.8	220.1	237.1	268.0	263.2	372.2	310.6	600.1	398.3
0 1 0 1 1 0	A2-O	197.5	222.8	220.1	237.1	268.0	263.2	372.2	310.6	600.1	398.3
0 1 0 1 1 1	A2-O	196.9	222.9	219.4	237.1	267.3	263.2	371.5	310.6	599.3	398.3
0 1 1 0 0 1	A2-O	197.5	222.8	220.1	237.1	268.0	263.2	372.2	310.6	600.1	398.3
0 1 1 0 1 0	A2-O	197.5	222.8	220.1	237.1	268.0	263.2	372.2	310.6	600.1	398.3
0 1 1 0 1 1	A2-O	196.9	222.9	219.4	237.1	267.3	263.2	371.5	310.6	599.3	398.3
0 1 1 1 0 1	A2-O	196.9	222.9	219.5	237.1	267.4	263.2	371.6	310.6	599.4	398.3
0 1 1 1 1 0	A2-O	196.9	222.9	219.5	237.1	267.4	263.2	371.6	310.6	599.4	398.3
0 1 1 1 1 1	A2-O	196.3	222.9	218.8	237.1	266.6	263.2	370.8	310.6	598.7	398.3
1 0 0 1 0 1	A2-O	183.9	211.7	206.0	223.5	253.9	246.1	358.0	288.7	585.7	371.3
1 0 0 1 1 0	A2-O	183.9	211.7	206.0	223.5	253.9	246.1	358.0	288.7	585.7	371.3
1 0 0 1 1 1	A2-O	183.4	211.8	205.4	223.5	253.2	246.1	357.3	288.7	584.9	371.3
1 0 1 0 0 1	A2-O	183.9	211.7	206.0	223.5	253.9	246.1	358.0	288.7	585.7	371.3
1 0 1 0 1 0	A2-O	183.9	211.7	206.0	223.5	253.9	246.1	358.0	288.7	585.7	371.3
1 0 1 0 1 1	A2-O	183.4	211.8	205.4	223.5	253.2	246.1	357.3	288.7	584.9	371.3
1 0 1 1 0 1	A2-O	183.4	211.8	205.4	223.5	253.3	246.1	357.4	288.7	585.0	371.3
1 0 1 1 1 0	A2-O	183.4	211.8	205.4	223.5	253.3	246.1	357.4	288.7	585.0	371.3
1 0 1 1 1 1	A2-O	182.8	211.8	204.8	223.5	252.6	246.1	356.6	288.7	584.2	371.3
1 1 0 1 0 1	A2-O	169.6	211.1	191.3	222.8	239.1	245.4	343.0	288.1	570.4	370.6
1 1 0 1 1 0	A2-O	169.6	211.1	191.3	222.8	239.1	245.4	343.0	288.1	570.4	370.6
1 1 0 1 1 1	A2-O	169.0	211.1	190.6	222.8	238.4	245.4	342.2	288.1	569.5	370.6
1 1 1 0 0 1	A2-O	169.6	211.1	191.3	222.8	239.1	245.4	343.0	288.1	570.4	370.6
1 1 1 0 1 0	A2-O	169.6	211.1	191.3	222.8	239.1	245.4	343.0	288.1	570.4	370.6
1 1 1 0 1 1	A2-O	169.0	211.1	190.6	222.8	238.4	245.4	342.2	288.1	569.5	370.6
1 1 1 1 0 1	A2-O	169.0	211.1	190.7	222.8	238.5	245.4	342.3	288.1	569.6	370.6
1 1 1 1 1 0	A2-O	169.0	211.1	190.7	222.8	238.5	245.4	342.3	288.1	569.6	370.6
1 1 1 1 1 1	A2-O	168.4	211.1	190.0	222.8	237.7	245.5	341.5	288.1	568.8	370.6
0 1 0 1 0 1	A1-O	210.7	237.2	233.1	251.3	281.1	277.5	385.4	324.9	613.4	412.6
0 1 0 1 1 0	A1-O	210.7	237.2	233.1	251.3	281.1	277.5	385.4	324.9	613.4	412.6
0 1 0 1 1 1	A1-O	210.2	237.2	232.5	251.3	280.4	277.5	384.7	324.9	612.7	412.6
0 1 1 0 0 1	A1-O	210.7	237.2	233.1	251.3	281.1	277.5	385.4	324.9	613.4	412.6
0 1 1 0 1 0	A1-O	210.7	237.2	233.1	251.3	281.1	277.5	385.4	324.9	613.4	412.6
0 1 1 0 1 1	A1-O	210.2	237.2	232.5	251.3	280.4	277.5	384.7	324.9	612.7	412.6
0 1 1 1 0 1	A1-O	210.2	237.2	232.5	251.3	280.5	277.5	384.7	324.9	612.8	412.6
0 1 1 1 1 0	A1-O	210.2	237.2	232.5	251.3	280.5	277.5	384.7	324.9	612.8	412.6
0 1 1 1 1 1	A1-O	209.6	237.2	231.9	251.3	279.8	277.5	384.0	324.9	612.0	412.6
1 0 0 1 0 1	A1-O	196.7	226.2	219.0	237.8	267.0	260.5	371.2	303.1	599.0	385.6
1 0 0 1 1 0	A1-O	196.7	226.2	219.0	237.8	267.0	260.5	371.2	303.1	599.0	385.6

1 0 0 1 1 1	A1-O	196.1	226.2	218.4	237.8	266.3	260.5	370.5	303.1	597.2	385.6	1096	556.4
1 0 1 0 0 1	A1-O	196.7	226.2	219.0	237.8	267.0	260.5	371.2	303.1	599.0	385.6	1098	556.4
1 0 1 0 1 0	A1-O	196.7	226.2	219.0	237.8	267.0	260.5	371.2	303.1	599.0	385.6	1098	556.4
1 0 1 0 1 1	A1-O	196.1	226.2	218.4	237.8	266.3	260.5	370.5	303.1	597.2	385.6	1096	556.4
1 0 1 1 0 1	A1-O	196.1	226.2	218.4	237.8	266.3	260.5	370.5	303.1	598.4	385.6	1097	556.4
1 0 1 1 1 0	A1-O	196.1	226.2	218.4	237.8	266.3	260.5	370.5	303.1	598.4	385.6	1097	556.4
1 0 1 1 1 1	A1-O	195.5	226.2	217.8	237.8	265.1	260.5	369.1	303.1	597.0	385.6	1096	556.4
1 1 0 1 0 1	A1-O	179.5	225.7	201.6	237.3	249.4	260.0	353.4	302.6	580.9	385.1	1080	555.9
1 1 0 1 1 0	A1-O	179.5	225.7	201.6	237.3	249.4	260.0	353.4	302.6	580.9	385.1	1080	555.9
1 1 0 1 1 1	A1-O	178.9	225.7	200.9	237.3	248.6	260.0	352.6	302.6	580.1	385.1	1079	555.9
1 1 1 0 0 1	A1-O	179.5	225.7	201.6	237.3	249.4	260.0	353.4	302.6	580.9	385.1	1080	555.9
1 1 1 0 1 0	A1-O	179.5	225.7	201.6	237.3	249.4	260.0	353.4	302.6	580.9	385.1	1080	555.9
1 1 1 0 1 1	A1-O	178.9	225.7	200.9	237.3	248.6	260.0	352.6	302.6	580.1	385.1	1079	555.9
1 1 1 1 0 1	A1-O	178.9	225.7	200.9	237.3	248.7	260.0	352.7	302.6	580.2	385.1	1079	555.9
1 1 1 1 1 0	A1-O	178.9	225.7	200.9	237.3	248.7	260.0	352.7	302.6	580.2	385.1	1079	555.9
1 1 1 1 1 1	A1-O	178.3	225.7	200.3	237.3	248.0	260.0	351.9	302.6	579.4	385.1	1078	555.9
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	B2-O	205.1	262.2	227.4	274.4	275.4	297.5	379.5	340.8	607.3	424.2	1106	596.0
0 1 0 1 1 0	B2-O	205.1	262.2	227.4	274.4	275.4	297.5	379.5	340.8	607.3	424.2	1106	596.0
0 1 0 1 1 1	B2-O	204.6	262.3	226.8	274.4	274.7	297.5	378.8	340.8	606.5	424.2	1105	596.0
0 1 1 0 0 1	B2-O	205.1	262.2	227.4	274.4	275.4	297.5	379.5	340.8	607.3	424.2	1106	596.0
0 1 1 0 1 0	B2-O	205.1	262.2	227.4	274.4	275.4	297.5	379.5	340.8	607.3	424.2	1106	596.0
0 1 1 0 1 1	B2-O	204.6	262.3	226.8	274.4	274.7	297.5	378.8	340.8	606.5	424.2	1105	596.0
0 1 1 1 0 1	B2-O	204.6	262.3	226.8	274.4	274.7	297.6	378.9	340.8	606.6	424.2	1105	596.0
0 1 1 1 1 0	B2-O	204.6	262.3	226.8	274.4	274.7	297.6	378.9	340.8	606.6	424.2	1105	596.0
0 1 1 1 1 1	B2-O	204.0	262.3	226.2	274.5	274.0	297.6	378.1	340.8	605.9	424.2	1104	596.0
1 0 0 1 0 1	B2-O	218.4	274.2	241.0	288.5	288.1	316.0	392.8	364.6	621.2	453.8	1120	629.0
1 0 0 1 1 0	B2-O	218.4	274.2	241.0	288.5	288.1	316.0	392.8	364.6	621.2	453.8	1120	629.0
1 0 0 1 1 1	B2-O	217.8	274.2	240.0	288.5	287.5	316.0	392.1	364.6	620.5	453.8	1119	629.0
1 0 1 0 0 1	B2-O	218.4	274.2	241.0	288.5	288.1	316.0	392.8	364.6	621.2	453.8	1120	629.0
1 0 1 0 1 0	B2-O	218.4	274.2	241.0	288.5	288.1	316.0	392.8	364.6	621.2	453.8	1120	629.0
1 0 1 0 1 1	B2-O	217.8	274.2	240.0	288.5	287.5	316.0	392.1	364.6	620.5	453.8	1119	629.0
1 0 1 1 0 1	B2-O	217.8	274.3	240.4	288.5	287.5	316.0	392.2	364.6	620.5	453.8	1119	629.0
1 0 1 1 1 0	B2-O	217.8	274.3	240.4	288.5	287.5	316.0	392.2	364.6	620.5	453.8	1119	629.0
1 0 1 1 1 1	B2-O	217.2	274.3	239.4	288.6	286.9	316.0	391.5	364.6	619.7	453.8	1119	629.0
1 1 0 1 0 1	B2-O	192.2	272.6	214.6	284.7	262.7	307.8	367.0	351.1	595.1	434.6	1094	606.4
1 1 0 1 1 0	B2-O	192.2	272.6	214.6	284.7	262.7	307.8	367.0	351.1	595.1	434.6	1094	606.4
1 1 0 1 1 1	B2-O	191.7	272.6	214.0	284.7	262.1	307.8	366.2	351.1	593.0	434.6	1093	606.4
1 1 1 0 0 1	B2-O	192.2	272.6	214.6	284.7	262.7	307.8	367.0	351.1	595.1	434.6	1094	606.4
1 1 1 0 1 0	B2-O	192.2	272.6	214.6	284.7	262.7	307.8	367.0	351.1	595.1	434.6	1094	606.4
1 1 1 0 1 1	B2-O	191.7	272.6	214.0	284.7	262.1	307.8	366.2	351.1	593.0	434.6	1093	606.4
1 1 1 1 0 1	B2-O	191.7	272.6	214.4	284.7	262.1	307.8	366.3	351.1	594.4	434.6	1093	606.4

1 1 1 1 1 0	B2-O	191.7	272.6	214.4	284.7	262.1	307.8	366.3	351.1	594.4	434.6	1093	606.4
1 1 1 1 1 1	B2-O	191.1	272.6	213.7	284.7	261.1	307.8	365.0	351.1	592.4	434.6	1092	606.4
0 1 0 1 0 1	B1-O	193.5	250.8	216.1	262.7	264.2	285.8	368.3	329.2	596.3	412.6	1095	584.5
0 1 0 1 1 0	B1-O	193.5	250.8	216.1	262.7	264.2	285.8	368.3	329.2	596.3	412.6	1095	584.5
0 1 0 1 1 1	B1-O	193.0	250.8	214.9	262.7	263.5	285.8	367.2	329.2	594.7	412.6	1094	584.5
0 1 1 0 0 1	B1-O	193.5	250.8	216.1	262.7	264.2	285.8	368.3	329.2	596.3	412.6	1095	584.5
0 1 1 0 1 0	B1-O	193.5	250.8	216.1	262.7	264.2	285.8	368.3	329.2	596.3	412.6	1095	584.5
0 1 1 0 1 1	B1-O	193.0	250.8	214.9	262.7	263.5	285.8	367.2	329.2	594.7	412.6	1094	584.5
0 1 1 1 0 1	B1-O	193.0	250.8	215.5	262.7	263.6	285.8	367.3	329.2	594.8	412.6	1094	584.5
0 1 1 1 1 0	B1-O	193.0	250.8	215.5	262.7	263.6	285.8	367.3	329.2	594.8	412.6	1094	584.5
0 1 1 1 1 1	B1-O	192.4	250.8	214.8	262.7	262.6	285.8	366.7	329.2	594.2	412.6	1093	584.5
1 0 0 1 0 1	B1-O	207.2	262.5	229.8	277.3	277.9	304.3	382.2	353.1	610.3	442.2	1109	617.5
1 0 0 1 1 0	B1-O	207.2	262.5	229.8	277.3	277.9	304.3	382.2	353.1	610.3	442.2	1109	617.5
1 0 0 1 1 1	B1-O	206.6	262.5	228.6	277.4	277.2	304.3	381.2	353.1	608.7	442.2	1108	617.5
1 0 1 0 0 1	B1-O	207.2	262.5	229.8	277.3	277.9	304.3	382.2	353.1	610.3	442.2	1109	617.5
1 0 1 0 1 0	B1-O	207.2	262.5	229.8	277.3	277.9	304.3	382.2	353.1	610.3	442.2	1109	617.5
1 0 1 0 1 1	B1-O	206.6	262.5	228.6	277.4	277.2	304.3	381.2	353.1	608.7	442.2	1108	617.5
1 0 1 1 0 1	B1-O	206.6	262.5	229.1	277.3	277.3	304.3	381.4	353.1	609.8	442.2	1108	617.5
1 0 1 1 1 0	B1-O	206.6	262.5	229.1	277.3	277.3	304.3	381.4	353.1	609.8	442.2	1108	617.5
1 0 1 1 1 1	B1-O	206.0	262.5	228.5	277.4	276.3	304.3	380.5	353.1	608.2	442.2	1107	617.5
1 1 0 1 0 1	B1-O	183.9	260.9	206.0	273.2	254.1	296.3	358.2	339.6	586.3	423.0	1085	594.8
1 1 0 1 1 0	B1-O	183.9	260.9	206.0	273.2	254.1	296.3	358.2	339.6	586.3	423.0	1085	594.8
1 1 0 1 1 1	B1-O	183.3	260.9	205.4	273.2	253.4	296.3	356.9	339.6	584.2	423.0	1084	594.8
1 1 1 0 0 1	B1-O	183.9	260.9	206.0	273.2	254.1	296.3	358.2	339.6	586.3	423.0	1085	594.8
1 1 1 0 1 0	B1-O	183.9	260.9	206.0	273.2	254.1	296.3	358.2	339.6	586.3	423.0	1085	594.8
1 1 1 0 1 1	B1-O	183.3	260.9	205.4	273.2	253.4	296.3	356.9	339.6	584.2	423.0	1084	594.8
1 1 1 1 0 1	B1-O	183.4	260.9	205.4	273.2	253.4	296.3	357.0	339.6	584.3	423.0	1084	594.8
1 1 1 1 1 0	B1-O	183.4	260.9	205.4	273.2	253.4	296.3	357.0	339.6	584.3	423.0	1084	594.8
1 1 1 1 1 1	B1-O	182.9	260.9	204.9	273.2	252.4	296.3	356.3	339.6	583.7	423.0	1083	594.8
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	C2-O	173.4	196.4	196.1	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
0 1 0 1 1 0	C2-O	159.6	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
0 1 0 1 1 1	C2-O	145.9	187.5	168.0	199.8	216.5	222.5	320.3	264.0	548.4	343.3	1048	507.3
0 1 1 0 0 1	C2-O	173.4	196.4	196.1	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
0 1 1 0 1 0	C2-O	159.6	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
0 1 1 0 1 1	C2-O	145.9	187.5	168.0	199.8	216.5	222.5	320.3	264.0	548.4	343.3	1048	507.3
0 1 1 1 0 1	C2-O	173.4	196.4	196.1	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
0 1 1 1 1 0	C2-O	159.7	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
0 1 1 1 1 1	C2-O	145.9	187.5	168.0	199.8	216.6	222.5	320.3	264.0	548.4	343.3	1048	507.3
1 0 0 1 0 1	C2-O	173.4	196.4	196.1	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
1 0 0 1 1 0	C2-O	159.6	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
1 0 0 1 1 1	C2-O	145.9	187.5	168.0	199.8	216.5	222.5	320.3	264.0	548.4	343.3	1048	507.3

1 0 1 0 0 1	C2-O	173.4	196.4	196.1	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
1 0 1 0 1 0	C2-O	159.6	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
1 0 1 0 1 1	C2-O	145.9	187.5	168.0	199.8	216.5	222.5	320.3	264.0	548.4	343.3	1048	507.3
1 0 1 1 0 1	C2-O	173.4	196.4	196.1	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
1 0 1 1 1 0	C2-O	159.7	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
1 0 1 1 1 1	C2-O	145.9	187.5	168.0	199.8	216.6	222.5	320.3	264.0	548.4	343.3	1048	507.3
1 1 0 1 0 1	C2-O	173.4	196.4	196.1	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
1 1 0 1 1 0	C2-O	159.7	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
1 1 0 1 1 1	C2-O	145.9	187.5	168.0	199.8	216.6	222.5	320.3	264.0	548.4	343.3	1048	507.3
1 1 1 0 0 1	C2-O	173.4	196.4	196.1	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
1 1 1 0 1 0	C2-O	159.7	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
1 1 1 0 1 1	C2-O	145.9	187.5	168.0	199.8	216.6	222.5	320.3	264.0	548.4	343.3	1048	507.3
1 1 1 1 0 1	C2-O	173.4	196.4	196.2	211.6	244.8	238.9	349.8	286.1	578.7	371.2	1078	538.6
1 1 1 1 1 0	C2-O	159.7	188.1	182.3	200.4	229.9	223.1	335.0	264.6	563.8	343.9	1063	507.9
1 1 1 1 1 1	C2-O	145.9	187.5	168.0	199.8	216.6	222.5	320.3	264.0	548.4	343.3	1048	507.3
0 1 0 1 0 1	C1-O	186.6	211.0	209.6	226.2	257.6	253.5	362.8	300.7	592.5	385.7	1092	553.0
0 1 0 1 1 0	C1-O	172.6	202.6	195.2	215.1	243.6	237.9	348.8	279.3	577.9	358.5	1077	522.4
0 1 0 1 1 1	C1-O	156.5	202.2	178.7	214.7	226.6	237.4	330.9	278.8	558.7	358.0	1059	521.9
0 1 1 0 0 1	C1-O	186.6	211.0	209.6	226.2	257.6	253.5	362.8	300.7	592.5	385.7	1092	553.0
0 1 1 0 1 0	C1-O	172.6	202.6	195.2	215.1	243.6	237.9	348.8	279.3	577.9	358.5	1077	522.4
0 1 1 0 1 1	C1-O	156.5	202.2	178.7	214.7	226.6	237.4	330.9	278.8	558.7	358.0	1059	521.9
0 1 1 1 0 1	C1-O	186.6	211.0	209.7	226.2	257.6	253.5	362.8	300.7	592.5	385.7	1092	553.0
0 1 1 1 1 0	C1-O	172.6	202.6	195.2	215.1	243.6	237.9	348.8	279.3	577.9	358.5	1077	522.4
0 1 1 1 1 1	C1-O	156.5	202.2	178.7	214.7	226.6	237.4	330.9	278.8	558.7	358.0	1059	521.9
1 0 0 1 0 1	C1-O	186.6	211.0	209.6	226.2	257.6	253.5	362.8	300.7	592.5	385.7	1092	553.0
1 0 0 1 1 0	C1-O	172.6	202.6	195.2	215.1	243.6	237.9	348.8	279.3	577.9	358.5	1077	522.4
1 0 0 1 1 1	C1-O	156.5	202.2	178.7	214.7	226.6	237.4	330.9	278.8	558.7	358.0	1059	521.9
1 0 1 0 0 1	C1-O	186.6	211.0	209.6	226.2	257.6	253.5	362.8	300.7	592.5	385.7	1092	553.0
1 0 1 0 1 0	C1-O	172.6	202.6	195.2	215.1	243.6	237.9	348.8	279.3	577.9	358.5	1077	522.4
1 0 1 0 1 1	C1-O	156.5	202.2	178.7	214.7	226.6	237.4	330.9	278.8	558.7	358.0	1059	521.9
1 0 1 1 0 1	C1-O	186.6	211.0	209.7	226.2	257.6	253.5	362.8	300.7	592.5	385.7	1092	553.0
1 0 1 1 1 0	C1-O	172.6	202.6	195.2	215.1	243.6	237.9	348.8	279.3	577.9	358.5	1077	522.4
1 0 1 1 1 1	C1-O	156.5	202.2	178.7	214.7	226.6	237.4	331.0	278.8	558.7	358.0	1059	521.9
1 1 1 0 0 1	C1-O	186.6	211.0	209.7	226.2	257.6	253.5	362.8	300.7	592.5	385.7	1092	553.0
1 1 1 0 1 0	C1-O	172.6	202.6	195.2	215.1	243.6	237.9	348.8	279.3	577.9	358.5	1077	522.4
1 1 1 0 1 1	C1-O	156.5	202.2	178.7	214.7	226.6	237.4	331.0	278.8	558.7	358.0	1059	521.9
1 1 1 1 0 1	C1-O	186.6	211.0	209.7	226.2	257.6	253.5	362.8	300.7	592.5	385.7	1092	553.0
1 1 1 1 1 0	C1-O	172.7	202.8	195.2	215.1	243.6	237.9	348.8	279.3	577.9	358.5	1077	522.4
1 1 1 1 1 1	C1-O	156.5	202.3	178.7	214.7	226.7	237.4	331.0	278.8	558.7	358.0	1059	521.9

A1 A2 B1 B2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	D2-O	181.8	239.6	204.5	252.2	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
0 1 0 1 1 0	D2-O	195.3	248.2	218.3	263.9	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
0 1 0 1 1 1	D2-O	170.5	249.9	193.6	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
0 1 1 0 0 1	D2-O	181.8	239.6	204.5	252.2	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
0 1 1 0 1 0	D2-O	195.3	248.2	218.3	263.9	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
0 1 1 0 1 1	D2-O	170.5	249.9	193.6	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
0 1 1 1 0 1	D2-O	181.8	239.6	204.5	252.3	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
0 1 1 1 1 0	D2-O	195.3	248.2	218.3	263.9	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
0 1 1 1 1 1	D2-O	170.5	249.9	193.7	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
1 0 0 1 0 1	D2-O	181.8	239.6	204.5	252.2	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
1 0 0 1 1 0	D2-O	195.3	248.2	218.3	263.9	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
1 0 0 1 1 1	D2-O	170.5	249.9	193.6	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
1 0 1 0 0 1	D2-O	181.8	239.6	204.5	252.2	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
1 0 1 0 1 0	D2-O	195.3	248.2	218.3	263.9	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
1 0 1 0 1 1	D2-O	170.5	249.9	193.6	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
1 0 1 1 0 1	D2-O	181.8	239.6	204.5	252.3	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
1 0 1 1 1 0	D2-O	195.3	248.2	218.3	263.9	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
1 0 1 1 1 1	D2-O	170.5	249.9	193.7	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
1 1 0 1 0 1	D2-O	181.8	239.6	204.5	252.3	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
1 1 0 1 1 0	D2-O	195.3	248.2	218.3	263.9	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
1 1 0 1 1 1	D2-O	170.5	249.9	193.6	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
1 1 1 0 0 1	D2-O	181.8	239.6	204.5	252.3	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
1 1 1 0 1 0	D2-O	195.3	248.2	218.3	263.9	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
1 1 1 0 1 1	D2-O	170.5	249.9	193.6	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
1 1 1 1 0 1	D2-O	181.8	239.6	204.5	252.3	253.0	275.6	358.2	317.9	587.0	398.2	1086	563.3
1 1 1 1 1 0	D2-O	195.3	248.2	218.3	263.8	267.1	292.3	372.3	340.9	601.5	427.6	1101	596.4
1 1 1 1 1 1	D2-O	170.5	249.9	193.7	262.6	241.8	285.8	346.1	328.2	574.5	408.6	1074	573.7
0 1 0 1 0 1	D1-O	170.7	227.6	193.4	240.3	241.2	263.6	346.1	305.9	574.8	386.3	1074	551.4
0 1 0 1 1 0	D1-O	184.2	236.2	207.1	252.0	255.0	280.3	360.6	329.0	588.7	415.7	1088	584.5
0 1 0 1 1 1	D1-O	161.9	238.0	184.6	250.7	232.9	273.9	337.1	316.3	564.3	396.6	1065	561.7
0 1 1 0 0 1	D1-O	170.7	227.6	193.4	240.3	241.2	263.6	346.1	305.9	574.8	386.3	1074	551.4
0 1 1 0 1 0	D1-O	184.2	236.2	207.1	252.0	255.0	280.3	360.6	329.0	588.7	415.7	1088	584.5
0 1 1 0 1 1	D1-O	161.9	238.0	184.6	250.7	232.9	273.9	337.1	316.3	564.3	396.6	1065	561.7
0 1 1 1 0 1	D1-O	170.7	227.6	193.4	240.3	241.3	263.6	346.1	305.9	574.8	386.3	1074	551.4
0 1 1 1 1 0	D1-O	184.2	236.2	207.1	252.0	255.0	280.3	360.6	329.0	588.7	415.7	1088	584.5
0 1 1 1 1 1	D1-O	161.9	238.0	184.6	250.7	233.0	273.9	337.1	316.3	564.4	396.6	1065	561.7
1 0 0 1 0 1	D1-O	170.7	227.6	193.4	240.3	241.2	263.6	346.1	305.9	574.8	386.3	1074	551.4
1 0 0 1 1 0	D1-O	184.2	236.2	207.1	252.0	255.0	280.3	360.6	329.0	588.7	415.7	1088	584.5
1 0 0 1 1 1	D1-O	161.9	238.0	184.6	250.7	232.9	273.9	337.1	316.3	564.3	396.6	1065	561.7
1 0 1 0 0 1	D1-O	170.7	227.6	193.4	240.3	241.2	263.6	346.1	305.9	574.8	386.3	1074	551.4
1 0 1 0 1 0	D1-O	184.2	236.2	207.1	252.0	255.0	280.3	360.6	329.0	588.7	415.7	1088	584.5

<b>1 0 1 0 1 1</b>	D1-O	<b>161.9</b>	<b>238.0</b>	<b>184.6</b>	<b>250.7</b>	<b>232.9</b>	<b>273.9</b>	<b>337.1</b>	<b>316.3</b>	<b>564.3</b>	<b>396.6</b>	<b>1065</b>	<b>561.7</b>
<b>1 0 1 1 0 1</b>	D1-O	<b>170.7</b>	<b>227.6</b>	<b>193.4</b>	<b>240.3</b>	<b>241.3</b>	<b>263.6</b>	<b>346.1</b>	<b>305.9</b>	<b>574.8</b>	<b>386.3</b>	<b>1074</b>	<b>551.4</b>
<b>1 0 1 1 1 0</b>	D1-O	<b>184.2</b>	<b>236.2</b>	<b>207.1</b>	<b>252.0</b>	<b>255.0</b>	<b>280.3</b>	<b>360.6</b>	<b>329.0</b>	<b>588.7</b>	<b>415.7</b>	<b>1088</b>	<b>584.5</b>
<b>1 0 1 1 1 1</b>	D1-O	<b>161.9</b>	<b>238.0</b>	<b>184.6</b>	<b>250.7</b>	<b>233.0</b>	<b>273.9</b>	<b>337.1</b>	<b>316.3</b>	<b>564.4</b>	<b>396.6</b>	<b>1065</b>	<b>561.7</b>
<b>1 1 0 1 0 1</b>	D1-O	<b>170.7</b>	<b>227.6</b>	<b>193.4</b>	<b>240.3</b>	<b>241.3</b>	<b>263.6</b>	<b>346.1</b>	<b>305.9</b>	<b>574.8</b>	<b>386.3</b>	<b>1074</b>	<b>551.4</b>
<b>1 1 0 1 1 0</b>	D1-O	<b>184.2</b>	<b>236.2</b>	<b>207.1</b>	<b>252.0</b>	<b>255.0</b>	<b>280.3</b>	<b>360.6</b>	<b>329.0</b>	<b>588.7</b>	<b>415.7</b>	<b>1088</b>	<b>584.5</b>
<b>1 1 0 1 1 1</b>	D1-O	<b>161.9</b>	<b>238.0</b>	<b>184.6</b>	<b>250.7</b>	<b>233.0</b>	<b>273.9</b>	<b>337.1</b>	<b>316.3</b>	<b>564.3</b>	<b>396.6</b>	<b>1065</b>	<b>561.7</b>
<b>1 1 1 0 0 1</b>	D1-O	<b>170.7</b>	<b>227.6</b>	<b>193.4</b>	<b>240.3</b>	<b>241.3</b>	<b>263.6</b>	<b>346.1</b>	<b>305.9</b>	<b>574.8</b>	<b>386.3</b>	<b>1074</b>	<b>551.4</b>
<b>1 1 1 0 1 0</b>	D1-O	<b>184.2</b>	<b>236.2</b>	<b>207.1</b>	<b>252.0</b>	<b>255.0</b>	<b>280.3</b>	<b>360.6</b>	<b>329.0</b>	<b>588.7</b>	<b>415.7</b>	<b>1088</b>	<b>584.5</b>
<b>1 1 1 0 1 1</b>	D1-O	<b>161.9</b>	<b>238.0</b>	<b>184.6</b>	<b>250.7</b>	<b>233.0</b>	<b>273.9</b>	<b>337.1</b>	<b>316.3</b>	<b>564.3</b>	<b>396.6</b>	<b>1065</b>	<b>561.7</b>
<b>1 1 1 1 0 1</b>	D1-O	<b>170.8</b>	<b>227.6</b>	<b>193.4</b>	<b>240.3</b>	<b>241.3</b>	<b>263.6</b>	<b>346.1</b>	<b>305.9</b>	<b>574.8</b>	<b>386.3</b>	<b>1074</b>	<b>551.4</b>
<b>1 1 1 1 1 0</b>	D1-O	<b>184.3</b>	<b>236.2</b>	<b>207.1</b>	<b>252.0</b>	<b>255.0</b>	<b>280.3</b>	<b>360.6</b>	<b>329.0</b>	<b>588.7</b>	<b>415.7</b>	<b>1088</b>	<b>584.5</b>
<b>1 1 1 1 1 1</b>	D1-O	<b>161.9</b>	<b>238.0</b>	<b>184.6</b>	<b>250.7</b>	<b>233.0</b>	<b>273.9</b>	<b>337.1</b>	<b>316.3</b>	<b>564.4</b>	<b>396.6</b>	<b>1065</b>	<b>561.7</b>

Version : OA2222ELD

Cell Unit = 20

State B1 B2 C1 C2 D1 D2	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1 0 1	A2-O	199.6	234.0	211.1	240.7	235.2	254.2	288.0	278.7	403.5	321.6
0 1 0 1 1 0	A2-O	199.6	234.0	211.1	240.7	235.2	254.2	288.0	278.7	403.5	321.6
0 1 0 1 1 1	A2-O	198.9	234.0	210.4	240.7	234.3	254.2	287.1	278.7	402.5	321.6
0 1 1 0 0 1	A2-O	199.6	234.0	211.1	240.7	235.2	254.2	288.0	278.7	403.5	321.6
0 1 1 0 1 0	A2-O	199.6	234.0	211.1	240.7	235.2	254.2	288.0	278.7	403.5	321.6
0 1 1 0 1 1	A2-O	198.9	234.0	210.4	240.7	234.3	254.2	287.1	278.7	402.5	321.6
0 1 1 1 0 1	A2-O	198.9	234.0	210.4	240.7	234.2	254.2	287.2	278.7	402.6	321.6
0 1 1 1 1 0	A2-O	198.9	234.0	210.4	240.7	234.2	254.2	287.2	278.7	402.6	321.6
0 1 1 1 1 1	A2-O	198.1	234.0	209.6	240.7	233.2	254.2	286.3	278.7	401.6	321.6
1 0 0 1 0 1	A2-O	187.1	226.3	198.7	232.0	223.7	243.2	276.5	264.2	391.4	302.5
1 0 0 1 1 0	A2-O	187.1	226.3	198.7	232.0	223.7	243.2	276.5	264.2	391.4	302.5
1 0 0 1 1 1	A2-O	186.4	226.3	197.9	232.1	222.5	243.2	275.3	264.2	390.2	302.5
1 0 1 0 0 1	A2-O	187.1	226.3	198.7	232.0	223.7	243.2	276.5	264.2	391.4	302.5
1 0 1 0 1 0	A2-O	187.1	226.3	198.7	232.0	223.7	243.2	276.5	264.2	391.4	302.5
1 0 1 0 1 1	A2-O	186.4	226.3	197.9	232.1	222.5	243.2	275.3	264.2	390.2	302.5
1 0 1 1 0 1	A2-O	186.3	226.3	197.9	232.1	222.6	243.3	275.4	264.2	390.3	302.5
1 0 1 1 1 0	A2-O	186.3	226.3	197.9	232.1	222.6	243.3	275.4	264.2	390.3	302.5
1 0 1 1 1 1	A2-O	185.6	226.3	197.1	232.1	221.6	243.3	274.4	264.2	389.2	302.6
1 1 0 1 0 1	A2-O	171.6	225.6	183.3	231.4	207.6	242.5	260.0	263.5	374.8	301.8
1 1 0 1 1 0	A2-O	171.6	225.6	183.3	231.4	207.6	242.5	260.0	263.5	374.8	301.8
1 1 0 1 1 1	A2-O	170.9	225.7	182.5	231.5	206.5	242.5	258.9	263.5	373.7	301.8
1 1 1 0 0 1	A2-O	171.6	225.6	183.3	231.4	207.6	242.5	260.0	263.5	374.8	301.8
1 1 1 0 1 0	A2-O	171.6	225.6	183.3	231.4	207.6	242.5	260.0	263.5	374.8	301.8
1 1 1 0 1 1	A2-O	170.9	225.7	182.5	231.5	206.5	242.5	258.9	263.5	373.7	301.8
1 1 1 1 0 1	A2-O	170.8	225.6	182.5	231.4	206.5	242.5	259.0	263.6	373.8	301.8
1 1 1 1 1 0	A2-O	170.8	225.6	182.5	231.4	206.5	242.5	259.0	263.6	373.8	301.8
1 1 1 1 1 1	A2-O	170.0	225.6	181.6	231.4	205.4	242.5	258.0	263.6	372.7	301.8
0 1 0 1 0 1	A1-O	210.2	247.8	222.0	254.5	246.9	267.7	299.9	292.4	415.0	335.3
0 1 0 1 1 0	A1-O	210.2	247.8	222.0	254.5	246.9	267.7	299.9	292.4	415.0	335.3
0 1 0 1 1 1	A1-O	209.5	247.9	221.2	254.5	246.0	267.7	298.9	292.4	413.8	335.3
0 1 1 0 0 1	A1-O	210.2	247.8	222.0	254.5	246.9	267.7	299.9	292.4	415.0	335.3
0 1 1 0 1 0	A1-O	210.2	247.8	222.0	254.5	246.9	267.7	299.9	292.4	415.0	335.3
0 1 1 0 1 1	A1-O	209.5	247.9	221.2	254.5	246.0	267.7	298.9	292.4	413.8	335.3
0 1 1 1 0 1	A1-O	209.4	247.9	221.2	254.5	246.0	267.7	298.9	292.4	413.9	335.3
0 1 1 1 1 0	A1-O	209.4	247.9	221.2	254.5	246.0	267.7	298.9	292.4	413.9	335.3
0 1 1 1 1 1	A1-O	208.7	247.9	220.3	254.5	245.1	267.7	297.9	292.4	412.9	335.3
1 0 0 1 0 1	A1-O	198.0	240.1	210.1	245.9	234.7	256.8	287.7	278.0	401.5	316.2
1 0 0 1 1 0	A1-O	198.0	240.1	210.1	245.9	234.7	256.8	287.7	278.0	401.5	316.2
1 0 0 1 1 1	A1-O	197.4	240.1	209.2	245.9	233.3	256.9	286.1	278.0	400.5	316.2

1 0 1 0 0 1	A1-O	198.0	240.1	210.1	245.9	234.7	256.8	287.7	278.0	401.5	316.2	653.0	386.5
1 0 1 0 1 0	A1-O	198.0	240.1	210.1	245.9	234.7	256.8	287.7	278.0	401.5	316.2	653.0	386.5
1 0 1 0 1 1	A1-O	197.4	240.1	209.2	245.9	233.3	256.9	286.1	278.0	400.5	316.2	652.0	386.5
1 0 1 1 0 1	A1-O	197.3	240.2	209.2	245.9	233.9	256.9	286.4	278.0	400.6	316.2	652.1	386.4
1 0 1 1 1 0	A1-O	197.3	240.2	209.2	245.9	233.9	256.9	286.4	278.0	400.6	316.2	652.1	386.4
1 0 1 1 1 1	A1-O	196.6	240.2	208.3	245.9	232.5	256.9	285.0	278.0	399.7	316.2	651.2	386.4
1 1 0 1 0 1	A1-O	180.1	239.3	191.5	245.3	216.1	256.3	268.6	277.4	383.4	315.7	634.4	385.9
1 1 0 1 1 0	A1-O	180.1	239.3	191.5	245.3	216.1	256.3	268.6	277.4	383.4	315.7	634.4	385.9
1 1 0 1 1 1	A1-O	179.3	239.3	190.7	245.3	214.9	256.3	267.5	277.5	382.2	315.7	633.2	385.9
1 1 1 0 0 1	A1-O	180.1	239.3	191.5	245.3	216.1	256.3	268.6	277.4	383.4	315.7	634.4	385.9
1 1 1 0 1 0	A1-O	180.1	239.3	191.5	245.3	216.1	256.3	268.6	277.4	383.4	315.7	634.4	385.9
1 1 1 0 1 1	A1-O	179.3	239.3	190.7	245.3	214.9	256.3	267.5	277.5	382.2	315.7	633.2	385.9
1 1 1 1 0 1	A1-O	179.2	239.5	190.6	245.3	214.9	256.3	267.6	277.4	382.3	315.7	633.3	385.9
1 1 1 1 1 0	A1-O	179.2	239.5	190.6	245.3	214.9	256.3	267.6	277.4	382.3	315.7	633.3	385.9
1 1 1 1 1 1	A1-O	178.4	239.6	189.8	245.3	213.8	256.3	266.5	277.5	381.2	315.6	632.2	385.8
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	B2-O	204.7	276.0	216.5	282.0	241.1	293.5	294.2	315.1	409.2	353.8	660.3	424.8
0 1 0 1 1 0	B2-O	204.7	276.0	216.5	282.0	241.1	293.5	294.2	315.1	409.2	353.8	660.3	424.8
0 1 0 1 1 1	B2-O	204.0	276.0	215.6	282.0	240.2	293.5	293.2	315.1	408.1	353.8	659.2	424.8
0 1 1 0 0 1	B2-O	204.7	276.0	216.5	282.0	241.1	293.5	294.2	315.1	409.2	353.8	660.3	424.8
0 1 1 0 1 0	B2-O	204.7	276.0	216.5	282.0	241.1	293.5	294.2	315.1	409.2	353.8	660.3	424.8
0 1 1 0 1 1	B2-O	204.0	276.0	215.6	282.0	240.2	293.5	293.2	315.1	408.1	353.8	659.2	424.8
0 1 1 1 0 1	B2-O	203.9	276.0	215.6	282.0	240.3	293.5	293.2	315.1	408.2	353.8	659.3	424.8
0 1 1 1 1 0	B2-O	203.9	276.0	215.6	282.0	240.3	293.5	293.2	315.1	408.2	353.8	659.3	424.8
0 1 1 1 1 1	B2-O	203.1	276.0	214.8	282.0	239.4	293.5	292.2	315.1	407.1	353.8	658.2	424.8
1 0 0 1 0 1	B2-O	216.7	284.1	228.5	291.3	253.4	304.9	306.4	330.3	421.5	374.5	672.9	451.4
1 0 0 1 1 0	B2-O	216.7	284.1	228.5	291.3	253.4	304.9	306.4	330.3	421.5	374.5	672.9	451.4
1 0 0 1 1 1	B2-O	216.0	284.2	227.7	291.3	252.5	304.9	305.4	330.3	420.4	374.4	671.7	451.4
1 0 1 0 0 1	B2-O	216.7	284.1	228.5	291.3	253.4	304.9	306.4	330.3	421.5	374.5	672.9	451.4
1 0 1 0 1 0	B2-O	216.7	284.1	228.5	291.3	253.4	304.9	306.4	330.3	421.5	374.5	672.9	451.4
1 0 1 0 1 1	B2-O	216.0	284.2	227.7	291.3	252.5	304.9	305.4	330.3	420.4	374.4	671.7	451.4
1 0 1 1 0 1	B2-O	216.0	284.2	227.7	291.3	252.5	304.9	305.5	330.3	420.5	374.4	671.9	451.4
1 0 1 1 1 0	B2-O	216.0	284.2	227.7	291.3	252.5	304.9	305.5	330.3	420.5	374.4	671.9	451.4
1 0 1 1 1 1	B2-O	215.2	284.2	226.8	291.3	251.6	304.9	304.5	330.3	419.5	374.4	669.6	451.4
1 1 0 1 0 1	B2-O	191.4	287.1	202.8	292.9	227.4	304.4	280.1	325.8	395.5	364.7	647.2	435.8
1 1 0 1 1 0	B2-O	191.4	287.1	202.8	292.9	227.4	304.4	280.1	325.8	395.5	364.7	647.2	435.8
1 1 0 1 1 1	B2-O	190.5	287.1	202.0	292.9	226.4	304.4	279.3	325.8	394.6	364.7	646.2	435.8
1 1 1 0 0 1	B2-O	191.4	287.1	202.8	292.9	227.4	304.4	280.1	325.8	395.5	364.7	647.2	435.8
1 1 1 0 1 0	B2-O	191.4	287.1	202.8	292.9	227.4	304.4	280.1	325.8	395.5	364.7	647.2	435.8
1 1 1 0 1 1	B2-O	190.5	287.1	202.0	292.9	226.4	304.4	279.3	325.8	394.6	364.7	646.2	435.8
1 1 1 1 0 1	B2-O	190.7	287.1	202.0	292.9	226.4	304.4	279.3	325.8	394.6	364.7	646.3	435.8
1 1 1 1 1 0	B2-O	190.7	287.1	202.0	292.9	226.4	304.4	279.3	325.8	394.6	364.7	646.3	435.8

1 1 1 1 1 1	B2-O	189.9	287.2	201.1	293.0	225.4	304.4	278.4	325.8	392.7	364.7	643.4	435.8
0 1 0 1 0 1	B1-O	195.3	265.0	206.7	271.0	231.6	282.3	284.4	303.7	399.1	342.5	650.2	413.6
0 1 0 1 1 0	B1-O	195.3	265.0	206.7	271.0	231.6	282.3	284.4	303.7	399.1	342.5	650.2	413.6
0 1 0 1 1 1	B1-O	194.7	265.0	205.8	271.0	230.2	282.3	283.1	303.7	398.0	342.5	649.1	413.6
0 1 1 0 0 1	B1-O	195.3	265.0	206.7	271.0	231.6	282.3	284.4	303.7	399.1	342.5	650.2	413.6
0 1 1 0 1 0	B1-O	195.3	265.0	206.7	271.0	231.6	282.3	284.4	303.7	399.1	342.5	650.2	413.6
0 1 1 0 1 1	B1-O	194.7	265.0	205.8	271.0	230.2	282.3	283.1	303.7	398.0	342.5	649.1	413.6
0 1 1 1 0 1	B1-O	194.6	265.0	205.8	271.0	230.2	282.3	283.2	303.7	398.1	342.5	649.2	413.5
0 1 1 1 1 0	B1-O	194.6	265.0	205.8	271.0	230.2	282.3	283.2	303.7	398.1	342.5	649.2	413.5
0 1 1 1 1 1	B1-O	193.7	265.2	205.1	271.0	229.3	282.3	282.1	303.7	397.0	342.5	648.0	413.5
1 0 0 1 0 1	B1-O	207.1	273.2	218.9	280.0	243.6	293.7	296.6	319.2	411.7	363.2	662.9	440.3
1 0 0 1 1 0	B1-O	207.1	273.2	218.9	280.0	243.6	293.7	296.6	319.2	411.7	363.2	662.9	440.3
1 0 0 1 1 1	B1-O	206.4	273.2	218.1	280.0	242.7	293.8	295.6	319.2	410.5	363.2	661.7	440.2
1 0 1 0 0 1	B1-O	207.1	273.2	218.9	280.0	243.6	293.7	296.6	319.2	411.7	363.2	662.9	440.3
1 0 1 0 1 0	B1-O	207.1	273.2	218.9	280.0	243.6	293.7	296.6	319.2	411.7	363.2	662.9	440.3
1 0 1 0 1 1	B1-O	206.4	273.2	218.1	280.0	242.7	293.8	295.6	319.2	410.5	363.2	661.7	440.2
1 0 1 1 0 1	B1-O	206.4	273.2	218.0	280.0	242.7	293.8	295.7	319.2	410.7	363.2	661.9	440.2
1 0 1 1 1 0	B1-O	206.4	273.2	217.2	280.0	242.7	293.8	295.7	319.2	410.7	363.2	661.9	440.2
1 1 0 1 0 1	B1-O	183.8	275.7	195.4	281.7	219.8	293.3	272.8	314.7	387.0	353.4	637.4	424.5
1 1 0 1 1 0	B1-O	183.8	275.7	195.4	281.7	219.8	293.3	272.8	314.7	387.0	353.4	637.4	424.5
1 1 0 1 1 1	B1-O	183.1	275.8	194.6	281.7	218.4	293.4	271.5	314.7	385.7	353.4	636.3	424.5
1 1 1 0 0 1	B1-O	183.8	275.7	195.4	281.7	219.8	293.3	272.8	314.7	387.0	353.4	637.4	424.5
1 1 1 0 1 0	B1-O	183.8	275.7	195.4	281.7	219.8	293.3	272.8	314.7	387.0	353.4	637.4	424.5
1 1 1 0 1 1	B1-O	183.1	275.8	194.6	281.7	218.4	293.4	271.5	314.7	385.7	353.4	636.3	424.5
1 1 1 1 0 1	B1-O	183.0	275.8	194.6	281.6	218.9	293.3	271.5	314.7	385.7	353.4	636.4	424.5
1 1 1 1 1 0	B1-O	183.0	275.8	194.6	281.6	218.9	293.3	271.5	314.7	385.7	353.4	636.4	424.5
1 1 1 1 1 1	B1-O	182.2	275.8	193.7	281.6	217.5	293.3	270.5	314.7	384.4	353.4	635.3	424.5
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	C2-O	177.5	217.6	189.3	225.3	214.3	240.2	267.9	266.5	383.7	310.9	636.2	387.3
0 1 0 1 1 0	C2-O	165.5	212.4	177.1	218.9	202.2	231.3	255.5	253.6	371.2	292.5	623.5	363.0
0 1 0 1 1 1	C2-O	150.7	211.7	162.1	218.2	186.4	230.6	239.3	252.8	354.6	291.8	606.2	362.3
0 1 1 0 0 1	C2-O	177.5	217.6	189.3	225.3	214.3	240.2	267.9	266.5	383.7	310.9	636.2	387.3
0 1 1 0 1 0	C2-O	165.5	212.4	177.1	218.9	202.2	231.3	255.5	253.6	371.2	292.5	623.5	363.0
0 1 1 0 1 1	C2-O	150.7	211.7	162.1	218.2	186.4	230.6	239.3	252.8	354.6	291.8	606.2	362.3
0 1 1 1 0 1	C2-O	177.5	217.6	189.3	225.3	214.3	240.2	267.9	266.5	383.7	310.9	636.2	387.3
0 1 1 1 1 0	C2-O	165.5	212.4	177.1	218.9	202.3	231.3	255.6	253.6	371.2	292.5	623.5	363.0
0 1 1 1 1 1	C2-O	150.7	211.7	162.1	218.2	186.4	230.6	239.3	252.9	354.6	291.8	606.2	362.3
1 0 0 1 0 1	C2-O	177.5	217.6	189.3	225.3	214.3	240.2	267.9	266.5	383.7	310.9	636.2	387.3
1 0 0 1 1 0	C2-O	165.5	212.4	177.1	218.9	202.2	231.3	255.5	253.6	371.2	292.5	623.5	363.0
1 0 0 1 1 1	C2-O	150.7	211.7	162.1	218.2	186.4	230.6	239.3	252.8	354.6	291.8	606.2	362.3
1 0 1 0 0 1	C2-O	177.5	217.6	189.3	225.3	214.3	240.2	267.9	266.5	383.7	310.9	636.2	387.3

1 0 1 0 1 0	C2-O	165.5	212.4	177.1	218.9	202.2	231.3	255.5	253.6	371.2	292.5	623.5	363.0
1 0 1 0 1 1	C2-O	150.7	211.7	162.1	218.2	186.4	230.6	239.3	252.8	354.6	291.8	606.2	362.3
1 0 1 1 0 1	C2-O	177.5	217.6	189.3	225.3	214.3	240.2	267.9	266.5	383.7	310.9	636.2	387.3
1 0 1 1 1 0	C2-O	165.5	212.4	177.1	218.9	202.3	231.3	255.6	253.6	371.2	292.5	623.5	363.0
1 0 1 1 1 1	C2-O	150.7	211.7	162.1	218.2	186.4	230.6	239.3	252.9	354.6	291.8	606.2	362.3
1 1 0 1 0 1	C2-O	177.5	217.6	189.3	225.3	214.3	240.2	267.9	266.5	383.7	310.9	636.2	387.3
1 1 0 1 1 0	C2-O	165.5	212.4	177.1	218.9	202.3	231.3	255.6	253.6	371.2	292.5	623.5	363.0
1 1 0 1 1 1	C2-O	150.7	211.7	162.1	218.2	186.4	230.6	239.3	252.9	354.6	291.8	606.2	362.3
1 1 1 0 0 1	C2-O	177.5	217.6	189.3	225.3	214.3	240.2	267.9	266.5	383.7	310.9	636.2	387.3
1 1 1 0 1 0	C2-O	165.5	212.4	177.1	218.9	202.3	231.3	255.6	253.6	371.2	292.5	623.5	363.0
1 1 1 0 1 1	C2-O	150.7	211.7	162.1	218.2	186.4	230.6	239.3	252.9	354.6	291.8	606.2	362.3
1 1 1 1 0 1	C2-O	177.5	217.6	189.3	225.3	214.5	240.2	267.9	266.5	383.7	310.9	636.2	387.3
1 1 1 1 1 0	C2-O	165.5	212.4	177.1	218.9	202.3	231.3	255.6	253.6	371.2	292.5	623.5	363.0
1 1 1 1 1 1	C2-O	150.8	211.7	162.1	218.2	186.5	230.6	239.6	252.9	354.6	291.8	606.2	362.3
0 1 0 1 0 1	C1-O	188.7	231.1	200.8	238.9	225.9	253.9	278.6	280.2	394.3	324.5	647.3	400.9
0 1 0 1 1 0	C1-O	176.6	226.0	188.4	232.5	213.6	245.0	266.8	267.1	382.6	306.1	635.0	376.7
0 1 0 1 1 1	C1-O	159.0	225.4	170.6	231.9	195.0	244.4	248.0	266.5	362.8	305.5	614.6	376.1
0 1 1 0 0 1	C1-O	188.7	231.1	200.8	238.9	225.9	253.9	278.6	280.2	394.3	324.5	647.3	400.9
0 1 1 0 1 0	C1-O	176.6	226.0	188.4	232.5	213.6	245.0	266.8	267.1	382.6	306.1	635.0	376.7
0 1 1 0 1 1	C1-O	159.0	225.4	170.6	231.9	195.0	244.4	248.0	266.5	362.8	305.5	614.6	376.1
0 1 1 1 0 1	C1-O	188.7	231.1	200.8	238.9	225.9	253.9	278.6	280.2	394.2	324.5	647.3	400.9
0 1 1 1 1 0	C1-O	176.6	226.0	188.4	232.6	213.6	245.0	266.8	267.1	382.6	306.1	635.0	376.7
0 1 1 1 1 1	C1-O	159.0	225.4	170.6	231.9	195.1	244.4	248.1	266.5	362.8	305.5	614.6	376.1
1 0 0 1 0 1	C1-O	188.7	231.1	200.8	238.9	225.9	253.9	278.6	280.2	394.3	324.5	647.3	400.9
1 0 0 1 1 0	C1-O	176.6	226.0	188.4	232.5	213.6	245.0	266.8	267.1	382.6	306.1	635.0	376.7
1 0 0 1 1 1	C1-O	159.0	225.4	170.6	231.9	195.0	244.4	248.0	266.5	362.8	305.5	614.6	376.1
1 0 1 0 0 1	C1-O	188.7	231.1	200.8	238.9	225.9	253.9	278.6	280.2	394.3	324.5	647.3	400.9
1 0 1 0 1 0	C1-O	176.6	226.0	188.4	232.5	213.6	245.0	266.8	267.1	382.6	306.1	635.0	376.7
1 0 1 0 1 1	C1-O	159.0	225.4	170.6	231.9	195.0	244.4	248.0	266.5	362.8	305.5	614.6	376.1
1 0 1 1 0 1	C1-O	188.7	231.1	200.8	238.9	225.9	253.9	278.6	280.2	394.2	324.5	647.3	400.9
1 0 1 1 1 0	C1-O	176.6	226.0	188.4	232.6	213.6	245.0	266.8	267.1	382.6	306.1	635.0	376.7
1 0 1 1 1 1	C1-O	159.0	225.4	170.6	231.9	195.1	244.4	248.1	266.5	362.8	305.5	614.6	376.1
1 1 0 1 0 1	C1-O	188.7	231.1	200.8	238.9	225.9	253.9	278.6	280.2	394.2	324.5	647.3	400.9
1 1 0 1 1 0	C1-O	176.6	226.0	188.4	232.6	213.6	245.0	266.8	267.1	382.6	306.1	635.0	376.7
1 1 0 1 1 1	C1-O	159.0	225.4	170.6	232.1	195.1	244.4	248.1	266.5	362.8	305.5	614.6	376.1
1 1 1 0 0 1	C1-O	188.7	231.1	200.8	238.9	225.9	253.9	278.6	280.2	394.2	324.5	647.3	400.9
1 1 1 0 1 0	C1-O	176.6	226.0	188.4	232.6	213.6	245.0	266.8	267.1	382.6	306.1	635.0	376.7
1 1 1 0 1 1	C1-O	159.0	225.4	170.6	232.1	195.1	244.4	248.1	266.5	362.8	305.5	614.6	376.1
1 1 1 1 0 1	C1-O	188.7	231.2	200.8	238.9	225.9	253.9	278.6	280.2	394.2	324.5	647.3	400.9
1 1 1 1 1 0	C1-O	176.6	226.0	188.5	232.6	213.6	245.0	266.8	267.1	382.6	306.1	634.9	376.7
1 1 1 1 1 1	C1-O	159.0	225.4	170.6	232.1	195.1	244.4	248.1	266.5	362.7	305.5	614.6	376.1

A1 A2 B1 B2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	D2-O	183.9	263.1	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.9	416.1
0 1 0 1 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
0 1 0 1 1 1	D2-O	171.2	274.2	182.9	280.8	207.9	293.4	261.2	316.2	376.0	355.8	628.6	427.2
0 1 1 0 0 1	D2-O	183.9	263.1	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.9	416.1
0 1 1 0 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
0 1 1 0 1 1	D2-O	171.2	274.2	182.9	280.8	207.9	293.4	261.2	316.2	376.0	355.8	628.6	427.2
0 1 1 1 0 1	D2-O	183.9	263.2	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.8	416.1
0 1 1 1 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
0 1 1 1 1 1	D2-O	171.2	274.2	182.9	280.8	208.0	293.5	261.2	316.2	376.0	355.8	628.6	427.2
1 0 0 1 0 1	D2-O	183.9	263.1	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.9	416.1
1 0 0 1 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
1 0 0 1 1 1	D2-O	171.2	274.2	182.9	280.8	207.9	293.4	261.2	316.2	376.0	355.8	628.6	427.2
1 0 1 0 0 1	D2-O	183.9	263.1	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.9	416.1
1 0 1 0 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
1 0 1 0 1 1	D2-O	171.2	274.2	182.9	280.8	207.9	293.4	261.2	316.2	376.0	355.8	628.6	427.2
1 0 1 1 0 1	D2-O	183.9	263.2	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.8	416.1
1 0 1 1 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
1 0 1 1 1 1	D2-O	171.2	274.2	182.9	280.8	208.0	293.5	261.2	316.2	376.0	355.8	628.6	427.2
1 1 0 1 0 1	D2-O	183.9	263.2	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.8	416.1
1 1 0 1 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
1 1 0 1 1 1	D2-O	171.2	274.2	182.9	280.8	208.0	293.5	261.2	316.2	376.0	355.8	628.6	427.2
1 1 1 0 0 1	D2-O	183.9	263.2	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.8	416.1
1 1 1 0 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
1 1 1 0 1 1	D2-O	171.2	274.2	182.9	280.8	208.0	293.5	261.2	316.2	376.0	355.8	628.6	427.2
1 1 1 1 0 1	D2-O	183.9	263.2	195.7	269.8	220.9	282.5	274.5	305.2	390.4	344.8	642.8	416.1
1 1 1 1 1 0	D2-O	196.0	268.4	208.0	276.3	233.1	291.8	286.5	319.1	402.8	364.6	655.4	442.4
1 1 1 1 1 1	D2-O	171.2	274.2	182.9	280.8	208.0	293.5	261.2	316.2	376.0	355.8	628.6	427.2
0 1 0 1 0 1	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
0 1 0 1 1 0	D1-O	186.1	256.9	198.0	264.9	223.2	280.2	276.8	307.4	392.8	353.1	645.3	431.1
0 1 0 1 1 1	D1-O	163.4	262.8	175.1	269.4	199.7	282.0	253.2	304.7	368.5	344.3	619.3	415.7
0 1 1 0 0 1	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
0 1 1 0 1 0	D1-O	186.1	256.9	198.0	264.9	223.2	280.2	276.8	307.4	392.8	353.1	645.3	431.1
0 1 1 0 1 1	D1-O	163.4	262.8	175.1	269.4	199.7	282.0	253.2	304.7	368.5	344.3	619.3	415.7
0 1 1 1 0 1	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
0 1 1 1 1 0	D1-O	186.1	256.9	198.0	264.9	223.3	280.2	276.9	307.4	392.8	353.1	645.2	431.1
0 1 1 1 1 1	D1-O	163.5	262.8	175.1	269.4	199.8	282.0	253.2	304.7	368.5	344.3	619.3	415.7
1 0 0 1 0 1	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
1 0 0 1 1 0	D1-O	186.1	256.9	198.0	264.9	223.2	280.2	276.8	307.4	392.8	353.1	645.3	431.1
1 0 0 1 1 1	D1-O	163.4	262.8	175.1	269.4	199.7	282.0	253.2	304.7	368.5	344.3	619.3	415.7
1 0 1 0 0 1	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
1 0 1 0 1 0	D1-O	186.1	256.9	198.0	264.9	223.2	280.2	276.8	307.4	392.8	353.1	645.3	431.1

<b>1 0 1 0 1 1</b>	D1-O	163.4	262.8	175.1	269.4	199.7	282.0	253.2	304.7	368.5	344.3	619.3	415.7
<b>1 0 1 1 0 1</b>	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
<b>1 0 1 1 1 0</b>	D1-O	186.1	256.9	198.0	264.9	223.3	280.2	276.9	307.4	392.8	353.1	645.2	431.1
<b>1 0 1 1 1 1</b>	D1-O	163.5	262.8	175.1	269.4	199.8	282.0	253.2	304.7	368.5	344.3	619.3	415.7
<b>1 1 0 1 0 1</b>	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
<b>1 1 0 1 1 0</b>	D1-O	186.1	256.9	198.0	264.9	223.3	280.2	276.8	307.4	392.8	353.1	645.2	431.1
<b>1 1 0 1 1 1</b>	D1-O	163.5	262.8	175.1	269.4	199.7	282.0	253.2	304.7	368.4	344.3	619.3	415.7
<b>1 1 1 0 0 1</b>	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
<b>1 1 1 0 1 0</b>	D1-O	186.1	256.9	198.0	264.9	223.3	280.2	276.8	307.4	392.8	353.1	645.2	431.1
<b>1 1 1 0 1 1</b>	D1-O	163.5	262.8	175.1	269.4	199.7	282.0	253.2	304.7	368.4	344.3	619.3	415.7
<b>1 1 1 1 0 1</b>	D1-O	174.2	251.7	185.9	258.4	210.9	271.1	263.9	293.6	380.1	333.3	630.6	404.7
<b>1 1 1 1 1 0</b>	D1-O	186.2	256.9	198.0	264.9	223.3	280.2	276.9	307.4	392.8	353.1	645.2	431.1
<b>1 1 1 1 1 1</b>	D1-O	163.5	262.8	175.1	269.4	199.8	282.0	253.2	304.7	368.4	344.3	619.2	415.7

Version : OA2222HLD

Cell Unit = 25

State B1 B2 C1 C2 D1 D2	Path	Output Load									
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1 0 1	A2-O	233.5	313.1	241.3	318.5	259.6	330.0	301.6	355.0	401.8	402.0
0 1 0 1 1 0	A2-O	233.5	313.1	241.3	318.5	259.6	330.0	301.6	355.0	401.8	402.0
0 1 0 1 1 1	A2-O	232.5	313.1	240.1	318.5	258.1	330.0	299.8	355.0	399.7	402.0
0 1 1 0 0 1	A2-O	233.5	313.1	241.3	318.5	259.6	330.0	301.6	355.0	401.8	402.0
0 1 1 0 1 0	A2-O	233.5	313.1	241.3	318.5	259.6	330.0	301.6	355.0	401.8	402.0
0 1 1 0 1 1	A2-O	232.5	313.1	240.1	318.5	258.1	330.0	299.8	355.0	399.7	402.0
0 1 1 1 0 1	A2-O	232.3	313.1	240.0	318.5	258.0	330.0	299.8	355.0	399.8	402.0
0 1 1 1 1 0	A2-O	232.3	313.1	240.0	318.5	258.0	330.0	299.8	355.0	399.8	402.0
0 1 1 1 1 1	A2-O	231.2	313.0	238.7	318.4	256.3	329.9	298.1	354.9	397.8	402.0
1 0 0 1 0 1	A2-O	221.7	306.3	229.5	311.0	247.5	321.4	289.8	343.1	389.9	385.6
1 0 0 1 1 0	A2-O	221.7	306.3	229.5	311.0	247.5	321.4	289.8	343.1	389.9	385.6
1 0 0 1 1 1	A2-O	220.7	306.3	228.3	311.0	246.1	321.3	287.9	343.1	387.8	385.6
1 0 1 0 0 1	A2-O	221.7	306.3	229.5	311.0	247.5	321.4	289.8	343.1	389.9	385.6
1 0 1 0 1 0	A2-O	221.7	306.3	229.5	311.0	247.5	321.4	289.8	343.1	389.9	385.6
1 0 1 0 1 1	A2-O	220.7	306.3	228.3	311.0	246.1	321.3	287.9	343.1	387.8	385.6
1 0 1 1 0 1	A2-O	220.5	306.3	228.2	311.0	246.0	321.3	288.0	343.0	387.9	385.7
1 0 1 1 1 0	A2-O	220.5	306.3	228.2	311.0	246.0	321.3	288.0	343.0	387.9	385.7
1 0 1 1 1 1	A2-O	219.3	306.2	226.9	310.9	244.5	321.2	286.1	343.0	385.8	385.6
1 1 0 1 0 1	A2-O	200.0	305.6	207.6	310.1	225.3	320.6	266.9	342.2	366.7	384.8
1 1 0 1 1 0	A2-O	200.0	305.6	207.6	310.1	225.3	320.6	266.9	342.2	366.7	384.8
1 1 0 1 1 1	A2-O	199.0	305.6	206.2	310.1	223.8	320.5	265.0	342.2	364.5	384.8
1 1 1 0 0 1	A2-O	200.0	305.6	207.6	310.1	225.3	320.6	266.9	342.2	366.7	384.8
1 1 1 0 1 0	A2-O	200.0	305.6	207.6	310.1	225.3	320.6	266.9	342.2	366.7	384.8
1 1 1 0 1 1	A2-O	199.0	305.6	206.2	310.1	223.8	320.5	265.0	342.2	364.5	384.8
1 1 1 1 0 1	A2-O	198.8	305.5	206.2	310.1	223.7	320.5	265.0	342.2	364.6	384.8
1 1 1 1 1 0	A2-O	198.8	305.5	206.2	310.1	223.7	320.5	265.0	342.2	364.6	384.8
1 1 1 1 1 1	A2-O	197.6	305.5	204.8	310.0	222.0	320.4	263.0	342.1	362.4	384.8
0 1 0 1 0 1	A1-O	244.2	326.1	252.0	331.5	270.3	343.1	312.4	367.9	412.6	415.3
0 1 0 1 1 0	A1-O	244.2	326.1	252.0	331.5	270.3	343.1	312.4	367.9	412.6	415.3
0 1 0 1 1 1	A1-O	243.2	326.0	250.8	331.5	268.8	343.1	310.6	367.9	410.5	415.2
0 1 1 0 0 1	A1-O	244.2	326.1	252.0	331.5	270.3	343.1	312.4	367.9	412.6	415.3
0 1 1 0 1 0	A1-O	244.2	326.1	252.0	331.5	270.3	343.1	312.4	367.9	412.6	415.3
0 1 1 0 1 1	A1-O	243.2	326.0	250.8	331.5	268.8	343.1	310.6	367.9	410.5	415.2
0 1 1 1 0 1	A1-O	243.0	326.0	250.7	331.5	268.7	343.1	310.6	367.9	410.6	415.2
0 1 1 1 1 0	A1-O	243.0	326.0	250.7	331.5	268.7	343.1	310.6	367.9	410.6	415.2
0 1 1 1 1 1	A1-O	241.9	326.0	249.4	331.5	267.2	343.0	308.9	367.9	408.7	415.2
1 0 0 1 0 1	A1-O	232.7	319.5	240.4	324.0	258.7	334.7	300.8	356.3	400.9	398.9
1 0 0 1 1 0	A1-O	232.7	319.5	240.4	324.0	258.7	334.7	300.8	356.3	400.9	398.9
1 0 0 1 1 1	A1-O	231.7	319.4	239.3	324.0	257.3	334.6	299.0	356.3	398.8	398.8

1 0 1 0 0 1	A1-O	232.7	319.5	240.4	324.0	258.7	334.7	300.8	356.3	400.9	398.9	645.1	480.7
1 0 1 0 1 0	A1-O	232.7	319.5	240.4	324.0	258.7	334.7	300.8	356.3	400.9	398.9	645.1	480.7
1 0 1 0 1 1	A1-O	231.7	319.4	239.3	324.0	257.3	334.6	299.0	356.3	398.8	398.8	642.9	480.7
1 0 1 1 0 1	A1-O	231.5	319.4	239.1	324.0	257.2	334.6	298.9	356.3	398.9	398.8	643.0	480.7
1 0 1 1 1 0	A1-O	231.5	319.4	239.1	324.0	257.2	334.6	298.9	356.3	398.9	398.8	643.0	480.7
1 0 1 1 1 1	A1-O	230.4	319.3	237.9	323.9	255.5	334.6	297.3	356.3	397.0	398.8	640.9	480.7
1 1 0 1 0 1	A1-O	208.2	318.8	215.7	323.3	233.5	334.0	275.1	355.6	375.0	398.2	619.0	480.0
1 1 0 1 1 0	A1-O	208.2	318.8	215.7	323.3	233.5	334.0	275.1	355.6	375.0	398.2	619.0	480.0
1 1 0 1 1 1	A1-O	207.1	318.6	214.5	323.3	232.0	334.0	273.2	355.6	372.8	398.1	616.7	480.0
1 1 1 0 0 1	A1-O	208.2	318.8	215.7	323.3	233.5	334.0	275.1	355.6	375.0	398.2	619.0	480.0
1 1 1 0 1 0	A1-O	208.2	318.8	215.7	323.3	233.5	334.0	275.1	355.6	375.0	398.2	619.0	480.0
1 1 1 0 1 1	A1-O	207.1	318.6	214.5	323.3	232.0	334.0	273.2	355.6	372.8	398.1	616.7	480.0
1 1 1 1 0 1	A1-O	206.9	318.6	214.4	323.3	231.9	333.9	273.2	355.6	372.8	398.1	616.7	480.0
1 1 1 1 1 0	A1-O	206.9	318.6	214.4	323.3	231.9	333.9	273.2	355.6	372.8	398.1	616.7	480.0
1 1 1 1 1 1	A1-O	205.7	318.6	213.0	323.3	230.3	333.9	271.3	355.6	370.7	398.1	614.5	480.0
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0 1 0 1	B2-O	239.2	355.9	247.0	360.5	265.2	371.0	307.3	393.1	407.6	436.2	651.8	518.7
0 1 0 1 1 0	B2-O	239.2	355.9	247.0	360.5	265.2	371.0	307.3	393.1	407.6	436.2	651.8	518.7
0 1 0 1 1 1	B2-O	238.2	355.8	245.9	360.5	263.7	371.0	305.6	393.1	405.5	436.1	649.6	518.7
0 1 1 0 0 1	B2-O	239.2	355.9	247.0	360.5	265.2	371.0	307.3	393.1	407.6	436.2	651.8	518.7
0 1 1 0 1 0	B2-O	239.2	355.9	247.0	360.5	265.2	371.0	307.3	393.1	407.6	436.2	651.8	518.7
0 1 1 0 1 1	B2-O	238.2	355.8	245.9	360.5	263.7	371.0	305.6	393.1	405.5	436.1	649.6	518.7
0 1 1 1 0 1	B2-O	238.0	355.8	245.7	360.5	263.6	371.0	305.6	393.1	405.6	436.1	649.7	518.7
0 1 1 1 1 0	B2-O	238.0	355.8	245.7	360.5	263.6	371.0	305.6	393.1	405.6	436.1	649.7	518.7
0 1 1 1 1 1	B2-O	236.9	355.7	244.4	360.4	262.1	370.9	303.8	393.0	403.5	436.1	647.5	518.7
1 0 0 1 0 1	B2-O	251.5	362.6	259.3	367.9	277.6	380.2	320.0	405.5	420.0	453.8	664.1	542.8
1 0 0 1 1 0	B2-O	251.5	362.6	259.3	367.9	277.6	380.2	320.0	405.5	420.0	453.8	664.1	542.8
1 0 0 1 1 1	B2-O	250.5	362.6	258.1	367.9	276.2	380.2	317.9	405.4	417.8	453.8	661.9	542.7
1 0 1 0 0 1	B2-O	251.5	362.6	259.3	367.9	277.6	380.2	320.0	405.5	420.0	453.8	664.1	542.8
1 0 1 0 1 0	B2-O	251.5	362.6	259.3	367.9	277.6	380.2	320.0	405.5	420.0	453.8	664.1	542.8
1 0 1 0 1 1	B2-O	250.5	362.6	258.1	367.9	276.2	380.2	317.9	405.4	417.8	453.8	661.9	542.7
1 0 1 1 0 1	B2-O	250.3	362.5	258.0	367.9	276.1	380.2	318.1	405.4	417.8	453.8	662.0	542.7
1 0 1 1 1 0	B2-O	250.3	362.5	258.0	367.9	276.1	380.2	318.1	405.4	417.8	453.8	662.0	542.7
1 0 1 1 1 1	B2-O	249.2	362.5	256.7	367.8	274.6	380.1	316.1	405.4	415.8	453.7	659.9	542.7
1 1 0 1 0 1	B2-O	218.9	366.8	226.5	371.6	244.3	381.9	286.2	403.9	386.2	447.1	630.2	529.7
1 1 0 1 1 0	B2-O	218.9	366.8	226.5	371.6	244.3	381.9	286.2	403.9	386.2	447.1	630.2	529.7
1 1 0 1 1 1	B2-O	217.9	366.7	225.1	371.6	242.9	381.9	284.3	403.9	384.0	447.1	628.0	529.7
1 1 1 0 0 1	B2-O	218.9	366.8	226.5	371.6	244.3	381.9	286.2	403.9	386.2	447.1	630.2	529.7
1 1 1 0 1 0	B2-O	218.9	366.8	226.5	371.6	244.3	381.9	286.2	403.9	386.2	447.1	630.2	529.7
1 1 1 0 1 1	B2-O	217.9	366.7	225.1	371.6	242.9	381.9	284.3	403.9	384.0	447.1	628.0	529.7
1 1 1 1 0 1	B2-O	217.6	366.8	225.1	371.6	242.8	381.9	284.3	403.9	384.1	447.1	628.1	529.7
1 1 1 1 1 0	B2-O	217.6	366.8	225.1	371.6	242.8	381.9	284.3	403.9	384.1	447.1	628.1	529.7

1 1 1 1 1 1	B2-O	216.4	366.7	223.8	371.6	241.1	381.8	282.4	403.8	381.9	447.0	625.8	529.6
0 1 0 1 0 1	B1-O	229.2	344.9	237.0	349.6	255.1	360.2	297.4	382.1	397.6	425.2	641.7	507.8
0 1 0 1 1 0	B1-O	229.2	344.9	237.0	349.6	255.1	360.2	297.4	382.1	397.6	425.2	641.7	507.8
0 1 0 1 1 1	B1-O	228.2	344.9	235.9	349.6	253.7	360.1	295.5	382.1	395.4	425.2	639.4	507.8
0 1 1 0 0 1	B1-O	229.2	344.9	237.0	349.6	255.1	360.2	297.4	382.1	397.6	425.2	641.7	507.8
0 1 1 0 1 0	B1-O	229.2	344.9	237.0	349.6	255.1	360.2	297.4	382.1	397.6	425.2	641.7	507.8
0 1 1 0 1 1	B1-O	228.2	344.9	235.9	349.6	253.7	360.1	295.5	382.1	395.4	425.2	639.4	507.8
0 1 1 1 0 1	B1-O	228.0	344.9	235.7	349.5	253.6	360.2	295.6	382.1	395.5	425.2	639.5	507.8
0 1 1 1 1 0	B1-O	228.0	344.9	235.7	349.5	253.6	360.2	295.6	382.1	395.5	425.2	639.5	507.8
0 1 1 1 1 1	B1-O	226.9	344.8	234.4	349.5	252.1	360.1	293.7	382.0	393.5	425.2	637.4	507.8
1 0 0 1 0 1	B1-O	241.8	351.7	249.5	357.4	267.8	369.2	309.9	394.7	410.1	442.9	654.3	532.0
1 0 0 1 1 0	B1-O	241.8	351.7	249.5	357.4	267.8	369.2	309.9	394.7	410.1	442.9	654.3	532.0
1 0 0 1 1 1	B1-O	240.8	351.7	248.4	357.4	266.2	369.1	308.2	394.7	408.1	442.9	652.2	531.9
1 0 1 0 0 1	B1-O	241.8	351.7	249.5	357.4	267.8	369.2	309.9	394.7	410.1	442.9	654.3	532.0
1 0 1 0 1 0	B1-O	241.8	351.7	249.5	357.4	267.8	369.2	309.9	394.7	410.1	442.9	654.3	532.0
1 0 1 0 1 1	B1-O	240.8	351.7	248.4	357.4	266.2	369.1	308.2	394.7	408.1	442.9	652.2	531.9
1 0 1 1 0 1	B1-O	240.6	351.7	248.2	357.4	266.2	369.1	308.1	394.7	408.2	442.9	652.3	531.9
1 0 1 1 1 0	B1-O	240.6	351.7	248.2	357.4	266.2	369.1	308.1	394.7	408.2	442.9	652.3	531.9
1 0 1 1 1 1	B1-O	239.5	351.6	247.0	357.2	264.6	369.1	306.3	394.7	406.1	442.8	650.1	531.9
1 1 0 1 0 1	B1-O	211.2	355.9	218.8	360.6	236.9	371.0	278.7	393.0	378.6	436.2	622.4	518.8
1 1 0 1 1 0	B1-O	211.2	355.9	218.8	360.6	236.9	371.0	278.7	393.0	378.6	436.2	622.4	518.8
1 1 0 1 1 1	B1-O	210.2	355.9	217.6	360.6	235.4	371.0	276.6	393.0	376.2	436.2	620.1	518.8
1 1 1 0 0 1	B1-O	211.2	355.9	218.8	360.6	236.9	371.0	278.7	393.0	378.6	436.2	622.4	518.8
1 1 1 0 1 0	B1-O	211.2	355.9	218.8	360.6	236.9	371.0	278.7	393.0	378.6	436.2	622.4	518.8
1 1 1 0 1 1	B1-O	210.2	355.9	217.6	360.6	235.4	371.0	276.6	393.0	376.2	436.2	620.1	518.8
1 1 1 1 0 1	B1-O	209.9	355.9	217.4	360.6	235.3	371.0	276.8	393.0	376.3	436.2	620.2	518.8
1 1 1 1 1 0	B1-O	209.9	355.9	217.4	360.6	235.3	371.0	276.8	393.0	376.3	436.2	620.2	518.8
1 1 1 1 1 1	B1-O	208.7	355.8	216.1	360.4	233.7	370.9	274.6	393.0	374.1	436.1	617.9	518.7
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0 1 0 1	C2-O	205.6	291.9	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1
0 1 0 1 1 0	C2-O	193.8	288.2	201.6	293.9	219.9	305.6	261.8	329.6	361.9	374.3	606.4	457.4
0 1 0 1 1 1	C2-O	172.2	287.4	179.6	293.0	197.2	304.8	238.1	328.7	337.9	373.4	582.4	456.5
0 1 1 0 0 1	C2-O	205.6	291.9	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1
0 1 1 0 1 0	C2-O	193.8	288.2	201.6	293.9	219.9	305.6	261.8	329.6	361.9	374.3	606.4	457.4
0 1 1 0 1 1	C2-O	172.2	287.4	179.6	293.0	197.2	304.8	238.1	328.7	337.9	373.4	582.4	456.5
0 1 1 1 0 1	C2-O	205.7	292.0	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1
0 1 1 1 1 0	C2-O	193.8	288.2	201.6	293.9	219.9	305.7	261.9	329.6	361.9	374.3	606.4	457.4
0 1 1 1 1 1	C2-O	172.3	287.4	179.6	293.0	197.2	304.8	238.2	328.7	338.0	373.4	582.4	456.5
1 0 0 1 0 1	C2-O	205.6	291.9	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1
1 0 0 1 1 0	C2-O	193.8	288.2	201.6	293.9	219.9	305.6	261.8	329.6	361.9	374.3	606.4	457.4
1 0 0 1 1 1	C2-O	172.2	287.4	179.6	293.0	197.2	304.8	238.1	328.7	337.9	373.4	582.4	456.5
1 0 1 0 0 1	C2-O	205.6	291.9	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1

1 0 1 0 1 0	C2-O	193.8	288.2	201.6	293.9	219.9	305.6	261.8	329.6	361.9	374.3	606.4	457.4
1 0 1 0 1 1	C2-O	172.2	287.4	179.6	293.0	197.2	304.8	238.1	328.7	337.9	373.4	582.4	456.5
1 0 1 1 0 1	C2-O	205.7	292.0	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1
1 0 1 1 1 0	C2-O	193.8	288.2	201.6	293.9	219.9	305.7	261.9	329.6	361.9	374.3	606.4	457.4
1 0 1 1 1 1	C2-O	172.3	287.4	179.6	293.0	197.2	304.8	238.2	328.7	338.0	373.4	582.4	456.5
1 1 0 1 0 1	C2-O	205.7	292.0	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1
1 1 0 1 1 0	C2-O	193.8	288.2	201.6	293.9	219.9	305.7	261.9	329.6	361.9	374.3	606.4	457.4
1 1 0 1 1 1	C2-O	172.3	287.4	179.6	293.0	197.2	304.8	238.2	328.7	338.0	373.4	582.4	456.5
1 1 1 0 0 1	C2-O	205.7	292.0	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1
1 1 1 0 1 0	C2-O	193.8	288.2	201.6	293.9	219.9	305.7	261.9	329.6	361.9	374.3	606.4	457.4
1 1 1 0 1 1	C2-O	172.3	287.4	179.6	293.0	197.2	304.8	238.2	328.7	338.0	373.4	582.4	456.5
1 1 1 1 0 1	C2-O	205.7	292.0	213.6	298.2	231.8	311.9	273.9	339.6	374.0	389.6	618.7	479.1
1 1 1 1 1 0	C2-O	193.8	288.3	201.7	293.9	219.9	305.7	261.9	329.6	361.9	374.3	606.4	457.4
1 1 1 1 1 1	C2-O	172.3	287.4	179.7	293.0	197.2	304.9	238.2	328.7	338.0	373.4	582.4	456.5
0 1 0 1 0 1	C1-O	216.3	304.9	224.2	311.3	242.6	325.0	284.8	353.0	385.1	402.7	629.9	492.2
0 1 0 1 1 0	C1-O	204.7	301.1	212.6	306.9	230.8	318.9	272.9	343.0	373.1	387.3	617.8	470.4
0 1 0 1 1 1	C1-O	180.7	300.4	188.2	306.2	205.5	318.2	246.7	342.3	346.6	386.6	591.2	469.7
0 1 1 0 0 1	C1-O	216.3	304.9	224.2	311.3	242.6	325.0	284.8	353.0	385.1	402.7	629.9	492.2
0 1 1 0 1 0	C1-O	204.7	301.1	212.6	306.9	230.8	318.9	272.9	343.0	373.1	387.3	617.8	470.4
0 1 1 0 1 1	C1-O	180.7	300.4	188.2	306.2	205.5	318.2	246.7	342.3	346.6	386.6	591.2	469.7
0 1 1 1 0 1	C1-O	216.3	304.9	224.3	311.3	242.7	325.0	284.9	353.0	385.1	402.7	629.9	492.2
0 1 1 1 1 0	C1-O	204.7	301.2	212.6	306.9	230.8	318.9	273.0	343.0	373.1	387.3	617.8	470.4
0 1 1 1 1 1	C1-O	180.7	300.4	188.2	306.2	205.6	318.2	246.8	342.3	346.6	386.6	591.2	469.7
1 0 0 1 0 1	C1-O	216.3	304.9	224.2	311.3	242.6	325.0	284.8	353.0	385.1	402.7	629.9	492.2
1 0 0 1 1 0	C1-O	204.7	301.1	212.6	306.9	230.8	318.9	272.9	343.0	373.1	387.3	617.8	470.4
1 0 0 1 1 1	C1-O	180.7	300.4	188.2	306.2	205.5	318.2	246.7	342.3	346.6	386.6	591.2	469.7
1 0 1 0 0 1	C1-O	216.3	304.9	224.2	311.3	242.6	325.0	284.8	353.0	385.1	402.7	629.9	492.2
1 0 1 0 1 0	C1-O	204.7	301.1	212.6	306.9	230.8	318.9	272.9	343.0	373.1	387.3	617.8	470.4
1 0 1 0 1 1	C1-O	180.7	300.4	188.2	306.2	205.5	318.2	246.7	342.3	346.6	386.6	591.2	469.7
1 0 1 1 0 1	C1-O	216.3	304.9	224.3	311.3	242.7	325.0	284.9	353.0	385.1	402.7	629.9	492.2
1 0 1 1 1 0	C1-O	204.7	301.2	212.6	306.9	230.8	318.9	273.0	343.0	373.1	387.3	617.8	470.4
1 0 1 1 1 1	C1-O	180.7	300.4	188.2	306.2	205.6	318.2	246.7	342.3	346.6	386.6	591.2	469.7
1 1 1 0 0 1	C1-O	216.3	304.9	224.3	311.3	242.7	325.0	284.9	353.0	385.1	402.7	629.9	492.2
1 1 1 0 1 0	C1-O	204.7	301.2	212.6	306.9	230.8	318.9	273.0	343.0	373.1	387.3	617.8	470.4
1 1 1 0 1 1	C1-O	180.7	300.4	188.2	306.2	205.6	318.2	246.7	342.3	346.6	386.6	591.2	469.7
1 1 1 1 0 1	C1-O	216.4	304.9	224.3	311.3	242.7	325.0	284.9	353.0	385.1	402.7	629.9	492.2
1 1 1 1 1 0	C1-O	204.7	301.2	212.7	306.9	230.9	318.9	273.0	343.0	373.1	387.3	617.8	470.4
1 1 1 1 1 1	C1-O	180.7	300.5	188.2	306.2	205.6	318.2	246.8	342.3	346.6	386.6	591.2	469.7

A1 A2 B1 B2 C1 C2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0 1 0 1	D2-O	211.8	338.4	219.7	344.2	238.0	356.3	280.1	380.7	380.4	425.7	625.1	509.5
0 1 0 1 1 0	D2-O	224.1	342.2	232.0	348.5	250.4	362.5	292.7	391.0	393.0	442.2	637.9	533.1
0 1 0 1 1 1	D2-O	192.0	349.6	199.6	355.2	217.5	367.2	259.1	391.7	359.1	436.7	603.7	520.6
0 1 1 0 0 1	D2-O	211.8	338.4	219.7	344.2	238.0	356.3	280.1	380.7	380.4	425.7	625.1	509.5
0 1 1 0 1 0	D2-O	224.1	342.2	232.0	348.5	250.4	362.5	292.7	391.0	393.0	442.2	637.9	533.1
0 1 1 0 1 1	D2-O	192.0	349.6	199.6	355.2	217.5	367.2	259.1	391.7	359.1	436.7	603.7	520.6
0 1 1 1 0 1	D2-O	211.8	338.4	219.7	344.2	238.0	356.3	280.2	380.7	380.4	425.7	625.1	509.5
0 1 1 1 1 0	D2-O	224.2	342.2	232.0	348.5	250.5	362.5	292.7	391.0	393.0	442.2	637.9	533.1
0 1 1 1 1 1	D2-O	192.0	349.6	199.6	355.2	217.6	367.2	259.1	391.7	359.1	436.7	603.7	520.6
1 0 0 1 0 1	D2-O	211.8	338.4	219.7	344.2	238.0	356.3	280.1	380.7	380.4	425.7	625.1	509.5
1 0 0 1 1 0	D2-O	224.1	342.2	232.0	348.5	250.4	362.5	292.7	391.0	393.0	442.2	637.9	533.1
1 0 0 1 1 1	D2-O	192.0	349.6	199.6	355.2	217.5	367.2	259.1	391.7	359.1	436.7	603.7	520.6
1 0 1 0 0 1	D2-O	211.8	338.4	219.7	344.2	238.0	356.3	280.1	380.7	380.4	425.7	625.1	509.5
1 0 1 0 1 0	D2-O	224.1	342.2	232.0	348.5	250.4	362.5	292.7	391.0	393.0	442.2	637.9	533.1
1 0 1 0 1 1	D2-O	192.0	349.6	199.6	355.2	217.5	367.2	259.1	391.7	359.1	436.7	603.7	520.6
1 0 1 1 0 1	D2-O	211.8	338.4	219.7	344.2	238.0	356.3	280.2	380.7	380.4	425.7	625.1	509.5
1 0 1 1 1 0	D2-O	224.2	342.2	232.0	348.5	250.5	362.5	292.7	391.0	393.0	442.2	637.9	533.1
1 0 1 1 1 1	D2-O	192.0	349.6	199.6	355.2	217.6	367.2	259.1	391.7	359.1	436.7	603.7	520.6
1 1 0 1 0 1	D2-O	211.8	338.4	219.7	344.2	238.0	356.3	280.2	380.7	380.4	425.7	625.1	509.5
1 1 0 1 1 0	D2-O	224.2	342.2	232.0	348.5	250.4	362.7	292.7	391.0	393.0	442.2	637.9	533.1
1 1 0 1 1 1	D2-O	192.0	349.6	199.6	355.2	217.6	367.3	259.1	391.7	359.1	436.7	603.7	520.6
1 1 1 0 0 1	D2-O	211.8	338.4	219.7	344.2	238.0	356.3	280.2	380.7	380.4	425.7	625.1	509.5
1 1 1 0 1 0	D2-O	224.2	342.2	232.0	348.5	250.4	362.7	292.7	391.0	393.0	442.2	637.9	533.1
1 1 1 0 1 1	D2-O	192.0	349.6	199.6	355.2	217.6	367.3	259.1	391.7	359.1	436.7	603.7	520.6
1 1 1 1 0 1	D2-O	211.8	338.4	219.7	344.2	238.1	356.3	280.2	380.7	380.4	425.7	625.1	509.5
1 1 1 1 1 0	D2-O	224.2	342.2	232.1	348.5	250.5	362.7	292.7	391.0	393.0	442.2	637.8	533.1
1 1 1 1 1 1	D2-O	192.0	349.6	199.6	355.2	217.6	367.3	259.1	391.8	359.2	436.7	603.7	520.6
0 1 0 1 0 1	D1-O	202.1	327.4	209.9	333.1	228.2	345.2	270.2	369.6	370.3	414.6	614.9	498.5
0 1 0 1 1 0	D1-O	214.2	331.1	222.1	337.5	240.4	351.5	282.6	380.0	382.8	431.1	627.7	522.0
0 1 0 1 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.4	380.5	351.4	425.6	595.9	509.5
0 1 1 0 0 1	D1-O	202.1	327.4	209.9	333.1	228.2	345.2	270.2	369.6	370.3	414.6	614.9	498.5
0 1 1 0 1 0	D1-O	214.2	331.1	222.1	337.5	240.4	351.5	282.6	380.0	382.8	431.1	627.7	522.0
0 1 1 0 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.4	380.5	351.4	425.6	595.9	509.5
0 1 1 1 0 1	D1-O	202.1	327.4	209.9	333.1	228.2	345.3	270.2	369.6	370.4	414.6	614.9	498.5
0 1 1 1 1 0	D1-O	214.2	331.1	222.1	337.5	240.5	351.5	282.6	380.0	382.9	431.1	627.7	522.0
0 1 1 1 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.4	380.5	351.4	425.6	595.9	509.5
1 0 0 1 0 1	D1-O	202.1	327.4	209.9	333.1	228.2	345.2	270.2	369.6	370.3	414.6	614.9	498.5
1 0 0 1 1 0	D1-O	214.2	331.1	222.1	337.5	240.4	351.5	282.6	380.0	382.8	431.1	627.7	522.0
1 0 0 1 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.4	380.5	351.4	425.6	595.9	509.5
1 0 1 0 0 1	D1-O	202.1	327.4	209.9	333.1	228.2	345.2	270.2	369.6	370.3	414.6	614.9	498.5
1 0 1 0 1 0	D1-O	214.2	331.1	222.1	337.5	240.4	351.5	282.6	380.0	382.8	431.1	627.7	522.0

1 0 1 0 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.4	380.5	351.4	425.6	595.9	509.5
1 0 1 1 0 1	D1-O	202.1	327.4	209.9	333.1	228.2	345.3	270.2	369.6	370.4	414.6	614.9	498.5
1 0 1 1 1 0	D1-O	214.2	331.1	222.1	337.5	240.5	351.5	282.6	380.0	382.9	431.1	627.7	522.0
1 0 1 1 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.4	380.5	351.4	425.6	595.9	509.5
1 1 0 1 0 1	D1-O	202.1	327.4	209.9	333.1	228.2	345.3	270.2	369.6	370.3	414.6	614.9	498.5
1 1 0 1 1 0	D1-O	214.2	331.1	222.1	337.5	240.4	351.5	282.6	380.0	382.9	431.1	627.6	522.0
1 1 0 1 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.4	380.5	351.4	425.6	595.9	509.5
1 1 1 0 0 1	D1-O	202.1	327.4	209.9	333.1	228.2	345.3	270.2	369.6	370.3	414.6	614.9	498.5
1 1 1 0 1 0	D1-O	214.2	331.1	222.1	337.5	240.4	351.5	282.6	380.0	382.9	431.1	627.6	522.0
1 1 1 0 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.4	380.5	351.4	425.6	595.9	509.5
1 1 1 1 0 1	D1-O	202.1	327.4	210.0	333.1	228.2	345.3	270.2	369.6	370.4	414.6	614.9	498.5
1 1 1 1 1 0	D1-O	214.2	331.1	222.2	337.5	240.5	351.5	282.6	380.0	382.9	431.1	627.6	522.0
1 1 1 1 1 1	D1-O	184.6	338.4	192.3	344.0	210.1	356.2	251.5	380.5	351.4	425.6	595.9	509.5

Version : OA2222KLD

Cell Unit = 36

State	Path	Output Load											
		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
B1	B2	C1	C2	D1	D2	tph	tph	tph	tph	tph	tph	tph	tph
0 1 0 1 0 1	A2-O	278.7	448.9	284.4	454.0	299.0	466.2	335.3	495.9	424.6	558.4	659.6	685.4
0 1 0 1 1 0	A2-O	278.7	448.9	284.4	454.0	299.0	466.2	335.3	495.9	424.6	558.4	659.6	685.4
0 1 0 1 1 1	A2-O	277.4	448.6	282.9	453.8	297.2	466.0	332.6	495.8	421.1	558.3	655.5	685.3
0 1 1 0 0 1	A2-O	278.7	448.9	284.4	454.0	299.0	466.2	335.3	495.9	424.6	558.4	659.6	685.4
0 1 1 0 1 0	A2-O	278.7	448.9	284.4	454.0	299.0	466.2	335.3	495.9	424.6	558.4	659.6	685.4
0 1 1 0 1 1	A2-O	277.4	448.6	282.9	453.8	297.2	466.0	332.6	495.8	421.1	558.3	655.5	685.3
0 1 1 1 0 1	A2-O	277.1	448.6	282.6	453.8	297.0	466.0	332.5	495.8	421.2	558.3	655.6	685.3
0 1 1 1 1 0	A2-O	277.1	448.6	282.6	453.8	297.0	466.0	332.5	495.8	421.2	558.3	655.6	685.3
0 1 1 1 1 1	A2-O	275.6	448.3	280.9	453.5	294.8	465.9	329.5	495.6	417.6	558.1	651.7	685.2
1 0 0 1 0 1	A2-O	267.1	442.1	272.7	446.3	287.4	458.0	323.6	484.6	412.8	542.6	647.6	663.7
1 0 0 1 1 0	A2-O	267.1	442.1	272.7	446.3	287.4	458.0	323.6	484.6	412.8	542.6	647.6	663.7
1 0 0 1 1 1	A2-O	265.8	441.9	271.3	446.1	285.5	457.9	320.9	484.5	409.3	542.5	643.6	663.6
1 0 1 0 0 1	A2-O	267.1	442.1	272.7	446.3	287.4	458.0	323.6	484.6	412.8	542.6	647.6	663.7
1 0 1 0 1 0	A2-O	267.1	442.1	272.7	446.3	287.4	458.0	323.6	484.6	412.8	542.6	647.6	663.7
1 0 1 0 1 1	A2-O	265.8	441.9	271.3	446.1	285.5	457.9	320.9	484.5	409.3	542.5	643.6	663.6
1 0 1 1 0 1	A2-O	265.5	441.8	271.0	446.1	285.3	457.8	320.7	484.4	409.3	542.5	643.7	663.6
1 0 1 1 1 0	A2-O	265.5	441.8	271.0	446.1	285.3	457.8	320.7	484.4	409.3	542.5	643.7	663.6
1 0 1 1 1 1	A2-O	263.9	441.6	269.2	445.8	283.1	457.6	317.8	484.2	405.7	542.4	639.7	663.5
1 1 0 1 0 1	A2-O	236.1	441.2	241.4	445.4	255.6	457.2	290.6	483.7	378.6	541.7	612.8	662.8
1 1 0 1 1 0	A2-O	236.1	441.2	241.4	445.4	255.6	457.2	290.6	483.7	378.6	541.7	612.8	662.8
1 1 0 1 1 1	A2-O	234.8	441.0	240.0	445.2	253.6	457.0	287.8	483.5	374.7	541.6	608.4	662.7
1 1 1 0 0 1	A2-O	236.1	441.2	241.4	445.4	255.6	457.2	290.6	483.7	378.6	541.7	612.8	662.8
1 1 1 0 1 0	A2-O	236.1	441.2	241.4	445.4	255.6	457.2	290.6	483.7	378.6	541.7	612.8	662.8
1 1 1 0 1 1	A2-O	234.8	441.0	240.0	445.2	253.6	457.0	287.8	483.5	374.7	541.6	608.4	662.7
1 1 1 1 0 1	A2-O	234.4	441.0	239.6	445.2	253.3	457.0	287.6	483.5	374.7	541.6	608.5	662.7
1 1 1 1 1 0	A2-O	234.4	441.0	239.6	445.2	253.3	457.0	287.6	483.5	374.7	541.6	608.5	662.7
1 1 1 1 1 1	A2-O	232.8	440.8	237.9	445.0	251.0	456.8	284.5	483.3	370.8	541.5	604.0	662.6
0 1 0 1 0 1	A1-O	289.5	461.6	295.1	466.5	309.7	479.0	346.0	508.4	435.7	571.0	670.6	698.1
0 1 0 1 1 0	A1-O	289.5	461.6	295.1	466.5	309.7	479.0	346.0	508.4	435.7	571.0	670.6	698.1
0 1 0 1 1 1	A1-O	288.2	461.4	293.7	466.3	307.9	478.9	343.4	508.3	432.0	570.9	666.5	698.0
0 1 1 0 0 1	A1-O	289.5	461.6	295.1	466.5	309.7	479.0	346.0	508.4	435.7	571.0	670.6	698.1
0 1 1 0 1 0	A1-O	289.5	461.6	295.1	466.5	309.7	479.0	346.0	508.4	435.7	571.0	670.6	698.1
0 1 1 0 1 1	A1-O	288.2	461.4	293.7	466.3	307.9	478.9	343.4	508.3	432.0	570.9	666.5	698.0
0 1 1 1 0 1	A1-O	287.9	461.3	293.4	466.2	307.6	478.9	343.3	508.3	432.1	570.8	666.6	698.0
0 1 1 1 1 0	A1-O	287.9	461.3	293.4	466.2	307.6	478.9	343.3	508.3	432.1	570.8	666.6	698.0
0 1 1 1 1 1	A1-O	286.4	461.0	291.7	465.9	305.5	478.6	340.5	508.1	428.5	570.7	662.6	697.9
1 0 0 1 0 1	A1-O	277.8	455.2	283.4	459.2	298.1	470.5	334.4	497.4	423.7	555.4	658.7	676.4
1 0 0 1 1 0	A1-O	277.8	455.2	283.4	459.2	298.1	470.5	334.4	497.4	423.7	555.4	658.7	676.4
1 0 0 1 1 1	A1-O	276.5	455.1	282.0	459.0	296.3	470.4	331.7	497.3	420.2	555.3	654.6	676.3

1 0 1 0 0 1	A1-O	277.8	455.2	283.4	459.2	298.1	470.5	334.4	497.4	423.7	555.4	658.7	676.4
1 0 1 0 1 0	A1-O	277.8	455.2	283.4	459.2	298.1	470.5	334.4	497.4	423.7	555.4	658.7	676.4
1 0 1 0 1 1	A1-O	276.5	455.1	282.0	459.0	296.3	470.4	331.7	497.3	420.2	555.3	654.6	676.3
1 0 1 1 0 1	A1-O	276.2	455.0	281.6	459.0	296.0	470.3	331.5	497.3	420.3	555.3	654.7	676.3
1 0 1 1 1 0	A1-O	276.2	455.0	281.6	459.0	296.0	470.3	331.5	497.3	420.3	555.3	654.7	676.3
1 0 1 1 1 1	A1-O	274.6	454.8	279.9	458.7	293.9	470.0	328.6	497.1	416.7	555.2	650.8	676.2
1 1 0 1 0 1	A1-O	244.3	454.6	249.7	458.4	263.7	469.7	298.9	496.6	386.9	554.7	621.2	675.6
1 1 0 1 1 0	A1-O	244.3	454.6	249.7	458.4	263.7	469.7	298.9	496.6	386.9	554.7	621.2	675.6
1 1 0 1 1 1	A1-O	243.0	454.4	248.2	458.3	261.8	469.5	296.1	496.5	383.0	554.6	616.6	675.6
1 1 1 0 0 1	A1-O	244.3	454.6	249.7	458.4	263.7	469.7	298.9	496.6	386.9	554.7	621.2	675.6
1 1 1 0 1 0	A1-O	244.3	454.6	249.7	458.4	263.7	469.7	298.9	496.6	386.9	554.7	621.2	675.6
1 1 1 0 1 1	A1-O	243.0	454.4	248.2	458.3	261.8	469.5	296.1	496.5	383.0	554.6	616.6	675.6
1 1 1 1 0 1	A1-O	242.6	454.4	247.8	458.2	261.5	469.5	295.9	496.5	383.0	554.6	616.9	675.6
1 1 1 1 1 0	A1-O	242.6	454.4	247.8	458.2	261.5	469.5	295.9	496.5	383.0	554.6	616.9	675.6
1 1 1 1 1 1	A1-O	241.0	454.0	246.0	458.0	259.2	469.1	292.8	496.3	379.0	554.5	612.5	675.5
A1 A2 C1 C2 D1 D2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0 1 0 1	B2-O	284.1	491.3	289.8	496.0	304.4	506.9	340.6	534.2	430.0	592.6	664.8	714.3
0 1 0 1 1 0	B2-O	284.1	491.3	289.8	496.0	304.4	506.9	340.6	534.2	430.0	592.6	664.8	714.3
0 1 0 1 1 1	B2-O	282.8	491.1	288.3	495.9	302.6	506.7	338.0	534.1	426.5	592.5	660.9	714.2
0 1 1 0 0 1	B2-O	284.1	491.3	289.8	496.0	304.4	506.9	340.6	534.2	430.0	592.6	664.8	714.3
0 1 1 0 1 0	B2-O	284.1	491.3	289.8	496.0	304.4	506.9	340.6	534.2	430.0	592.6	664.8	714.3
0 1 1 0 1 1	B2-O	282.8	491.1	288.3	495.9	302.6	506.7	338.0	534.1	426.5	592.5	660.9	714.2
0 1 1 1 0 1	B2-O	282.5	491.1	288.0	495.8	302.3	506.7	337.8	534.1	426.5	592.5	661.0	714.2
0 1 1 1 1 0	B2-O	282.5	491.1	288.0	495.8	302.3	506.7	337.8	534.1	426.5	592.5	661.0	714.2
0 1 1 1 1 1	B2-O	280.9	490.7	286.3	495.6	300.2	506.4	334.9	533.9	422.9	592.3	657.0	714.1
1 0 0 1 0 1	B2-O	296.5	498.4	302.2	503.2	316.8	516.2	353.1	545.8	442.6	609.5	677.6	738.0
1 0 0 1 1 0	B2-O	296.5	498.4	302.2	503.2	316.8	516.2	353.1	545.8	442.6	609.5	677.6	738.0
1 0 0 1 1 1	B2-O	295.2	498.3	300.7	502.9	315.0	516.1	350.5	545.7	439.1	609.4	673.6	737.9
1 0 1 0 0 1	B2-O	296.5	498.4	302.2	503.2	316.8	516.2	353.1	545.8	442.6	609.5	677.6	738.0
1 0 1 0 1 0	B2-O	296.5	498.4	302.2	503.2	316.8	516.2	353.1	545.8	442.6	609.5	677.6	738.0
1 0 1 0 1 1	B2-O	295.2	498.3	300.7	502.9	315.0	516.1	350.5	545.7	439.1	609.4	673.6	737.9
1 0 1 1 0 1	B2-O	294.9	498.3	300.4	502.9	314.7	516.1	350.4	545.7	439.0	609.3	673.7	737.9
1 0 1 1 1 0	B2-O	294.9	498.3	300.4	502.9	314.7	516.1	350.4	545.7	439.0	609.3	673.7	737.9
1 0 1 1 1 1	B2-O	293.3	498.0	298.7	502.6	312.6	515.8	347.5	545.5	435.6	609.2	669.8	737.8
1 1 0 1 0 1	B2-O	253.9	502.0	259.3	506.5	273.5	518.1	308.9	545.0	397.3	603.5	631.6	725.3
1 1 0 1 1 0	B2-O	253.9	502.0	259.3	506.5	273.5	518.1	308.9	545.0	397.3	603.5	631.6	725.3
1 1 0 1 1 1	B2-O	252.6	501.9	257.9	506.2	271.6	518.0	306.1	544.9	393.4	603.4	627.2	725.2
1 1 1 0 0 1	B2-O	253.9	502.0	259.3	506.5	273.5	518.1	308.9	545.0	397.3	603.5	631.6	725.3
1 1 1 0 1 0	B2-O	253.9	502.0	259.3	506.5	273.5	518.1	308.9	545.0	397.3	603.5	631.6	725.3
1 1 1 0 1 1	B2-O	252.6	501.9	257.9	506.2	271.6	518.0	306.1	544.9	393.4	603.4	627.2	725.2
1 1 1 1 0 1	B2-O	252.2	501.9	257.5	506.2	271.3	518.0	305.9	544.9	393.4	603.4	627.4	725.2
1 1 1 1 1 0	B2-O	252.2	501.9	257.5	506.2	271.3	518.0	305.9	544.9	393.4	603.4	627.4	725.2

1 1 1 1 1 1	B2-O	250.6	501.6	255.8	505.9	269.0	517.8	302.9	544.7	389.5	603.2	623.0	725.1
0 1 0 1 0 1	B1-O	274.2	480.8	279.8	485.0	294.5	496.8	330.7	523.5	420.0	582.0	654.7	703.7
0 1 0 1 1 0	B1-O	274.2	480.8	279.8	485.0	294.5	496.8	330.7	523.5	420.0	582.0	654.7	703.7
0 1 0 1 1 1	B1-O	272.9	480.6	278.4	484.8	292.7	496.6	327.8	523.4	416.4	581.9	650.7	703.7
0 1 1 0 0 1	B1-O	274.2	480.8	279.8	485.0	294.5	496.8	330.7	523.5	420.0	582.0	654.7	703.7
0 1 1 0 1 0	B1-O	274.2	480.8	279.8	485.0	294.5	496.8	330.7	523.5	420.0	582.0	654.7	703.7
0 1 1 0 1 1	B1-O	272.9	480.6	278.4	484.8	292.7	496.6	327.8	523.4	416.4	581.9	650.7	703.7
0 1 1 1 0 1	B1-O	272.6	480.6	278.1	484.8	292.4	496.6	327.8	523.4	416.5	581.9	650.8	703.7
0 1 1 1 1 0	B1-O	272.6	480.6	278.1	484.8	292.4	496.6	327.8	523.4	416.5	581.9	650.8	703.7
0 1 1 1 1 1	B1-O	271.0	480.3	276.3	484.5	290.2	496.3	324.9	523.2	412.9	581.8	646.9	703.6
1 0 0 1 0 1	B1-O	286.7	487.7	292.3	492.8	306.9	505.3	343.1	535.5	432.7	599.0	667.6	727.4
1 0 0 1 1 0	B1-O	286.7	487.7	292.3	492.8	306.9	505.3	343.1	535.5	432.7	599.0	667.6	727.4
1 0 0 1 1 1	B1-O	285.4	487.4	290.8	492.6	305.0	505.2	340.5	535.4	429.1	598.9	663.5	727.4
1 0 1 0 0 1	B1-O	286.7	487.7	292.3	492.8	306.9	505.3	343.1	535.5	432.7	599.0	667.6	727.4
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1 0 1 0 1 1	B1-O	285.4	487.4	290.8	492.6	305.0	505.2	340.5	535.4	429.1	598.9	663.5	727.4
1 0 1 1 0 1	B1-O	285.1	487.4	290.5	492.6	304.8	505.1	340.3	535.4	429.1	598.9	663.6	727.4
1 0 1 1 1 0	B1-O	285.1	487.4	290.5	492.6	304.8	505.1	340.3	535.4	429.1	598.9	663.6	727.4
1 0 1 1 1 1	B1-O	283.5	487.1	288.9	492.2	302.6	504.9	337.5	535.2	425.5	598.8	659.5	727.3
1 1 0 1 0 1	B1-O	246.5	491.5	251.9	496.3	266.0	507.3	301.4	534.5	389.6	592.9	623.8	714.7
1 1 0 1 1 0	B1-O	246.5	491.5	251.9	496.3	266.0	507.3	301.4	534.5	389.6	592.9	623.8	714.7
1 1 0 1 1 1	B1-O	245.2	491.2	250.4	496.1	264.1	507.1	298.5	534.4	385.7	592.8	619.4	714.6
1 1 1 0 0 1	B1-O	246.5	491.5	251.9	496.3	266.0	507.3	301.4	534.5	389.6	592.9	623.8	714.7
1 1 1 0 1 0	B1-O	246.5	491.5	251.9	496.3	266.0	507.3	301.4	534.5	389.6	592.9	623.8	714.7
1 1 1 0 1 1	B1-O	245.2	491.2	250.4	496.1	264.1	507.1	298.5	534.4	385.7	592.8	619.4	714.6
1 1 1 1 0 1	B1-O	244.8	491.2	250.1	496.1	263.8	507.1	298.4	534.4	385.7	592.8	619.5	714.6
1 1 1 1 1 0	B1-O	244.8	491.2	250.1	496.1	263.8	507.1	298.4	534.4	385.7	592.8	619.5	714.6
1 1 1 1 1 1	B1-O	243.2	490.8	248.3	495.8	261.5	506.8	295.1	534.2	381.8	592.7	615.3	714.5
A1 A2 B1 B2 D1 D2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0 1 0 1	C2-O	245.7	420.7	251.6	427.0	266.5	442.2	302.7	477.3	391.0	546.5	625.4	678.8
0 1 0 1 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.7	468.8	378.9	532.3	613.2	657.7
0 1 0 1 1 1	C2-O	203.4	416.8	208.8	422.6	222.3	436.7	256.2	467.9	342.3	531.4	576.2	656.7
0 1 1 0 0 1	C2-O	245.7	420.7	251.6	427.0	266.5	442.2	302.7	477.3	391.0	546.5	625.4	678.8
0 1 1 0 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.7	468.8	378.9	532.3	613.2	657.7
0 1 1 0 1 1	C2-O	203.4	416.8	208.8	422.6	222.3	436.7	256.2	467.9	342.3	531.4	576.2	656.7
0 1 1 1 0 1	C2-O	245.8	420.7	251.6	427.0	266.5	442.3	302.7	477.3	391.1	546.5	625.5	678.8
0 1 1 1 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.8	468.8	379.0	532.3	613.3	657.7
0 1 1 1 1 1	C2-O	203.4	416.8	208.8	422.6	222.4	436.7	256.2	467.9	342.4	531.4	576.3	656.7
1 0 0 1 0 1	C2-O	245.7	420.7	251.6	427.0	266.5	442.2	302.7	477.3	391.0	546.5	625.4	678.8
1 0 0 1 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.7	468.8	378.9	532.3	613.2	657.7
1 0 0 1 1 1	C2-O	203.4	416.8	208.8	422.6	222.3	436.7	256.2	467.9	342.3	531.4	576.2	656.7
1 0 1 0 0 1	C2-O	245.7	420.7	251.6	427.0	266.5	442.2	302.7	477.3	391.0	546.5	625.4	678.8

1 0 1 0 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.7	468.8	378.9	532.3	613.2	657.7
1 0 1 0 1 1	C2-O	203.4	416.8	208.8	422.6	222.3	436.7	256.2	467.9	342.3	531.4	576.2	656.7
1 0 1 1 0 1	C2-O	245.8	420.7	251.6	427.0	266.5	442.3	302.7	477.3	391.1	546.5	625.5	678.8
1 0 1 1 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.8	468.8	379.0	532.3	613.3	657.7
1 0 1 1 1 1	C2-O	203.4	416.8	208.8	422.6	222.4	436.7	256.2	467.9	342.4	531.4	576.3	656.7
1 1 0 1 0 1	C2-O	245.8	420.7	251.6	427.0	266.5	442.3	302.7	477.3	391.1	546.5	625.5	678.8
1 1 0 1 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.8	468.8	379.0	532.3	613.3	657.7
1 1 0 1 1 1	C2-O	203.5	416.8	208.8	422.6	222.4	436.7	256.2	467.9	342.4	531.4	576.2	656.7
1 1 1 0 0 1	C2-O	245.8	420.7	251.6	427.0	266.5	442.3	302.7	477.3	391.1	546.5	625.5	678.8
1 1 1 0 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.8	468.8	379.0	532.3	613.3	657.7
1 1 1 0 1 1	C2-O	203.5	416.8	208.8	422.6	222.4	436.7	256.2	467.9	342.4	531.4	576.2	656.7
1 1 1 1 0 1	C2-O	245.8	420.7	251.6	427.0	266.6	442.3	302.7	477.3	391.1	546.5	625.6	678.8
1 1 1 1 1 0	C2-O	234.0	417.7	239.8	423.5	254.8	437.5	290.8	468.8	379.1	532.3	613.4	657.7
1 1 1 1 1 1	C2-O	203.5	416.8	208.8	422.6	222.4	436.7	256.3	467.9	342.5	531.4	576.3	656.7
0 1 0 1 0 1	C1-O	256.2	433.1	262.1	439.5	277.2	454.8	313.5	489.6	402.0	559.0	636.6	691.2
0 1 0 1 1 0	C1-O	244.6	430.1	250.5	436.1	265.4	450.0	301.6	481.3	389.9	544.8	624.4	670.0
0 1 0 1 1 1	C1-O	211.5	429.3	216.8	435.3	230.6	449.2	264.4	480.5	350.6	544.0	584.7	669.3
0 1 1 0 0 1	C1-O	256.2	433.1	262.1	439.5	277.2	454.8	313.5	489.6	402.0	559.0	636.6	691.2
0 1 1 0 1 0	C1-O	244.6	430.1	250.5	436.1	265.4	450.0	301.6	481.3	389.9	544.8	624.4	670.0
0 1 1 0 1 1	C1-O	211.5	429.3	216.8	435.3	230.6	449.2	264.4	480.5	350.6	544.0	584.7	669.3
0 1 1 1 0 1	C1-O	256.3	433.2	262.2	439.5	277.2	454.8	313.5	489.6	402.1	559.0	636.7	691.2
0 1 1 1 1 0	C1-O	244.6	430.1	250.5	436.1	265.4	450.0	301.6	481.3	390.0	544.8	624.5	670.0
0 1 1 1 1 1	C1-O	211.5	429.3	216.8	435.3	230.6	449.2	264.4	480.5	350.7	544.0	584.8	669.3
1 0 0 1 0 1	C1-O	256.2	433.1	262.1	439.5	277.2	454.8	313.5	489.6	402.0	559.0	636.6	691.2
1 0 0 1 1 0	C1-O	244.6	430.1	250.5	436.1	265.4	450.0	301.6	481.3	389.9	544.8	624.4	670.0
1 0 0 1 1 1	C1-O	211.5	429.3	216.8	435.3	230.6	449.2	264.4	480.5	350.6	544.0	584.7	669.3
1 0 1 0 0 1	C1-O	256.2	433.1	262.1	439.5	277.2	454.8	313.5	489.6	402.0	559.0	636.6	691.2
1 0 1 0 1 0	C1-O	244.6	430.1	250.5	436.1	265.4	450.0	301.6	481.3	389.9	544.8	624.4	670.0
1 0 1 0 1 1	C1-O	211.5	429.3	216.8	435.3	230.6	449.2	264.4	480.5	350.6	544.0	584.7	669.3
1 0 1 1 0 1	C1-O	256.3	433.2	262.2	439.5	277.2	454.8	313.5	489.6	402.1	559.0	636.7	691.2
1 0 1 1 1 0	C1-O	244.6	430.1	250.5	436.1	265.4	450.0	301.6	481.3	390.0	544.8	624.5	670.0
1 0 1 1 1 1	C1-O	211.5	429.3	216.8	435.3	230.6	449.2	264.4	480.5	350.7	544.0	584.8	669.3
1 1 1 0 0 1	C1-O	256.3	433.2	262.2	439.5	277.2	454.8	313.5	489.6	402.1	559.0	636.7	691.2
1 1 1 0 1 0	C1-O	244.6	430.1	250.5	436.1	265.4	450.0	301.6	481.3	390.0	544.8	624.5	670.0
1 1 1 0 1 1	C1-O	211.5	429.3	216.8	435.3	230.6	449.2	264.4	480.5	350.7	544.0	584.8	669.3
1 1 1 1 0 1	C1-O	256.3	433.2	262.2	439.5	277.3	454.8	313.6	489.6	402.1	559.0	636.8	691.2
1 1 1 1 1 0	C1-O	244.6	430.1	250.6	436.1	265.4	450.0	301.7	481.3	390.1	544.8	624.6	670.1
1 1 1 1 1 1	C1-O	211.5	429.3	216.8	435.3	230.6	449.2	264.5	480.5	350.8	544.0	584.8	669.3

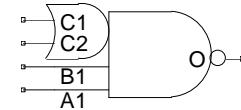
A1 A2 B1 B2 C1 C2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0 1 0 1	D2-O	251.5	467.9	257.3	473.7	272.4	487.8	308.5	519.5	396.8	583.3	631.4	709.5
0 1 0 1 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.0	528.0	409.5	598.5	644.2	732.1
0 1 0 1 1 1	D2-O	221.8	478.8	227.2	484.7	241.2	498.9	275.8	530.4	362.7	594.5	596.9	720.5
0 1 1 0 0 1	D2-O	251.5	467.9	257.3	473.7	272.4	487.8	308.5	519.5	396.8	583.3	631.4	709.5
0 1 1 0 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.0	528.0	409.5	598.5	644.2	732.1
0 1 1 0 1 1	D2-O	221.8	478.8	227.2	484.7	241.2	498.9	275.8	530.4	362.7	594.5	596.9	720.5
0 1 1 1 0 1	D2-O	251.5	467.9	257.4	473.7	272.4	487.8	308.5	519.5	396.9	583.3	631.5	709.5
0 1 1 1 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.1	528.0	409.6	598.5	644.3	732.1
0 1 1 1 1 1	D2-O	221.8	478.8	227.3	484.7	241.2	498.9	275.9	530.5	362.8	594.5	597.0	720.5
1 0 0 1 0 1	D2-O	251.5	467.9	257.3	473.7	272.4	487.8	308.5	519.5	396.8	583.3	631.4	709.5
1 0 0 1 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.0	528.0	409.5	598.5	644.2	732.1
1 0 0 1 1 1	D2-O	221.8	478.8	227.2	484.7	241.2	498.9	275.8	530.4	362.7	594.5	596.9	720.5
1 0 1 0 0 1	D2-O	251.5	467.9	257.3	473.7	272.4	487.8	308.5	519.5	396.8	583.3	631.4	709.5
1 0 1 0 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.0	528.0	409.5	598.5	644.2	732.1
1 0 1 0 1 1	D2-O	221.8	478.8	227.2	484.7	241.2	498.9	275.8	530.4	362.7	594.5	596.9	720.5
1 0 1 1 0 1	D2-O	251.5	467.9	257.4	473.7	272.4	487.8	308.5	519.5	396.9	583.3	631.5	709.5
1 0 1 1 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.1	528.0	409.6	598.5	644.3	732.1
1 0 1 1 1 1	D2-O	221.8	478.8	227.3	484.7	241.2	498.9	275.9	530.5	362.8	594.5	597.0	720.5
1 1 0 1 0 1	D2-O	251.5	467.9	257.4	473.7	272.4	487.8	308.5	519.5	396.9	583.3	631.5	709.5
1 1 0 1 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.1	528.0	409.6	598.5	644.3	732.1
1 1 0 1 1 1	D2-O	221.8	478.8	227.3	484.7	241.2	498.9	275.9	530.5	362.8	594.5	597.0	720.5
1 1 1 0 0 1	D2-O	251.5	467.9	257.4	473.7	272.4	487.8	308.5	519.5	396.9	583.3	631.5	709.5
1 1 1 0 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.1	528.0	409.6	598.5	644.3	732.1
1 1 1 0 1 1	D2-O	221.8	478.8	227.3	484.7	241.2	498.9	275.9	530.5	362.8	594.5	597.0	720.5
1 1 1 1 0 1	D2-O	251.5	467.9	257.4	473.7	272.4	487.8	308.6	519.5	397.0	583.4	631.5	709.5
1 1 1 1 1 0	D2-O	263.9	471.0	269.8	477.2	284.8	492.7	321.1	528.0	409.7	598.5	644.4	732.1
1 1 1 1 1 1	D2-O	221.8	478.8	227.3	484.7	241.3	498.9	275.9	530.5	362.9	594.5	597.1	720.5
0 1 0 1 0 1	D1-O	241.8	457.2	247.6	463.0	262.4	477.2	298.5	508.7	386.7	572.7	621.1	698.8
0 1 0 1 1 0	D1-O	254.0	460.3	259.9	466.4	274.8	481.9	311.0	517.4	399.4	587.7	634.0	721.4
0 1 0 1 1 1	D1-O	214.2	468.1	219.6	473.9	233.7	487.9	268.1	519.7	354.9	583.6	589.0	709.7
0 1 1 0 0 1	D1-O	241.8	457.2	247.6	463.0	262.4	477.2	298.5	508.7	386.7	572.7	621.1	698.8
0 1 1 0 1 0	D1-O	254.0	460.3	259.9	466.4	274.8	481.9	311.0	517.4	399.4	587.7	634.0	721.4
0 1 1 0 1 1	D1-O	214.2	468.1	219.6	473.9	233.7	487.9	268.1	519.7	354.9	583.6	589.0	709.7
0 1 1 1 0 1	D1-O	241.8	457.2	247.6	463.0	262.5	477.2	298.5	508.7	386.8	572.7	621.2	698.8
0 1 1 1 1 0	D1-O	254.0	460.3	259.9	466.4	274.8	481.9	311.0	517.4	399.5	587.7	634.1	721.4
0 1 1 1 1 1	D1-O	214.2	468.2	219.7	473.9	233.8	488.0	268.2	519.7	355.1	583.6	589.1	709.7
1 0 0 1 0 1	D1-O	241.8	457.2	247.6	463.0	262.4	477.2	298.5	508.7	386.7	572.7	621.1	698.8
1 0 0 1 1 0	D1-O	254.0	460.3	259.9	466.4	274.8	481.9	311.0	517.4	399.4	587.7	634.0	721.4
1 0 0 1 1 1	D1-O	214.2	468.1	219.6	473.9	233.7	487.9	268.1	519.7	354.9	583.6	589.0	709.7
1 0 1 0 0 1	D1-O	241.8	457.2	247.6	463.0	262.4	477.2	298.5	508.7	386.7	572.7	621.1	698.8
1 0 1 0 1 0	D1-O	254.0	460.3	259.9	466.4	274.8	481.9	311.0	517.4	399.4	587.7	634.0	721.4

<b>1 0 1 0 1 1</b>	D1-O	214.2	468.1	219.6	473.9	233.7	487.9	268.1	519.7	354.9	583.6	589.0	709.7
<b>1 0 1 1 0 1</b>	D1-O	241.8	457.2	247.6	463.0	262.5	477.2	298.5	508.7	386.8	572.7	621.2	698.8
<b>1 0 1 1 1 0</b>	D1-O	254.0	460.3	259.9	466.4	274.8	481.9	311.0	517.4	399.5	587.7	634.1	721.4
<b>1 0 1 1 1 1</b>	D1-O	214.2	468.2	219.7	473.9	233.8	488.0	268.2	519.7	355.1	583.6	589.1	709.7
<b>1 1 0 1 0 1</b>	D1-O	241.8	457.2	247.6	463.0	262.5	477.2	298.5	508.7	386.8	572.7	621.2	698.8
<b>1 1 0 1 1 0</b>	D1-O	254.0	460.3	259.9	466.4	274.8	481.9	311.0	517.4	399.5	587.7	634.0	721.4
<b>1 1 0 1 1 1</b>	D1-O	214.2	468.2	219.7	473.9	233.8	488.0	268.2	519.7	355.0	583.6	589.1	709.7
<b>1 1 1 0 0 1</b>	D1-O	241.8	457.2	247.6	463.0	262.5	477.2	298.5	508.7	386.8	572.7	621.2	698.8
<b>1 1 1 0 1 0</b>	D1-O	254.0	460.3	259.9	466.4	274.8	481.9	311.0	517.4	399.5	587.7	634.0	721.4
<b>1 1 1 0 1 1</b>	D1-O	214.2	468.2	219.7	473.9	233.8	488.0	268.2	519.7	355.0	583.6	589.1	709.7
<b>1 1 1 1 0 1</b>	D1-O	241.8	457.2	247.6	463.0	262.5	477.2	298.6	508.7	386.9	572.7	621.2	698.8
<b>1 1 1 1 1 0</b>	D1-O	254.0	460.4	259.9	466.4	274.8	481.9	311.1	517.4	399.6	587.7	634.1	721.4
<b>1 1 1 1 1 1</b>	D1-O	214.2	468.2	219.7	473.9	233.8	488.0	268.2	519.7	355.2	583.6	589.1	709.7

Group Name : OAI112

Symbol

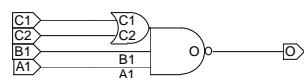
Function : OR2 into ND3



Truth Table

Schematic

A1	B1	C1	C2	O
0	X	X	X	1
X	0	X	X	1
X	X	0	0	1
OTHERS				0



Pin Order O A1 B1 C1 C2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	B1	C1	C2	O	
OAI112BLD	1.538	1.711	1.996	2.225	63.22	3.999
OAI112ELD	1.284	1.412	1.692	1.864	139.3	9.709
OAI112HLD	1.592	1.736	2.000	2.226	281.3	14.79
OAI112KLD	1.589	1.735	1.999	2.226	562.3	22.76

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OAI112BLD

Cell Unit = 7

State	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	98.88	101.4	118.8	118.1	159.6	152.6	244.5	225.8	430.8	382.9
1 0	A1-O	98.22	82.19	118.2	99.63	159.1	134.7	244.1	207.2	430.4	363.5
1 1	A1-O	97.70	76.15	117.6	91.43	158.7	122.2	243.7	184.0	430.0	316.0
0 1	B1-O	113.3	105.9	132.7	122.1	173.1	156.4	258.1	229.1	444.7	385.9
1 0	B1-O	112.7	88.50	132.0	104.9	172.3	138.9	257.3	211.2	443.0	367.0
1 1	B1-O	112.3	80.13	131.5	94.26	171.7	123.5	257.0	184.8	442.4	316.7
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C2-O	155.8	114.6	178.3	130.5	227.0	164.2	332.2	236.6	561.4	393.7
	C1-O	143.5	99.84	166.5	115.7	215.6	149.5	321.2	221.7	550.4	378.2
										1050	721.5

Version : OAI112ELD

Cell Unit = 10

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
C1 C2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	242.4	227.4	254.0	234.9	277.4	248.4	326.8	272.9	433.9	319.3	669.3	415.1
1 0	A1-O	227.8	207.8	239.1	215.1	262.1	228.6	311.7	253.1	418.7	299.4	655.8	395.2
1 1	A1-O	227.3	196.1	238.6	203.5	261.5	217.1	311.2	241.2	418.1	287.5	655.3	383.3
0 1	B1-O	259.4	232.7	270.9	240.2	294.6	253.7	344.0	278.2	451.8	324.5	687.7	420.4
1 0	B1-O	244.8	213.6	256.0	221.0	279.5	234.7	328.5	258.9	435.9	305.3	671.3	401.1
1 1	B1-O	244.3	199.5	255.4	206.8	279.0	220.5	328.0	244.5	435.4	290.8	670.8	386.7
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C2-O	281.8	241.7	293.0	249.1	316.5	262.7	365.7	286.9	473.5	333.4	709.1	429.2
	C1-O	269.5	224.7	280.9	232.0	304.0	245.5	353.6	270.0	461.6	316.3	697.7	412.1

Version : OAI112HLD

Cell Unit = 12

State		Output Load											
C1 C2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	223.2	235.2	231.0	240.9	248.0	252.4	286.5	274.0	379.4	317.0	607.9	411.3
1 0	A1-O	209.0	214.8	216.5	220.5	233.3	232.0	271.6	253.5	364.8	296.4	593.1	390.8
1 1	A1-O	208.7	202.3	216.1	208.0	232.9	219.2	271.3	240.9	364.5	283.7	592.8	378.1
0 1	B1-O	237.4	240.4	245.1	246.1	262.1	257.5	300.4	279.2	393.5	322.1	621.9	416.5
1 0	B1-O	223.0	220.5	230.6	226.2	247.3	237.4	285.7	259.2	378.7	302.1	607.0	396.5
1 1	B1-O	222.6	205.4	230.2	211.1	246.9	222.5	285.3	243.9	378.2	286.7	606.6	381.1
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C2-O	277.0	247.5	284.7	253.3	301.8	264.7	340.1	286.4	433.1	329.3	661.5	423.7
	C1-O	265.9	230.1	273.6	235.8	290.4	247.3	328.9	268.8	421.8	311.7	650.1	406.1

Version : OAI112KLD

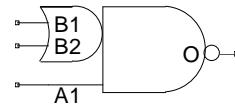
Cell Unit = 14

State		Output Load											
C1 C2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	245.6	268.2	250.9	272.8	263.9	283.1	294.4	303.9	373.9	346.1	592.7	440.9
1 0	A1-O	229.3	247.8	234.6	252.3	247.2	262.3	277.6	283.3	357.1	325.5	575.9	420.3
1 1	A1-O	229.0	233.9	234.2	238.4	246.9	248.5	277.3	269.4	356.7	311.5	575.6	406.2
0 1	B1-O	259.6	273.3	265.0	277.8	277.8	288.2	308.5	308.9	388.0	351.1	606.8	446.0
1 0	B1-O	243.1	253.4	248.4	257.7	261.1	267.9	291.6	288.9	371.2	331.1	589.9	425.9
1 1	B1-O	242.7	236.7	247.9	241.2	260.7	251.4	291.2	272.1	370.7	314.3	589.4	409.0
	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	C2-O	300.2	280.4	305.5	285.0	318.4	295.2	348.9	316.3	428.3	358.5	647.1	453.2
	C1-O	288.9	262.8	294.3	267.3	307.3	277.8	337.9	298.4	417.2	340.6	636.1	435.3

Group Name : OAI12

Symbol

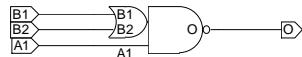
Function : OR2 into ND2



Truth Table

Schematic

A1	B1	B2	O
0	X	X	1
X	0	0	1
OTHERS			0



Pin Order O A1 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	A1	B1	B2	O		O	
OAI12CLD	1.632	1.997	2.229	64.74		3.219	
OAI12ELD	1.457	1.692	1.867	139.5		9.198	
OAI12HLD	1.552	1.888	2.105	281.3		13.82	
OAI12KLD	1.639	2.000	2.228	562.5		22.17	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version : OAI12CLD

Cell Unit = 6

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A1-O	88.63	76.41	109.0	89.86	150.5	116.7	236.0	169.8	421.9	281.5	828.1	524.1
1 0	A1-O	87.77	62.14	108.3	76.19	149.8	103.9	235.3	157.4	421.5	268.7	827.1	510.6
1 1	A1-O	87.41	56.41	107.9	67.58	149.3	90.05	234.7	132.6	420.8	218.6	826.5	403.7
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	B2-O	131.3	83.41	153.8	95.57	202.0	121.0	307.1	173.1	535.2	284.2	1034	526.6
	B1-O	118.5	72.73	141.8	85.43	191.1	110.8	296.2	162.9	524.8	273.7	1024	515.7

Version : OAI12ELD

Cell Unit = 9

State		Output Load												
B1 B2		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
0 1	A1-O		202.3	192.0	213.6	199.4	236.7	213.1	286.2	237.1	393.7	283.4	630.1	379.2
1 0	A1-O		189.6	177.8	200.5	185.3	223.6	198.8	273.1	223.0	380.5	269.3	616.9	365.1
1 1	A1-O		189.2	166.4	200.2	173.7	223.2	187.3	272.7	211.3	380.1	257.6	616.6	353.4
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
	B2-O		248.5	199.4	259.7	206.7	283.0	220.3	332.3	244.7	439.6	290.9	674.6	386.7
	B1-O		235.5	186.9	246.5	194.3	269.9	207.8	319.1	232.2	426.2	278.4	661.4	374.2

Version : OAI12HLD

Cell Unit = 11

State		Output Load												
B1 B2		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
0 1	A1-O		207.3	207.1	215.0	212.8	231.8	223.9	270.1	245.4	363.1	288.1	591.5	382.4
1 0	A1-O		192.1	189.4	199.5	195.0	216.5	206.1	254.8	227.4	347.7	270.1	576.2	364.4
1 1	A1-O		191.7	175.4	199.2	181.0	216.2	192.2	254.4	213.7	347.3	256.1	575.8	350.4
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
	B2-O		240.7	214.1	248.3	219.7	265.1	230.8	303.5	252.1	396.4	294.8	624.8	389.0
	B1-O		228.8	198.6	236.3	204.1	253.1	215.3	291.5	236.6	384.6	279.2	613.0	373.6

Version : OAI12KLD

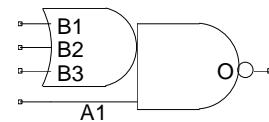
Cell Unit = 13

State		Output Load												
B1 B2		Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
0 1	A1-O		226.8	227.7	232.1	232.1	244.7	242.3	275.3	263.1	354.7	305.3	573.5	400.0
1 0	A1-O		210.7	212.7	215.8	217.0	228.1	227.2	258.2	248.0	337.9	290.2	556.6	384.9
1 1	A1-O		210.3	199.5	215.4	204.0	227.7	214.4	257.8	234.8	337.5	276.9	556.2	371.6
		Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
			tplh	tphl										
	B2-O		265.7	234.3	270.9	238.9	283.3	248.9	313.8	269.8	393.2	311.9	612.0	406.7
	B1-O		254.0	221.5	259.2	225.8	271.7	236.0	301.9	256.9	381.5	299.0	600.3	393.7

Group Name : OAI13

Symbol

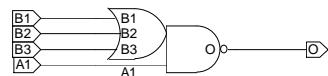
Function : OR3 into ND2



Truth Table

Schematic

A1	B1	B2	B3	O
0	X	X	X	1
X	0	0	0	1
OTHERS				0



Pin Order O A1 B1 B2 B3

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	B1	B2	B3	O	
OAI13BLD	1.410	1.870	1.923	2.060	40.84	3.260
OAI13ELD	1.373	1.557	1.545	1.623	139.5	9.181
OAI13HLD	1.740	1.979	2.029	2.164	281.3	14.14
OAI13KLD	1.736	1.979	2.029	2.164	562.3	22.41

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OAI13BLD

Cell Unit = 7

State	Output Load													
	B1 B2 B3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
0 0 1	A1-O		97.11	92.92	121.1	108.9	170.8	140.6	274.9	205.1	500.6	340.3	989.4	633.5
0 1 0	A1-O		97.12	83.99	121.1	99.53	170.5	130.4	274.0	193.2	499.9	326.5	989.4	618.2
0 1 1	A1-O		96.78	73.71	120.7	86.64	169.3	112.1	273.3	161.7	499.1	264.9	988.8	488.4
1 0 0	A1-O		96.17	67.01	120.2	83.12	169.5	115.0	272.8	178.0	497.6	310.6	988.0	601.9
1 0 1	A1-O		95.77	59.95	119.7	73.51	168.7	99.73	272.1	149.9	497.0	253.0	987.4	475.6
1 1 0	A1-O		95.77	59.95	119.7	73.51	168.7	99.73	272.1	149.9	497.0	253.0	987.4	475.6
1 1 1	A1-O		95.63	57.71	119.5	70.45	168.5	94.95	271.8	141.6	496.7	236.1	987.1	438.9
	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
	B3-O		194.4	99.82	227.9	115.1	302.4	146.1	461.8	210.1	813.5	345.5	1583	638.8
	B2-O		180.8	94.73	215.3	109.1	289.1	138.4	450.0	200.7	800.4	334.2	1569	626.1
	B1-O		147.4	80.63	182.5	95.44	257.0	124.9	417.9	187.0	769.2	320.0	1539	611.4

Version : OAI13ELD

Cell Unit = 11

State	Output Load													
	B1 B2 B3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
0 0 1	A1-O		199.5	214.4	210.8	221.8	234.0	235.1	283.4	259.6	391.5	305.9	626.9	401.7
0 1 0	A1-O		198.2	203.2	209.4	210.5	232.4	224.1	281.9	248.2	389.6	294.4	625.5	390.2
0 1 1	A1-O		197.9	187.1	209.0	194.3	232.1	207.9	281.6	231.8	389.3	278.1	625.1	373.9
1 0 0	A1-O		186.6	187.6	197.5	194.9	220.5	208.4	270.0	232.6	377.4	278.8	613.9	374.6
1 0 1	A1-O		186.2	174.6	197.1	181.9	220.1	195.3	269.7	219.4	377.0	265.6	613.5	361.4
1 1 0	A1-O		186.2	174.6	197.1	181.9	220.1	195.3	269.7	219.4	377.0	265.6	613.5	361.4
1 1 1	A1-O		186.1	170.3	197.0	177.6	220.0	191.1	269.5	215.1	376.9	261.3	613.4	357.1
	Path		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
	B3-O		355.8	221.9	367.2	229.4	390.7	242.7	439.7	267.2	547.8	313.5	784.1	409.3
	B2-O		342.5	212.8	353.7	220.2	377.3	233.4	426.5	257.9	534.4	304.1	770.1	399.9
	B1-O		308.2	198.5	319.5	205.8	343.1	219.3	392.0	243.4	500.2	289.6	736.5	385.4

Version : OAI13HLD

Cell Unit = 12

State		Output Load													
B1 B2 B3		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
				tplh	tphl	tplh	tphl								
0 0 1	A1-O	196.4	216.0	204.2	221.9	221.2	233.8	259.6	256.3	352.7	299.9	581.0	395.0		
0 1 0	A1-O	194.1	205.2	201.6	211.2	218.4	222.9	256.8	245.3	349.8	288.9	578.2	383.9		
0 1 1	A1-O	193.8	190.5	201.3	196.5	218.1	208.3	256.5	230.3	349.6	273.9	577.9	369.0		
1 0 0	A1-O	180.5	190.1	188.0	196.0	204.6	207.8	243.1	230.2	336.1	273.8	564.4	368.9		
1 0 1	A1-O	180.2	178.4	187.6	184.4	204.3	195.9	242.8	218.3	335.8	261.8	564.1	356.8		
1 1 0	A1-O	180.2	178.4	187.6	184.4	204.3	195.9	242.8	218.3	335.8	261.8	564.1	356.8		
1 1 1	A1-O	180.1	174.6	187.5	180.6	204.2	192.4	242.7	214.5	335.7	258.0	564.0	353.1		
Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff			
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	B3-O	341.1	223.3	348.9	229.3	366.1	241.1	404.5	263.4	497.4	307.2	725.9	402.2		
	B2-O	328.3	214.6	336.1	220.5	353.3	232.3	391.7	254.5	484.5	298.3	713.1	393.2		
	B1-O	294.6	200.7	302.4	206.6	319.4	218.4	357.9	240.6	450.6	284.4	679.1	379.3		

Version : OAI13KLD

Cell Unit = 15

State		Output Load													
B1 B2 B3		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
				tplh	tphl	tplh	tphl								
0 0 1	A1-O	221.6	239.0	227.1	243.6	240.3	253.9	271.0	274.5	350.6	316.7	569.3	411.5		
0 1 0	A1-O	217.3	228.0	222.6	232.5	235.4	242.5	266.0	263.4	345.5	305.5	564.3	400.2		
0 1 1	A1-O	217.0	211.8	222.3	216.3	235.0	226.4	265.5	247.4	345.0	289.4	563.9	384.0		
1 0 0	A1-O	202.0	213.1	207.3	217.6	219.7	227.8	250.0	248.4	329.7	290.5	548.5	385.2		
1 0 1	A1-O	201.7	200.0	206.9	204.4	219.4	214.5	249.7	235.3	329.3	277.3	548.1	371.9		
1 1 0	A1-O	201.7	200.0	206.9	204.4	219.4	214.5	249.7	235.3	329.3	277.3	548.1	371.9		
1 1 1	A1-O	201.6	195.7	206.8	200.2	219.3	210.3	249.6	231.3	329.2	273.3	548.0	367.7		
Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff			
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
	B3-O	375.7	245.8	381.3	250.3	394.5	260.6	425.5	281.6	504.9	323.7	723.8	418.4		
	B2-O	362.8	236.8	368.5	241.3	381.7	251.5	412.6	272.3	492.1	314.5	710.9	409.1		
	B1-O	329.2	223.0	334.9	227.5	348.0	237.7	378.9	258.7	458.3	300.6	677.2	395.3		

Group Name : OAI22

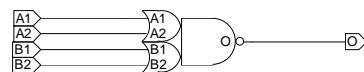
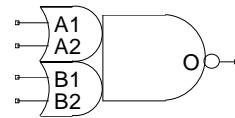
Symbol

Function : 2 OR2 into ND2

Truth Table

Schematic

A1	A2	B1	B2	O
0	0	X	X	1
X	X	0	0	1
OTHERS				0



Pin Order O A1 A2 B1 B2

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading	Power Consumption
	A1	A2	B1	B2	O	
OAI22CLD	2.194	1.941	2.106	2.332	61.37	4.738
OAI22ELD	1.761	1.556	1.687	1.853	139.4	10.46
OAI22HLD	1.833	1.605	1.760	1.913	281.4	14.77
OAI22KLD	1.899	1.652	1.802	1.969	562.3	22.98

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OAI22CLD

Cell Unit = 7

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	A2-O	104.0	77.32	127.6	88.73	176.8	111.6	283.6	157.8	514.1	253.7	1012	460.5
1 0	A2-O	103.1	65.08	126.9	77.21	176.2	100.6	282.4	147.1	511.3	242.6	1010	449.0
1 1	A2-O	102.6	58.61	126.3	68.84	175.4	87.76	281.5	124.8	510.4	199.0	1009	357.1
0 1	A1-O	120.5	87.58	143.1	98.94	191.9	121.4	296.3	167.1	525.1	263.3	1024	470.5
1 0	A1-O	119.2	75.73	141.7	87.31	190.1	110.6	295.0	156.6	523.6	252.5	1022	459.1
1 1	A1-O	118.8	66.97	141.2	76.56	189.5	95.47	294.2	132.2	522.8	206.4	1022	364.9
A1 A2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1	B2-O	152.2	85.18	174.6	95.26	222.9	116.9	327.9	161.7	556.9	256.8	1057	463.6
1 0	B2-O	152.9	95.58	176.4	106.1	223.9	127.9	329.8	172.7	559.2	268.2	1058	475.5
1 1	B2-O	163.1	78.92	185.1	87.82	233.9	105.9	338.2	141.9	567.2	216.5	1067	377.1
0 1	B1-O	139.4	76.56	162.3	86.89	211.2	108.5	316.6	153.2	545.7	248.0	1046	454.4
1 0	B1-O	140.2	87.02	162.8	97.67	213.1	119.3	318.6	164.2	548.0	259.5	1047	466.5
1 1	B1-O	150.7	71.58	173.1	80.75	221.5	99.01	326.9	135.3	556.1	209.6	1056	369.9

Version : OAI22ELD

Cell Unit = 11

State	Output Load												
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2		tplh	tphl										
0 1	A2-O	236.0	205.1	247.5	212.5	270.8	226.1	320.1	250.2	428.3	296.5	663.9	392.3
1 0	A2-O	222.7	190.1	234.1	197.4	257.2	211.0	306.6	235.4	414.5	281.6	650.3	377.4
1 1	A2-O	222.1	176.9	233.6	184.3	256.6	197.6	306.1	222.0	414.1	268.3	649.4	364.0
0 1	A1-O	250.7	217.3	262.0	224.8	285.7	238.3	334.7	262.8	442.3	309.0	677.8	404.9
1 0	A1-O	237.4	203.6	248.8	211.0	271.9	224.7	321.3	248.8	429.2	295.1	664.4	391.0
1 1	A1-O	236.9	187.5	248.4	194.9	271.5	208.5	320.9	232.5	428.8	278.7	663.1	374.6
A1 A2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1	B2-O	275.3	213.5	286.4	220.9	309.9	234.5	358.8	258.7	466.5	305.0	702.0	400.8
1 0	B2-O	289.9	227.8	301.3	235.1	324.7	248.4	374.4	272.8	482.4	319.1	718.7	414.9
1 1	B2-O	285.6	203.2	296.9	210.5	320.3	224.1	369.4	248.2	476.3	294.5	711.5	390.4
0 1	B1-O	263.0	201.5	274.1	208.9	297.1	222.6	346.7	246.7	454.6	293.0	690.3	388.8
1 0	B1-O	277.1	215.9	288.7	223.5	311.9	236.7	361.5	261.2	469.4	307.4	705.7	403.2
1 1	B1-O	273.3	193.5	284.4	200.8	307.6	214.4	357.1	238.4	464.8	284.8	700.3	380.6

Version : OAI22HLD

Cell Unit = 12

State	Output Load										56.20 ff		139.0 ff	
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
B1 B2		tplh	tphl	tplh	tphl									
0 1	A2-O	263.8	203.1	271.8	208.8	288.9	220.4	327.4	242.3	420.3	285.6	648.7	380.2	
1 0	A2-O	249.2	191.2	257.0	197.0	273.9	208.7	312.4	230.7	405.3	273.9	633.8	368.6	
1 1	A2-O	248.5	178.6	256.3	184.3	273.2	195.9	311.7	218.0	404.6	261.0	633.0	355.7	
0 1	A1-O	278.5	212.5	286.4	218.3	303.6	229.9	342.1	252.0	434.9	295.3	663.3	390.0	
1 0	A1-O	263.8	201.6	271.4	207.5	288.5	219.2	327.1	241.1	419.9	284.3	648.3	379.1	
1 1	A1-O	263.3	186.9	270.9	192.7	288.0	204.3	326.5	226.1	419.4	269.5	647.8	364.0	
A1 A2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		tplh	tphl	tplh	tphl									
0 1	B2-O	310.6	211.0	318.4	217.0	335.4	228.4	373.8	250.4	466.7	293.6	695.1	388.4	
1 0	B2-O	326.3	222.0	334.3	227.8	351.6	239.4	390.1	261.5	483.0	304.7	711.5	399.5	
1 1	B2-O	323.5	202.1	331.4	207.9	348.5	219.4	386.9	241.3	479.8	284.5	708.3	379.1	
0 1	B1-O	298.8	201.9	306.5	207.8	323.7	219.4	361.9	241.3	454.9	284.5	683.3	379.3	
1 0	B1-O	314.4	213.1	322.3	218.8	339.7	230.4	378.3	252.5	471.1	295.7	699.6	390.5	
1 1	B1-O	311.8	194.6	319.7	200.4	336.6	211.9	375.1	233.8	467.9	276.9	696.4	371.6	

Version : OAI22KLD

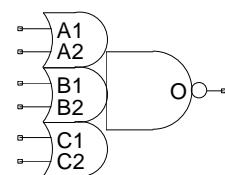
Cell Unit = 15

State	Output Load														
	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff				
B1 B2		Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl				
0 1	A2-O	287.1	230.9	292.7	235.3	305.9	245.5	336.7	266.5	416.2	308.5	635.1	403.1		
1 0	A2-O	270.0	218.7	275.4	223.2	288.3	233.6	319.1	254.0	398.5	296.1	617.3	390.7		
1 1	A2-O	269.3	204.6	274.7	209.1	287.9	219.2	318.5	240.1	397.8	281.9	616.7	376.5		
0 1	A1-O	301.5	241.2	306.8	245.7	320.1	255.7	351.0	276.5	430.5	318.6	649.3	413.3		
1 0	A1-O	284.3	229.5	289.7	234.0	302.8	244.1	333.5	264.9	412.9	307.0	631.7	401.6		
1 1	A1-O	283.8	213.0	289.2	217.5	302.2	227.6	332.8	248.6	412.3	290.5	631.1	385.1		
A1 A2		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0 1	B2-O	328.1	238.5	333.6	243.0	346.4	253.2	377.3	273.9	456.7	316.0	675.6	410.6		
1 0	B2-O	346.6	250.4	352.1	254.8	365.5	264.8	396.5	285.7	475.9	327.8	694.7	422.5		
1 1	B2-O	340.5	227.7	345.9	232.2	358.8	242.3	389.4	263.3	468.9	305.2	687.8	399.8		
0 1	B1-O	316.3	228.7	321.8	233.2	334.9	243.2	365.6	264.0	445.0	306.0	663.9	400.6		
1 0	B1-O	334.8	240.7	340.5	245.2	353.8	255.4	384.9	276.1	464.3	318.1	683.1	412.8		
1 1	B1-O	328.6	219.8	334.1	224.2	347.2	234.4	377.8	255.4	457.2	297.2	676.0	391.8		

Group Name : OAI222

Symbol

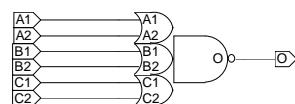
Function : 3 OR2 into ND3



Truth Table

Schematic

A1	A2	B1	B2	C1	C2	O
0	0	X	X	X	X	1
X	X	0	0	X	X	1
X	X	X	X	0	0	1
OTHERS						0



Pin Order O A1 A2 B1 B2 C1 C2

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance						Maximum Loading	Power Consumption
	A1	A2	B1	B2	C1	C2		
OAI222BLD	2.254	1.993	2.026	2.299	2.281	2.165	56.53	7.162
OAI222ELD	1.549	1.428	1.459	1.578	1.571	1.544	139.2	11.12
OAI222HLD	1.909	1.724	1.758	1.943	1.953	1.861	281.3	16.62
OAI222KLD	2.011	1.800	1.849	2.047	2.067	1.962	562.3	25.06

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OAI222BLD

Cell Unit = 11

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2 C1 C2		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1	A2-O	124.6	98.69	147.6	111.9	197.9	139.7	303.0	198.0	532.7	322.7	1030	595.3
0 1 1 0	A2-O	125.4	116.3	148.5	129.9	200.3	158.0	305.7	218.4	535.4	347.0	1031	627.0
0 1 1 1	A2-O	124.2	91.46	147.2	103.1	197.4	127.3	302.5	177.4	532.3	283.8	1030	515.0
1 0 0 1	A2-O	123.8	84.21	147.0	97.58	196.3	125.7	301.4	183.6	530.2	308.2	1029	580.3
1 0 1 0	A2-O	124.6	101.3	147.7	114.9	198.4	143.4	303.5	203.3	532.8	331.3	1030	611.2
1 0 1 1	A2-O	123.4	79.01	146.5	90.86	195.6	115.5	301.0	165.8	529.7	271.8	1029	502.4
1 1 0 1	A2-O	123.4	77.42	146.4	89.11	195.5	113.4	300.8	163.1	529.6	268.0	1029	496.0
1 1 1 0	A2-O	124.2	91.80	147.2	103.7	197.6	128.3	302.9	179.5	532.3	288.1	1030	524.4
1 1 1 1	A2-O	122.8	71.67	145.8	81.31	195.0	101.9	300.3	143.2	529.1	228.6	1028	413.7
0 1 0 1	A1-O	138.1	111.1	159.5	124.0	208.6	151.6	313.8	209.9	543.3	334.9	1041	607.6
0 1 1 0	A1-O	139.5	128.6	160.2	141.9	210.2	170.0	316.5	230.6	546.1	359.3	1042	639.6
0 1 1 1	A1-O	137.8	102.3	159.1	113.7	208.2	137.6	313.4	187.6	542.9	294.0	1040	525.7
1 0 0 1	A1-O	136.8	96.53	158.9	110.0	207.3	137.6	312.1	195.7	540.7	320.2	1039	592.6
1 0 1 0	A1-O	138.2	114.0	159.7	127.3	208.7	155.6	314.4	215.5	543.4	343.9	1041	623.9
1 0 1 1	A1-O	136.5	89.41	158.5	101.4	206.9	125.5	311.7	175.4	540.3	281.7	1039	512.8
1 1 0 1	A1-O	136.4	87.47	158.4	99.17	206.8	123.2	311.6	172.7	540.2	277.7	1039	506.2
1 1 1 0	A1-O	137.8	102.7	159.1	114.3	208.2	138.6	313.9	189.6	542.9	298.3	1040	535.0
1 1 1 1	A1-O	136.1	79.97	157.9	89.97	206.2	110.1	311.1	151.1	539.6	236.7	1038	422.1
A1 A2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1	B2-O	175.7	114.6	197.9	127.2	246.8	154.3	351.3	211.7	580.4	335.9	1080	608.1
0 1 1 0	B2-O	177.6	131.8	199.4	145.2	247.9	172.8	352.9	232.6	582.2	360.7	1081	640.7
0 1 1 1	B2-O	175.1	103.1	197.3	114.0	246.0	137.4	350.5	186.5	579.6	292.1	1080	522.8
1 0 0 1	B2-O	177.5	128.1	199.3	141.0	247.7	167.9	352.7	226.2	582.4	350.8	1081	623.5
1 0 1 0	B2-O	179.7	146.3	201.1	159.2	248.8	187.2	354.8	247.2	584.2	376.3	1082	656.7
1 0 1 1	B2-O	176.9	114.5	198.7	125.7	247.0	148.9	352.0	198.6	581.6	304.5	1080	535.7
1 1 0 1	B2-O	187.2	107.3	209.4	118.7	258.4	142.3	362.5	192.1	591.7	299.0	1092	532.4
1 1 1 0	B2-O	188.7	123.0	210.6	134.4	260.2	158.6	363.9	210.7	593.6	321.4	1093	562.9
1 1 1 1	B2-O	186.5	95.98	208.7	105.6	257.6	125.3	361.7	166.4	590.8	253.5	1091	442.9
0 1 0 1	B1-O	163.5	103.0	186.2	115.9	234.7	142.8	339.9	200.3	569.2	324.2	1070	595.8
0 1 1 0	B1-O	164.3	120.1	188.4	133.1	235.4	161.2	342.0	220.6	571.2	348.3	1071	628.0
0 1 1 1	B1-O	162.5	93.54	185.2	104.7	233.5	127.8	338.8	176.8	568.1	282.1	1068	512.4
1 0 0 1	B1-O	164.1	116.7	188.3	129.5	235.3	156.7	341.7	214.4	571.1	338.8	1070	611.0
1 0 1 0	B1-O	164.9	134.1	190.8	147.4	236.1	175.2	344.5	235.2	573.1	363.5	1072	643.6
1 0 1 1	B1-O	163.0	104.9	187.1	115.8	234.2	139.2	340.5	188.6	569.9	294.2	1069	525.0
1 1 0 1	B1-O	175.3	96.79	197.7	108.3	246.6	132.5	350.8	182.0	580.5	288.8	1081	521.9
1 1 1 0	B1-O	176.0	112.2	199.9	124.0	248.0	148.5	352.9	200.3	582.3	310.9	1083	552.1
1 1 1 1	B1-O	174.2	87.83	196.8	97.51	245.5	117.6	349.6	158.6	579.3	245.4	1080	434.4

A1 A2 B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1	C2-O	191.9	123.4	214.1	135.9	263.9	162.8	369.2	220.3	600.3	345.1	1102	617.7
0 1 1 0	C2-O	189.7	110.1	212.4	122.6	262.4	149.0	368.4	206.3	598.8	330.2	1101	602.2
0 1 1 1	C2-O	198.0	103.7	221.1	114.4	271.2	137.1	377.8	185.4	608.5	289.5	1111	517.6
1 0 0 1	C2-O	194.6	136.8	216.2	149.6	265.7	176.9	370.3	234.5	601.9	359.7	1104	633.0
1 0 1 0	C2-O	191.9	123.4	214.1	135.9	263.9	162.8	369.2	220.3	600.3	345.1	1102	617.7
1 0 1 1	C2-O	200.3	114.6	222.0	125.4	272.9	148.3	378.4	196.9	610.1	301.6	1113	530.2
1 1 0 1	C2-O	205.2	113.8	226.4	124.9	277.2	148.1	381.8	198.0	612.3	304.5	1115	537.9
1 1 1 0	C2-O	203.1	102.8	226.1	113.5	275.3	136.8	381.3	185.7	610.8	292.0	1113	524.9
1 1 1 1	C2-O	212.2	95.70	235.8	104.8	284.6	123.9	391.3	163.5	620.9	248.4	1124	433.5
0 1 0 1	C1-O	206.2	139.8	228.7	152.8	278.6	180.8	384.3	239.8	615.7	368.4	1116	648.9
0 1 1 0	C1-O	204.5	126.1	227.3	138.8	277.1	166.3	382.8	225.3	613.4	353.3	1115	633.1
0 1 1 1	C1-O	212.9	117.2	236.0	128.3	285.9	151.9	392.0	202.0	623.0	310.0	1125	546.0
1 0 0 1	C1-O	208.5	154.1	230.8	167.4	280.3	195.1	386.3	254.5	618.0	383.5	1117	664.6
1 0 1 0	C1-O	206.2	139.8	228.7	152.8	278.6	180.8	384.3	239.8	615.7	368.4	1116	648.9
1 0 1 1	C1-O	214.5	128.7	237.1	139.8	287.6	163.8	393.3	213.9	625.1	322.4	1126	558.9
1 1 0 1	C1-O	219.4	128.4	241.4	139.8	291.9	163.8	396.4	215.6	627.5	326.2	1128	567.7
1 1 1 0	C1-O	217.9	116.4	240.9	127.8	290.0	151.8	395.2	203.0	625.4	313.1	1127	554.1
1 1 1 1	C1-O	227.2	107.7	250.9	117.2	299.4	136.9	405.0	178.6	635.6	267.6	1138	461.5

Version : OAI222ELD

Cell Unit = 14

State	Output Load											
	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1 B2 C1 C2		Path	tplh	tphl								
0 1 0 1	A2-O		309.4	212.5	320.9	220.0	344.5	233.7	393.9	258.0	501.3	304.4
0 1 1 0	A2-O		321.2	223.4	333.1	230.9	357.1	244.5	406.5	269.1	514.3	315.4
0 1 1 1	A2-O		308.5	200.5	320.0	207.9	343.6	221.5	393.1	245.9	500.4	292.2
1 0 0 1	A2-O		297.6	201.4	309.1	208.8	332.4	222.6	382.1	246.7	490.1	293.1
1 0 1 0	A2-O		310.0	213.5	321.6	221.0	345.2	234.7	394.6	259.1	501.9	305.4
1 0 1 1	A2-O		296.7	191.2	308.2	198.6	331.5	212.0	381.2	236.5	489.3	282.7
1 1 0 1	A2-O		296.7	190.6	308.1	198.0	331.5	211.4	381.2	235.9	489.2	282.2
1 1 1 0	A2-O		309.0	200.6	320.6	208.0	344.2	221.8	393.6	245.9	501.1	292.2
1 1 1 1	A2-O		295.9	180.0	307.4	187.4	330.7	200.8	380.4	225.2	488.5	271.4
0 1 0 1	A1-O		323.3	220.9	334.7	228.4	358.5	241.9	408.6	266.5	516.5	312.8
0 1 1 0	A1-O		335.1	232.4	347.0	239.8	370.8	253.4	420.4	278.0	528.0	324.4
0 1 1 1	A1-O		322.7	207.8	334.2	215.2	357.9	228.9	408.1	253.1	515.9	299.4
1 0 0 1	A1-O		311.6	210.3	322.9	217.7	346.5	231.4	395.5	255.7	503.3	302.0
1 0 1 0	A1-O		323.9	221.9	335.4	229.3	359.1	242.9	409.3	267.5	517.1	313.8
1 0 1 1	A1-O		311.0	198.6	322.3	206.0	346.0	219.7	394.9	243.9	502.7	290.2
1 1 0 1	A1-O		311.0	198.1	322.3	205.4	345.9	218.8	394.9	243.2	502.7	289.6
1 1 1 0	A1-O		323.3	207.9	334.8	215.4	358.5	229.0	408.7	253.3	516.5	299.6
1 1 1 1	A1-O		310.3	186.3	321.6	193.5	345.3	206.8	394.3	231.2	502.1	277.5
A1 A2 C1 C2		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
			tplh	tphl								
0 1 0 1	B2-O		387.9	230.7	399.3	238.2	423.0	251.7	472.0	276.2	579.8	322.6
0 1 1 0	B2-O		400.0	241.7	411.5	249.2	435.4	262.8	485.5	287.4	593.2	333.7
0 1 1 1	B2-O		386.7	214.0	398.2	221.4	421.9	235.1	470.9	259.3	578.7	305.6
1 0 0 1	B2-O		399.3	240.7	410.8	248.1	434.7	261.8	484.6	286.3	592.4	332.7
1 0 1 0	B2-O		411.2	252.0	423.1	259.5	447.2	273.1	496.7	297.4	604.4	343.8
1 0 1 1	B2-O		398.2	222.3	409.7	229.8	433.5	243.4	483.6	267.7	591.3	314.0
1 1 0 1	B2-O		408.6	224.2	420.1	231.7	443.4	245.4	492.9	269.7	600.8	316.1
1 1 1 0	B2-O		420.3	233.7	431.9	241.2	455.9	254.7	505.1	279.3	612.8	325.6
1 1 1 1	B2-O		407.4	207.0	419.0	214.3	442.2	227.9	491.8	252.1	599.5	298.4
0 1 0 1	B1-O		373.4	221.9	384.9	229.4	408.6	243.1	457.4	267.4	565.6	313.7
0 1 1 0	B1-O		385.7	232.9	397.2	240.5	421.1	253.9	471.1	278.5	578.9	324.8
0 1 1 1	B1-O		372.1	206.7	383.6	214.0	407.3	227.7	456.2	251.8	564.1	298.1
1 0 0 1	B1-O		384.9	231.9	396.5	239.4	420.5	252.8	470.3	277.4	578.1	323.7
1 0 1 0	B1-O		396.4	243.0	408.4	250.5	432.3	264.1	482.5	288.6	589.8	334.8
1 0 1 1	B1-O		383.7	215.0	395.2	222.4	419.1	236.1	469.0	260.3	576.8	306.6
1 1 0 1	B1-O		394.1	216.7	405.7	224.1	428.9	237.7	478.5	262.0	586.3	308.4
1 1 1 0	B1-O		405.8	226.2	417.5	233.7	441.4	247.3	490.6	271.7	598.2	318.0
1 1 1 1	B1-O		392.8	200.7	404.4	208.0	427.6	221.6	477.1	245.8	584.8	292.1

A1 A2 B1 B2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1	C2-O	441.0	239.9	452.5	247.5	476.2	261.1	526.0	285.5	633.2	331.8	869.7	427.6
0 1 1 0	C2-O	429.1	230.0	440.5	237.5	464.2	251.1	514.0	275.3	621.9	321.7	858.0	417.6
0 1 1 1	C2-O	445.5	219.4	456.9	226.7	480.8	240.4	530.1	264.4	638.0	310.8	874.0	406.6
1 0 0 1	C2-O	451.7	249.9	463.7	257.3	487.7	270.9	537.2	295.5	644.8	341.8	880.4	437.7
1 0 1 0	C2-O	440.9	239.8	452.4	247.3	476.1	261.0	525.9	285.3	633.1	331.7	869.7	427.5
1 0 1 1	C2-O	457.3	227.6	468.9	234.9	492.7	248.7	542.9	272.7	650.6	319.1	887.1	414.9
1 1 0 1	C2-O	463.2	231.6	474.7	239.2	498.6	252.8	548.8	277.2	656.6	323.5	893.0	419.3
1 1 1 0	C2-O	451.3	223.2	462.7	230.7	486.5	244.3	535.8	268.6	643.6	315.0	879.7	410.8
1 1 1 1	C2-O	469.1	211.4	480.2	218.9	503.9	232.4	553.0	256.8	660.9	303.1	896.8	398.9
0 1 0 1	C1-O	458.1	249.7	469.6	257.2	493.4	270.6	542.8	295.2	650.1	341.6	885.7	437.5
0 1 1 0	C1-O	446.2	239.6	457.8	247.1	481.2	260.9	531.1	285.1	639.1	331.5	875.4	427.3
0 1 1 1	C1-O	462.5	227.4	473.8	234.8	497.8	248.4	547.2	272.5	655.1	318.9	891.2	414.8
1 0 0 1	C1-O	469.0	259.5	480.9	267.1	505.0	280.7	554.6	305.1	662.2	351.6	898.1	447.5
1 0 1 0	C1-O	458.0	249.5	469.5	257.1	493.2	270.5	542.7	295.1	650.0	341.5	885.7	437.3
1 0 1 1	C1-O	474.3	235.5	485.9	243.0	509.6	256.6	559.5	280.9	667.0	327.3	903.6	423.1
1 1 0 1	C1-O	480.2	239.9	491.7	247.4	515.5	260.9	565.7	285.4	673.4	331.8	909.9	427.6
1 1 1 0	C1-O	468.4	231.3	479.7	238.8	503.6	252.5	552.8	276.8	660.6	323.2	896.7	419.0
1 1 1 1	C1-O	485.6	218.3	497.2	225.6	520.9	239.0	570.0	263.4	677.9	309.8	913.9	405.7

Version : OAI222HLD

Cell Unit = 16

State	Output Load											
	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
B1 B2 C1 C2		Path	tplh	tphl								
0 1 0 1	A2-O		288.8	228.5	296.8	234.4	314.1	245.9	352.6	268.0	445.5	311.3
0 1 1 0	A2-O		303.0	242.2	311.5	248.2	329.2	259.7	367.8	281.8	460.6	325.2
0 1 1 1	A2-O		288.2	215.0	296.3	220.7	313.6	232.3	352.0	254.3	445.0	297.5
1 0 0 1	A2-O		274.7	214.5	282.5	220.3	299.5	231.9	337.9	254.1	430.8	297.3
1 0 1 0	A2-O		289.7	229.7	297.8	235.6	315.2	247.1	353.6	269.2	446.5	312.5
1 0 1 1	A2-O		274.2	203.1	282.0	208.9	298.9	220.5	337.4	242.5	430.3	285.7
1 1 0 1	A2-O		274.1	202.5	281.9	208.3	298.9	219.9	337.3	242.0	430.2	285.2
1 1 1 0	A2-O		289.1	215.3	297.2	221.1	314.5	232.7	353.0	254.7	445.9	297.9
1 1 1 1	A2-O		273.5	190.6	281.3	196.3	298.3	207.9	336.8	229.9	429.6	273.0
0 1 0 1	A1-O		301.8	238.9	309.8	244.9	327.0	256.6	365.5	278.7	458.4	322.0
0 1 1 0	A1-O		316.0	253.8	324.3	259.6	342.0	271.3	380.7	293.4	473.5	336.8
0 1 1 1	A1-O		301.3	223.8	309.3	229.7	326.5	241.4	365.0	263.4	457.9	306.6
1 0 0 1	A1-O		287.5	225.6	295.4	231.5	312.4	243.2	350.9	265.4	443.8	308.6
1 0 1 0	A1-O		302.6	240.5	310.7	246.3	328.0	257.9	366.5	280.0	459.4	323.3
1 0 1 1	A1-O		287.1	212.6	294.7	218.5	312.0	230.2	350.5	252.0	443.3	295.2
1 1 0 1	A1-O		287.0	211.9	294.7	217.9	311.9	229.6	350.4	251.4	443.3	294.6
1 1 1 0	A1-O		302.2	224.2	310.2	230.0	327.5	241.7	366.0	263.8	458.9	307.0
1 1 1 1	A1-O		286.4	198.5	294.2	204.4	311.4	216.0	349.9	237.8	442.8	281.0
A1 A2 C1 C2		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff	
			tplh	tphl								
0 1 0 1	B2-O		343.6	245.7	351.5	251.5	368.7	263.2	407.2	285.4	500.1	328.6
0 1 1 0	B2-O		358.8	259.9	367.1	265.8	384.6	277.5	423.1	299.5	516.0	343.0
0 1 1 1	B2-O		342.7	227.3	350.6	233.2	367.8	244.6	406.3	266.6	499.3	309.9
1 0 0 1	B2-O		357.8	258.6	366.0	264.4	383.5	276.1	422.0	298.2	514.8	341.6
1 0 1 0	B2-O		372.5	272.6	380.9	278.5	398.7	290.2	437.3	312.4	530.1	355.7
1 0 1 1	B2-O		357.0	237.8	365.1	243.7	382.6	255.3	421.2	277.4	514.0	320.6
1 1 0 1	B2-O		358.9	237.6	366.7	243.4	384.0	255.1	422.1	277.2	515.1	320.5
1 1 1 0	B2-O		374.0	250.0	382.1	255.8	399.6	267.4	438.2	289.4	531.0	332.7
1 1 1 1	B2-O		358.0	218.7	365.8	224.6	383.1	236.2	421.3	258.0	514.2	301.3
0 1 0 1	B1-O		330.9	234.4	338.8	240.3	356.0	252.2	394.5	273.8	487.3	317.1
0 1 1 0	B1-O		346.4	248.4	354.5	254.3	371.9	266.0	410.4	288.1	503.4	331.4
0 1 1 1	B1-O		330.0	217.8	337.9	223.7	355.0	235.4	393.6	257.2	486.4	300.4
1 0 0 1	B1-O		345.4	247.1	353.4	253.0	370.7	264.7	409.2	286.8	502.2	330.1
1 0 1 0	B1-O		359.8	261.4	368.2	267.3	386.0	279.1	424.7	301.0	517.4	344.3
1 0 1 1	B1-O		344.4	228.6	352.5	234.5	369.8	245.9	408.3	267.9	501.2	311.1
1 1 0 1	B1-O		346.1	227.9	354.0	233.8	371.2	245.3	409.7	267.4	502.6	310.7
1 1 1 0	B1-O		361.3	239.9	369.5	245.8	387.0	257.5	425.6	279.6	518.4	322.9
1 1 1 1	B1-O		345.1	210.9	353.0	216.7	370.2	228.3	408.6	250.2	501.5	293.5

A1 A2 B1 B2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0 1	C2-O	386.6	253.9	394.6	259.9	412.1	271.6	450.7	293.7	543.6	337.0	772.0	431.7
0 1 1 0	C2-O	371.8	241.3	379.7	247.2	397.0	258.7	435.5	280.8	528.3	324.0	756.9	418.8
0 1 1 1	C2-O	384.2	229.5	392.1	235.4	409.4	247.0	447.6	269.0	540.8	312.1	769.3	406.9
1 0 0 1	C2-O	400.3	266.8	408.8	272.7	426.5	284.5	465.3	306.4	558.0	349.7	786.5	444.5
1 0 1 0	C2-O	386.5	253.8	394.6	259.7	412.0	271.5	450.5	293.5	543.4	336.8	771.8	431.5
1 0 1 1	C2-O	398.7	240.0	406.9	246.0	424.4	257.4	463.0	279.4	555.9	322.7	784.4	417.4
1 1 0 1	C2-O	403.0	244.1	411.3	250.1	428.8	261.8	467.3	283.6	560.4	327.0	788.8	421.7
1 1 1 0	C2-O	388.5	233.3	396.5	239.3	413.7	251.2	452.1	272.8	545.0	316.1	773.6	410.8
1 1 1 1	C2-O	401.8	220.7	409.7	226.5	427.0	238.2	465.2	260.0	558.2	303.3	786.7	398.0
0 1 0 1	C1-O	401.4	266.5	409.7	272.4	427.2	284.2	465.7	306.1	558.7	349.4	787.2	444.2
0 1 1 0	C1-O	386.8	253.5	394.7	259.5	412.0	271.2	450.4	293.3	543.3	336.6	771.9	431.3
0 1 1 1	C1-O	399.4	239.8	407.3	245.7	424.3	257.6	462.8	279.2	555.8	322.4	784.3	417.2
1 0 0 1	C1-O	415.4	279.1	423.8	285.0	441.6	296.8	480.3	318.9	573.2	362.3	801.7	457.0
1 0 1 0	C1-O	401.3	266.3	409.5	272.2	427.0	284.0	465.6	306.0	558.6	349.2	787.0	444.0
1 0 1 1	C1-O	413.9	250.3	422.0	256.1	439.5	267.8	478.2	289.9	571.0	333.1	799.5	427.9
1 1 0 1	C1-O	418.1	254.6	426.3	260.5	443.8	272.1	482.4	294.2	575.4	337.5	803.9	432.3
1 1 1 0	C1-O	403.6	243.8	411.5	249.7	428.7	261.4	467.1	283.4	560.1	326.6	788.6	421.3
1 1 1 1	C1-O	417.1	229.1	424.9	235.0	441.9	246.7	480.4	268.5	573.4	311.8	801.9	406.3

Version : OAI222KLD

Cell Unit = 19

State		Output Load															
B1	B2	C1	C2	Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
				tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0	1	0	1	A2-O	314.6	251.8	320.3	256.3	333.6	266.5	364.8	287.5	444.1	329.5	662.9	424.2	
0	1	1	0	A2-O	331.8	266.5	337.9	271.0	351.7	281.1	383.1	302.0	462.4	344.1	681.2	438.8	
0	1	1	1	A2-O	314.0	238.4	319.7	242.9	333.1	253.1	364.2	273.8	443.6	315.8	662.3	410.5	
1	0	0	1	A2-O	297.9	239.0	303.3	243.5	316.5	253.9	347.2	274.4	426.7	316.5	645.5	411.2	
1	0	1	0	A2-O	315.8	252.9	321.5	257.4	335.0	267.7	366.1	288.7	445.5	330.7	664.2	425.4	
1	0	1	1	A2-O	297.3	226.8	302.8	231.1	315.9	241.3	346.7	262.1	426.1	304.1	645.0	398.7	
1	1	0	1	A2-O	297.3	225.9	302.7	230.4	315.8	240.6	346.6	261.5	426.1	303.5	644.9	397.9	
1	1	1	0	A2-O	315.2	238.9	320.9	243.4	334.4	253.5	365.5	274.2	444.9	316.3	663.6	410.9	
1	1	1	1	A2-O	296.7	213.6	302.1	218.0	315.2	228.2	346.0	248.8	425.5	290.8	644.3	385.3	
0	1	0	1	A1-O	327.3	263.3	332.9	267.9	346.3	278.1	377.3	299.1	456.7	341.0	675.5	435.7	
0	1	1	0	A1-O	344.4	277.8	350.5	282.3	364.4	292.5	395.7	313.5	475.0	355.7	693.8	450.3	
0	1	1	1	A1-O	326.8	247.3	332.5	251.7	345.9	261.9	376.9	283.0	456.3	324.9	675.1	419.5	
1	0	0	1	A1-O	310.5	250.0	316.0	254.4	329.0	264.7	360.0	285.6	439.4	327.7	658.2	422.4	
1	0	1	0	A1-O	328.4	264.5	334.3	269.1	347.7	279.2	378.8	300.1	458.2	342.2	676.9	436.9	
1	0	1	1	A1-O	310.1	236.1	315.6	240.6	328.5	250.8	359.5	271.6	438.9	313.5	657.8	408.1	
1	1	0	1	A1-O	310.0	235.5	315.5	240.0	328.5	250.2	359.4	271.1	438.9	313.0	657.7	407.6	
1	1	1	0	A1-O	327.9	247.7	333.7	252.2	347.2	262.4	378.3	283.2	457.7	325.4	676.4	420.0	
1	1	1	1	A1-O	309.5	221.2	315.0	225.7	328.0	235.8	358.9	256.7	438.5	298.6	657.4	393.2	
A1 A2 C1 C2				Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
				tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0	1	0	1	B2-O	366.5	269.6	372.1	274.1	385.1	284.1	416.0	305.1	495.4	347.2	714.2	441.9	
0	1	1	0	B2-O	384.6	283.6	390.6	288.1	404.2	298.5	435.2	319.1	514.6	361.3	733.4	456.0	
0	1	1	1	B2-O	365.7	250.3	371.2	254.8	384.2	265.0	415.1	285.9	494.5	327.7	713.4	422.4	
1	0	0	1	B2-O	383.2	282.3	389.0	286.8	402.6	297.0	433.5	318.0	513.0	360.1	731.8	454.7	
1	0	1	0	B2-O	400.7	296.3	406.8	300.8	420.8	311.1	452.1	332.0	531.5	374.3	750.3	469.0	
1	0	1	1	B2-O	382.4	261.1	388.2	265.4	401.7	275.5	432.7	296.4	512.2	338.5	730.9	433.1	
1	1	0	1	B2-O	381.7	261.0	387.2	265.5	400.2	275.9	430.9	296.4	510.4	338.5	729.3	433.2	
1	1	1	0	B2-O	399.7	273.0	405.6	277.5	419.1	287.7	450.2	308.7	529.7	350.8	748.4	445.4	
1	1	1	1	B2-O	380.9	241.2	386.3	245.7	399.3	255.8	430.1	276.6	509.5	318.7	728.4	413.1	
0	1	0	1	B1-O	354.0	258.2	359.5	262.7	372.6	272.9	403.6	293.9	483.0	335.8	701.8	430.4	
0	1	1	0	B1-O	372.2	272.4	378.1	276.8	391.6	286.9	422.9	307.8	502.3	350.0	721.0	444.7	
0	1	1	1	B1-O	353.1	240.9	358.6	245.4	371.6	255.5	402.6	276.2	482.0	318.3	700.8	412.8	
1	0	0	1	B1-O	370.8	271.1	376.6	275.6	390.0	285.6	421.2	306.5	500.6	348.7	719.4	443.4	
1	0	1	0	B1-O	388.2	285.2	394.4	289.7	408.4	300.0	439.8	320.7	519.1	362.9	737.8	457.6	
1	0	1	1	B1-O	369.8	251.6	375.6	256.1	389.1	266.3	420.2	286.9	499.6	329.0	718.4	423.6	
1	1	0	1	B1-O	369.1	251.3	374.7	255.8	387.7	265.8	418.6	286.7	498.0	328.8	716.9	423.4	
1	1	1	0	B1-O	387.3	263.4	393.2	268.0	406.7	278.0	437.8	298.8	517.2	340.9	736.0	435.6	
1	1	1	1	B1-O	368.1	233.3	373.7	237.8	386.7	247.9	417.5	268.8	497.0	310.7	715.8	405.3	

A1 A2 B1 B2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0 1	C2-O	412.3	277.7	418.2	282.2	431.7	292.4	462.9	313.4	542.3	355.4	761.0	450.1
0 1 1 0	C2-O	395.0	265.0	400.5	269.5	413.7	279.7	444.7	300.4	524.1	342.5	742.9	437.2
0 1 1 1	C2-O	407.5	252.4	413.1	256.9	426.2	267.0	457.1	288.0	536.6	330.0	755.5	424.4
1 0 0 1	C2-O	428.6	290.5	434.7	295.0	448.7	305.2	480.2	326.2	559.5	368.1	778.2	462.8
1 0 1 0	C2-O	412.1	277.5	418.0	282.0	431.5	292.2	462.7	313.3	542.1	355.3	760.8	449.9
1 0 1 1	C2-O	424.6	263.1	430.4	267.6	444.0	277.7	475.1	298.4	554.5	340.5	773.3	435.1
1 1 0 1	C2-O	428.8	267.3	434.6	271.8	448.2	282.1	479.3	302.7	558.7	344.9	777.5	439.5
1 1 1 0	C2-O	411.6	256.4	417.2	260.9	430.3	271.1	461.2	292.0	540.6	334.1	759.4	428.6
1 1 1 1	C2-O	424.9	243.1	430.4	247.6	443.4	257.7	474.4	278.5	553.8	320.6	772.7	415.0
0 1 0 1	C1-O	427.2	290.1	433.1	294.6	446.6	304.9	477.8	325.8	557.1	367.8	775.9	462.5
0 1 1 0	C1-O	409.9	277.2	415.5	281.7	428.6	291.9	459.6	313.0	538.9	355.0	757.8	449.7
0 1 1 1	C1-O	422.6	262.8	428.1	267.3	441.1	277.4	472.1	298.4	551.6	340.2	770.4	434.9
1 0 0 1	C1-O	443.4	302.8	449.6	307.3	463.6	317.5	494.9	338.6	574.3	380.7	793.0	475.4
1 0 1 0	C1-O	427.0	289.9	432.9	294.5	446.4	304.7	477.6	325.7	556.9	367.6	775.7	462.3
1 0 1 1	C1-O	439.5	273.4	445.5	277.9	459.1	288.2	490.2	308.8	569.6	350.9	788.4	445.6
1 1 0 1	C1-O	443.6	277.8	449.5	282.3	463.1	292.7	494.2	313.3	573.6	355.4	792.4	450.1
1 1 1 0	C1-O	426.6	266.9	432.2	271.4	445.2	281.7	476.0	302.3	555.5	344.5	774.3	439.1
1 1 1 1	C1-O	439.9	251.5	445.2	256.0	458.5	266.1	489.5	286.8	568.9	328.9	787.7	423.5

Group Name : OAI2222

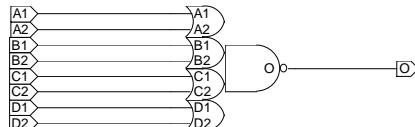
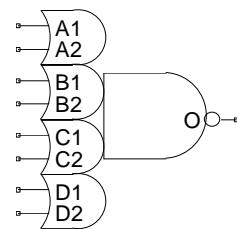
Symbol

Function : 4 OR2 into ND4

Truth Table

Schematic

A1	B1	C1	D1		O
A2	B2	C2	D2		O
0	0	X	X	X	1
X	X	0	0	X	1
X	X	X	X	0	1
X	X	X	X	X	1
				OTHERS	0



Pin Order O A1 A2 B1 B2 C1 C2 D1 D2

**Input Capacitance (ff) & Maximum Loading (ff)**

Version	Input Capacitance								Maximum Loading
	A1	A2	B1	B2	C1	C2	D1	D2	
OAI2222CLD	1.517	1.351	1.463	1.578	1.574	1.407	1.509	1.624	80.72
OAI2222ELD	1.881	1.660	1.799	1.970	1.935	1.715	1.845	2.016	139.6
OAI2222HLD	1.881	1.660	1.799	1.970	1.938	1.723	1.844	2.016	281.1
OAI2222KLD	1.881	1.660	1.799	1.970	1.944	1.726	1.844	2.016	561.1

**Power Consumption (nW/MHz)**

Version	Power Consumption
	O
OAI2222CLD	9.255
OAI2222ELD	12.29
OAI2222HLD	16.38
OAI2222KLD	23.68

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : OAI2222CLD

Cell Unit = 18

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
B1	B2	C1	C2	D1	D2	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 1 0 1 0 1	A2-O	303.5	263.9	322.4	277.1	362.2	300.5	446.9	342.3	632.1	421.5	1039	585.3
0 1 0 1 1 0	A2-O	303.5	263.9	322.4	277.1	362.2	300.5	446.9	342.3	632.1	421.5	1039	585.3
0 1 0 1 1 1	A2-O	303.4	263.3	322.4	276.6	362.2	300.0	446.8	341.8	632.1	421.0	1039	584.7
0 1 1 0 0 1	A2-O	303.5	263.9	322.4	277.1	362.2	300.5	446.9	342.3	632.1	421.5	1039	585.3
0 1 1 0 1 0	A2-O	303.5	263.9	322.4	277.1	362.2	300.5	446.9	342.3	632.1	421.5	1039	585.3
0 1 1 0 1 1	A2-O	303.4	263.3	322.4	276.6	362.2	300.0	446.8	341.8	632.1	421.0	1039	584.7
0 1 1 1 0 1	A2-O	303.4	263.4	322.4	276.6	362.2	300.0	446.8	341.8	632.1	421.0	1039	584.7
0 1 1 1 1 0	A2-O	303.4	263.4	322.4	276.6	362.2	300.0	446.8	341.8	632.1	421.0	1039	584.7
0 1 1 1 1 1	A2-O	303.4	262.8	322.4	276.1	362.1	299.4	446.8	341.1	632.1	420.2	1039	583.9
1 0 0 1 0 1	A2-O	289.2	252.4	307.9	265.6	346.8	289.1	431.9	330.8	617.7	409.9	1024	573.6
1 0 0 1 1 0	A2-O	289.2	252.4	307.9	265.6	346.8	289.1	431.9	330.8	617.7	409.9	1024	573.6
1 0 0 1 1 1	A2-O	289.2	251.9	307.9	265.0	346.8	288.5	431.9	330.2	617.7	409.3	1024	573.0
1 0 1 0 0 1	A2-O	289.2	252.4	307.9	265.6	346.8	289.1	431.9	330.8	617.7	409.9	1024	573.6
1 0 1 0 1 0	A2-O	289.2	252.4	307.9	265.6	346.8	289.1	431.9	330.8	617.7	409.9	1024	573.6
1 0 1 0 1 1	A2-O	289.2	251.9	307.9	265.0	346.8	288.5	431.9	330.2	617.7	409.3	1024	573.0
1 0 1 1 0 1	A2-O	289.2	251.9	307.9	265.0	346.8	288.6	431.9	330.2	617.7	409.4	1024	573.1
1 0 1 1 1 0	A2-O	289.2	251.9	307.9	265.0	346.8	288.6	431.9	330.2	617.7	409.4	1024	573.1
1 0 1 1 1 1	A2-O	289.2	251.3	307.9	264.5	346.8	288.0	431.9	329.7	617.6	408.8	1024	572.3
1 1 0 1 0 1	A2-O	288.5	239.0	307.2	252.3	346.1	275.6	431.1	317.3	616.8	396.5	1024	560.2
1 1 0 1 1 0	A2-O	288.5	239.0	307.2	252.3	346.1	275.6	431.1	317.3	616.8	396.5	1024	560.2
1 1 0 1 1 1	A2-O	288.5	238.4	307.2	251.7	346.1	275.1	431.1	316.8	616.8	395.9	1024	559.6
1 1 1 0 0 1	A2-O	288.5	239.0	307.2	252.3	346.1	275.6	431.1	317.3	616.8	396.5	1024	560.2
1 1 1 0 1 0	A2-O	288.5	239.0	307.2	252.3	346.1	275.6	431.1	317.3	616.8	396.5	1024	560.2
1 1 1 0 1 1	A2-O	288.5	238.4	307.2	251.7	346.1	275.1	431.1	316.8	616.8	395.9	1024	559.6
1 1 1 1 0 1	A2-O	288.5	238.3	307.2	251.7	346.1	275.0	431.1	316.7	616.8	395.9	1024	559.6
1 1 1 1 1 0	A2-O	288.5	238.3	307.2	251.7	346.1	275.0	431.1	316.7	616.8	395.9	1024	559.6
1 1 1 1 1 1	A2-O	288.4	237.8	307.1	251.1	346.1	274.4	431.1	316.1	616.8	395.3	1024	558.9
0 1 0 1 0 1	A1-O	318.8	274.5	337.6	287.3	377.0	310.8	461.7	352.6	647.1	431.8	1055	595.5
0 1 0 1 1 0	A1-O	318.8	274.5	337.6	287.3	377.0	310.8	461.7	352.6	647.1	431.8	1055	595.5
0 1 0 1 1 1	A1-O	318.7	274.0	337.5	286.8	377.0	310.4	461.7	352.0	647.1	431.2	1055	594.9
0 1 1 0 0 1	A1-O	318.8	274.5	337.6	287.3	377.0	310.8	461.7	352.6	647.1	431.8	1055	595.5
0 1 1 0 1 0	A1-O	318.8	274.5	337.6	287.3	377.0	310.8	461.7	352.6	647.1	431.8	1055	595.5
0 1 1 0 1 1	A1-O	318.7	274.0	337.5	286.8	377.0	310.4	461.7	352.0	647.1	431.2	1055	594.9
0 1 1 1 0 1	A1-O	318.7	273.6	337.5	286.8	377.0	310.3	461.7	351.9	647.1	431.1	1055	594.8
0 1 1 1 1 0	A1-O	318.7	273.6	337.5	286.8	377.0	310.3	461.7	351.9	647.1	431.1	1055	594.8
0 1 1 1 1 1	A1-O	318.7	273.1	337.5	286.3	377.0	309.8	461.7	351.4	647.0	430.5	1055	594.2
1 0 0 1 0 1	A1-O	304.4	262.7	322.9	276.0	362.4	299.4	447.0	341.1	632.5	420.3	1039	584.0
1 0 0 1 1 0	A1-O	304.4	262.7	322.9	276.0	362.4	299.4	447.0	341.1	632.5	420.3	1039	584.0

1 0 0 1 1 1	A1-O	304.3	262.2	322.9	275.5	362.4	298.9	447.0	340.6	632.6	419.7	1039	583.5
1 0 1 0 0 1	A1-O	304.4	262.7	322.9	276.0	362.4	299.4	447.0	341.1	632.5	420.3	1039	584.0
1 0 1 0 1 0	A1-O	304.4	262.7	322.9	276.0	362.4	299.4	447.0	341.1	632.5	420.3	1039	584.0
1 0 1 0 1 1	A1-O	304.3	262.2	322.9	275.5	362.4	298.9	447.0	340.6	632.6	419.7	1039	583.5
1 0 1 1 0 1	A1-O	304.3	262.2	322.9	275.5	362.4	298.9	447.0	340.6	632.6	419.8	1039	583.5
1 0 1 1 1 0	A1-O	304.3	262.2	322.9	275.5	362.4	298.9	447.0	340.6	632.6	419.8	1039	583.5
1 0 1 1 1 1	A1-O	304.3	261.7	322.8	275.0	362.4	298.3	447.0	340.0	632.6	419.2	1039	582.7
1 1 0 1 0 1	A1-O	303.8	246.9	322.3	260.1	361.8	283.6	446.3	325.3	631.9	404.5	1039	568.3
1 1 0 1 1 0	A1-O	303.8	246.9	322.3	260.1	361.8	283.6	446.3	325.3	631.9	404.5	1039	568.3
1 1 0 1 1 1	A1-O	303.7	246.4	322.3	259.6	361.8	283.0	446.3	324.7	631.9	403.9	1039	567.6
1 1 1 0 0 1	A1-O	303.8	246.9	322.3	260.1	361.8	283.6	446.3	325.3	631.9	404.5	1039	568.3
1 1 1 0 1 0	A1-O	303.8	246.9	322.3	260.1	361.8	283.6	446.3	325.3	631.9	404.5	1039	568.3
1 1 1 0 1 1	A1-O	303.7	246.4	322.3	259.6	361.8	283.0	446.3	324.7	631.9	403.9	1039	567.6
1 1 1 1 0 1	A1-O	303.7	246.4	322.3	259.6	361.8	283.1	446.3	324.8	631.9	403.9	1039	567.7
1 1 1 1 1 0	A1-O	303.7	246.4	322.3	259.6	361.8	283.1	446.3	324.8	631.9	403.9	1039	567.7
1 1 1 1 1 1	A1-O	303.7	245.9	322.2	259.1	361.7	282.4	446.3	324.0	631.9	403.2	1039	566.9
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	B2-O	351.7	273.2	370.5	286.3	410.1	309.7	495.1	351.4	681.0	430.6	1086	594.3
0 1 0 1 1 0	B2-O	351.7	273.2	370.5	286.3	410.1	309.7	495.1	351.4	681.0	430.6	1086	594.3
0 1 0 1 1 1	B2-O	351.7	272.5	370.4	285.7	410.1	309.2	495.1	350.9	681.0	430.0	1086	593.7
0 1 1 0 0 1	B2-O	351.7	273.2	370.5	286.3	410.1	309.7	495.1	351.4	681.0	430.6	1086	594.3
0 1 1 0 1 0	B2-O	351.7	273.2	370.5	286.3	410.1	309.7	495.1	351.4	681.0	430.6	1086	594.3
0 1 1 0 1 1	B2-O	351.7	272.5	370.4	285.7	410.1	309.2	495.1	350.9	681.0	430.0	1086	593.7
0 1 1 1 0 1	B2-O	351.7	272.5	370.4	285.7	410.1	309.2	495.1	350.9	681.0	430.0	1086	593.7
0 1 1 1 1 0	B2-O	351.7	272.5	370.4	285.7	410.1	309.2	495.1	350.9	681.0	430.0	1086	593.7
0 1 1 1 1 1	B2-O	351.7	271.9	370.4	285.2	410.1	309.2	495.1	350.9	681.0	430.0	1086	593.7
1 0 0 1 0 1	B2-O	367.1	284.5	386.3	297.7	425.5	321.3	510.8	363.1	696.8	442.3	1101	605.9
1 0 0 1 1 0	B2-O	367.1	284.5	386.3	297.7	425.5	321.3	510.8	363.1	696.8	442.3	1101	605.9
1 0 0 1 1 1	B2-O	367.0	284.0	386.3	297.2	425.5	320.8	510.7	362.5	696.8	441.7	1101	605.2
1 0 1 0 0 1	B2-O	367.1	284.5	386.3	297.7	425.5	321.3	510.8	363.1	696.8	442.3	1101	605.9
1 0 1 0 1 0	B2-O	367.1	284.5	386.3	297.7	425.5	321.3	510.8	363.1	696.8	442.3	1101	605.9
1 0 1 0 1 1	B2-O	367.0	284.0	386.3	297.2	425.5	320.8	510.7	362.5	696.8	441.7	1101	605.2
1 0 1 1 0 1	B2-O	367.0	284.1	386.3	297.2	425.5	320.7	510.7	362.3	696.8	441.4	1101	605.2
1 0 1 1 1 0	B2-O	367.0	284.1	386.3	297.2	425.5	320.7	510.7	362.3	696.8	441.4	1101	605.2
1 0 1 1 1 1	B2-O	367.0	283.6	386.2	296.7	425.5	320.1	510.7	361.8	696.7	440.9	1101	604.6
1 1 0 1 0 1	B2-O	364.1	261.8	383.1	274.7	422.0	298.1	507.3	339.9	693.4	419.1	1098	582.8
1 1 0 1 1 0	B2-O	364.1	261.8	383.1	274.7	422.0	298.1	507.3	339.9	693.4	419.1	1098	582.8
1 1 0 1 1 1	B2-O	364.1	261.3	383.0	274.1	422.0	297.6	507.3	339.3	693.3	418.5	1098	582.2
1 1 1 0 0 1	B2-O	364.1	261.8	383.1	274.7	422.0	298.1	507.3	339.9	693.4	419.1	1098	582.8
1 1 1 0 1 0	B2-O	364.1	261.8	383.1	274.7	422.0	298.1	507.3	339.9	693.4	419.1	1098	582.8
1 1 1 0 1 1	B2-O	364.1	261.3	383.0	274.1	422.0	297.6	507.3	339.3	693.3	418.5	1098	582.2
1 1 1 1 0 1	B2-O	364.1	261.3	383.0	274.1	422.0	297.6	507.3	339.2	693.3	418.3	1098	582.1

1 1 1 1 1 0	B2-O	364.1	261.3	383.0	274.1	422.0	297.6	507.3	339.2	693.3	418.3	1098	582.1
1 1 1 1 1 1	B2-O	364.1	260.8	383.0	273.6	422.0	297.0	507.3	338.6	693.3	417.8	1098	581.5
0 1 0 1 0 1	B1-O	338.4	263.5	357.4	276.8	396.6	300.3	481.9	342.0	667.9	421.0	1073	584.8
0 1 0 1 1 0	B1-O	338.4	263.5	357.4	276.8	396.6	300.3	481.9	342.0	667.9	421.0	1073	584.8
0 1 0 1 1 1	B1-O	338.3	263.0	357.4	276.2	396.6	299.7	481.8	341.4	667.9	420.5	1073	584.2
0 1 1 0 0 1	B1-O	338.4	263.5	357.4	276.8	396.6	300.3	481.9	342.0	667.9	421.0	1073	584.8
0 1 1 0 1 0	B1-O	338.4	263.5	357.4	276.8	396.6	300.3	481.9	342.0	667.9	421.0	1073	584.8
0 1 1 0 1 1	B1-O	338.3	263.0	357.4	276.2	396.6	299.7	481.8	341.4	667.9	420.5	1073	584.2
0 1 1 1 0 1	B1-O	338.3	263.0	357.4	276.2	396.6	299.8	481.8	341.4	667.9	420.5	1073	584.2
0 1 1 1 1 0	B1-O	338.3	263.0	357.4	276.2	396.6	299.8	481.8	341.4	667.9	420.5	1073	584.2
0 1 1 1 1 1	B1-O	338.3	262.5	357.3	275.7	396.6	299.2	481.8	340.9	667.8	419.8	1072	583.5
1 0 0 1 0 1	B1-O	354.5	275.4	373.8	288.6	413.5	312.0	498.4	353.7	684.2	432.8	1090	596.6
1 0 0 1 1 0	B1-O	354.5	275.4	373.8	288.6	413.5	312.0	498.4	353.7	684.2	432.8	1090	596.6
1 0 0 1 1 1	B1-O	354.5	274.9	373.7	288.0	413.5	311.5	498.3	353.1	684.2	432.3	1090	596.0
1 0 1 0 0 1	B1-O	354.5	275.4	373.8	288.6	413.5	312.0	498.4	353.7	684.2	432.8	1090	596.6
1 0 1 0 1 0	B1-O	354.5	275.4	373.8	288.6	413.5	312.0	498.4	353.7	684.2	432.8	1090	596.6
1 0 1 0 1 1	B1-O	354.5	274.9	373.7	288.0	413.5	311.5	498.3	353.1	684.2	432.3	1090	596.0
1 0 1 1 0 1	B1-O	354.5	274.9	373.7	288.0	413.5	311.5	498.3	353.2	684.2	432.3	1090	596.0
1 0 1 1 1 0	B1-O	354.5	274.9	373.7	288.0	413.5	311.5	498.3	353.2	684.2	432.3	1090	596.0
1 0 1 1 1 1	B1-O	354.5	274.2	373.7	287.5	413.4	310.9	498.3	352.6	684.1	431.5	1090	595.2
1 1 0 1 0 1	B1-O	350.8	254.0	369.8	267.3	408.9	290.8	494.2	332.5	680.2	411.7	1085	575.5
1 1 0 1 1 0	B1-O	350.8	254.0	369.8	267.3	408.9	290.8	494.2	332.5	680.2	411.7	1085	575.5
1 1 0 1 1 1	B1-O	350.7	253.5	369.8	266.7	408.9	290.2	494.2	331.9	680.2	411.0	1085	574.7
1 1 1 0 0 1	B1-O	350.8	254.0	369.8	267.3	408.9	290.8	494.2	332.5	680.2	411.7	1085	575.5
1 1 1 0 1 0	B1-O	350.8	254.0	369.8	267.3	408.9	290.8	494.2	332.5	680.2	411.7	1085	575.5
1 1 1 0 1 1	B1-O	350.7	253.5	369.8	266.7	408.9	290.2	494.2	331.9	680.2	411.0	1085	574.7
1 1 1 1 0 1	B1-O	350.7	253.5	369.8	266.7	408.9	290.2	494.2	331.8	680.2	410.7	1085	574.5
1 1 1 1 1 0	B1-O	350.7	253.5	369.8	266.7	408.9	290.2	494.2	331.8	680.2	410.7	1085	574.5
1 1 1 1 1 1	B1-O	350.7	252.9	369.7	266.1	408.9	289.5	494.1	331.1	680.2	410.2	1085	573.9
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tphl	tphl										
0 1 0 1 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.8
0 1 0 1 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.4	588.4	383.6	994.9	547.3
0 1 0 1 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.6	402.1	292.2	588.3	371.4	993.5	535.1
0 1 1 0 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.8
0 1 1 0 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.4	588.4	383.6	994.9	547.3
0 1 1 0 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.6	402.1	292.2	588.3	371.4	993.5	535.1
0 1 1 1 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.7
0 1 1 1 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.4	588.4	383.6	994.9	547.3
0 1 1 1 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.6	402.1	292.2	588.3	371.4	993.5	535.1
1 0 0 1 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.8
1 0 0 1 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.4	588.4	383.6	994.9	547.3
1 0 0 1 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.6	402.1	292.2	588.3	371.4	993.5	535.1

1 0 1 0 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.8
1 0 1 0 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.4	588.4	383.6	994.9	547.3
1 0 1 0 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.6	402.1	292.2	588.3	371.4	993.5	535.1
1 0 1 1 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.7
1 0 1 1 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.4	588.4	383.6	994.9	547.3
1 0 1 1 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.6	402.1	292.2	588.3	371.4	993.5	535.1
1 1 0 1 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.7
1 1 0 1 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.4	588.4	383.6	994.9	547.3
1 1 0 1 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.6	402.1	292.2	588.3	371.4	993.5	535.1
1 1 1 0 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.7
1 1 1 0 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.4	588.4	383.6	994.9	547.3
1 1 1 0 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.6	402.1	292.2	588.3	371.4	993.5	535.1
1 1 1 1 0 1	C2-O	273.9	238.4	293.0	251.6	332.1	275.0	417.3	316.8	603.2	396.0	1007	559.7
1 1 1 1 1 0	C2-O	260.7	226.2	279.2	239.1	318.2	262.6	402.9	304.3	588.4	383.5	994.9	547.3
1 1 1 1 1 1	C2-O	260.0	214.0	278.6	227.1	317.3	250.7	402.1	292.2	588.3	371.3	993.5	535.1
0 1 0 1 0 1	C1-O	289.8	249.1	308.7	262.0	347.7	285.5	432.9	327.2	618.7	406.4	1024	570.2
0 1 0 1 1 0	C1-O	276.4	237.0	294.9	250.3	334.1	273.7	418.6	315.4	603.9	394.6	1011	558.3
0 1 0 1 1 1	C1-O	275.9	222.5	294.4	236.0	333.5	259.2	418.1	300.9	603.5	380.1	1010	543.8
0 1 1 0 0 1	C1-O	289.8	249.1	308.7	262.0	347.7	285.5	432.9	327.2	618.7	406.4	1024	570.2
0 1 1 0 1 0	C1-O	276.4	237.0	294.9	250.3	334.1	273.7	418.6	315.4	603.9	394.6	1011	558.3
0 1 1 0 1 1	C1-O	275.9	222.5	294.4	236.0	333.5	259.2	418.1	300.9	603.5	380.1	1010	543.8
0 1 1 1 0 1	C1-O	289.8	249.1	308.7	262.0	347.7	285.5	432.9	327.2	618.7	406.4	1024	570.2
0 1 1 1 1 0	C1-O	276.4	237.0	294.9	250.3	334.1	273.7	418.6	315.4	603.9	394.6	1011	558.3
0 1 1 1 1 1	C1-O	275.9	222.5	294.4	236.0	333.5	259.2	418.1	300.9	603.5	380.1	1010	543.8
1 0 0 1 0 1	C1-O	289.8	249.1	308.7	262.0	347.7	285.5	432.9	327.2	618.7	406.4	1024	570.2
1 0 0 1 1 0	C1-O	276.4	237.0	294.9	250.3	334.1	273.7	418.6	315.4	603.9	394.6	1011	558.3
1 0 0 1 1 1	C1-O	275.9	222.5	294.4	236.0	333.5	259.2	418.1	300.9	603.5	380.1	1010	543.8
1 0 1 0 0 1	C1-O	289.8	249.1	308.7	262.0	347.7	285.5	432.9	327.2	618.7	406.4	1024	570.2
1 0 1 0 1 0	C1-O	276.4	237.0	294.9	250.3	334.1	273.7	418.6	315.4	603.9	394.6	1011	558.3
1 0 1 0 1 1	C1-O	275.9	222.5	294.4	236.0	333.5	259.2	418.1	300.9	603.5	380.1	1010	543.8
1 0 1 1 0 1	C1-O	289.8	249.1	308.7	262.0	347.7	285.5	432.9	327.2	618.7	406.4	1024	570.2
1 0 1 1 1 0	C1-O	276.4	237.0	294.9	250.3	334.1	273.7	418.6	315.4	603.9	394.6	1011	558.3
1 0 1 1 1 1	C1-O	275.9	222.5	294.4	236.0	333.5	259.2	418.1	300.9	603.5	380.1	1010	543.8
1 1 1 0 0 1	C1-O	289.8	249.1	308.7	262.0	347.7	285.5	432.9	327.2	618.7	406.4	1024	570.2
1 1 1 0 1 0	C1-O	276.4	237.0	294.9	250.3	334.1	273.7	418.6	315.4	603.9	394.6	1011	558.3
1 1 1 0 1 1	C1-O	275.9	222.5	294.4	236.0	333.5	259.2	418.1	300.9	603.5	380.1	1010	543.8
1 1 1 1 0 1	C1-O	289.8	249.1	308.7	262.0	347.7	285.5	432.9	327.2	618.7	406.4	1024	570.2
1 1 1 1 1 0	C1-O	276.4	237.0	294.9	250.3	334.1	273.7	418.6	315.4	603.9	394.6	1011	558.3
1 1 1 1 1 1	C1-O	275.9	222.6	294.4	236.0	333.5	259.2	418.1	300.9	603.5	380.1	1010	543.8

A1 A2 B1 B2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
0 1 0 1 1 0	D2-O	338.6	260.4	357.8	273.3	397.4	296.8	482.2	338.5	667.8	417.8	1073	581.5
0 1 0 1 1 1	D2-O	337.2	239.0	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
0 1 1 0 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
0 1 1 0 1 0	D2-O	338.6	260.4	357.8	273.3	397.4	296.8	482.2	338.5	667.8	417.8	1073	581.5
0 1 1 0 1 1	D2-O	337.2	239.0	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
0 1 1 1 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
0 1 1 1 1 0	D2-O	338.6	260.4	357.9	273.3	397.4	296.8	482.2	338.5	667.8	417.8	1073	581.5
0 1 1 1 1 1	D2-O	337.2	239.1	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
1 0 0 1 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
1 0 0 1 1 0	D2-O	338.6	260.4	357.8	273.3	397.4	296.8	482.2	338.5	667.8	417.8	1073	581.5
1 0 0 1 1 1	D2-O	337.2	239.0	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
1 0 1 0 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
1 0 1 0 1 0	D2-O	338.6	260.4	357.8	273.3	397.4	296.8	482.2	338.5	667.8	417.8	1073	581.5
1 0 1 0 1 1	D2-O	337.2	239.0	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
1 0 1 1 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
1 0 1 1 1 0	D2-O	338.6	260.4	357.9	273.3	397.4	296.8	482.2	338.5	667.8	417.8	1073	581.5
1 0 1 1 1 1	D2-O	337.2	239.1	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
1 1 0 1 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
1 1 0 1 1 0	D2-O	338.6	260.4	357.9	273.3	397.4	296.8	482.2	338.5	667.8	417.7	1073	581.5
1 1 0 1 1 1	D2-O	337.2	239.0	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
1 1 1 0 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
1 1 1 0 1 0	D2-O	338.6	260.4	357.9	273.3	397.4	296.8	482.2	338.5	667.8	417.7	1073	581.5
1 1 1 0 1 1	D2-O	337.2	239.0	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
1 1 1 1 0 1	D2-O	324.6	248.4	343.1	261.7	382.0	285.2	466.7	327.0	652.1	406.2	1059	569.8
1 1 1 1 1 0	D2-O	338.6	260.4	357.9	273.3	397.4	296.8	482.2	338.5	667.8	417.8	1073	581.5
1 1 1 1 1 1	D2-O	337.2	239.1	355.8	252.3	394.7	275.7	479.4	317.4	665.4	396.6	1071	560.3
0 1 0 1 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.1	639.9	396.2	1045	560.0
0 1 0 1 1 0	D1-O	325.7	250.4	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0
0 1 0 1 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2
0 1 1 0 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.1	639.9	396.2	1045	560.0
0 1 1 0 1 0	D1-O	325.7	250.4	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0
0 1 1 0 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2
0 1 1 1 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.2	639.9	396.2	1045	560.0
0 1 1 1 1 0	D1-O	325.7	250.5	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0
0 1 1 1 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2
1 0 0 1 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.1	639.9	396.2	1045	560.0
1 0 0 1 1 0	D1-O	325.7	250.4	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0
1 0 0 1 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2
1 0 1 0 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.1	639.9	396.2	1045	560.0
1 0 1 0 1 0	D1-O	325.7	250.4	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0

1 0 1 0 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2
1 0 1 1 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.2	639.9	396.2	1045	560.0
1 0 1 1 1 0	D1-O	325.7	250.5	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0
1 0 1 1 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2
1 1 0 1 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.2	639.9	396.2	1045	560.0
1 1 0 1 1 0	D1-O	325.7	250.5	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0
1 1 0 1 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2
1 1 1 0 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.2	639.9	396.2	1045	560.0
1 1 1 0 1 0	D1-O	325.7	250.5	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0
1 1 1 0 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2
1 1 1 1 0 1	D1-O	311.2	238.7	329.9	251.9	369.4	275.5	454.2	317.2	639.9	396.2	1045	560.0
1 1 1 1 1 0	D1-O	325.7	250.5	344.6	263.7	383.9	287.3	468.8	329.0	654.2	408.2	1061	572.0
1 1 1 1 1 1	D1-O	323.8	231.0	342.6	244.2	381.7	267.7	466.7	309.4	652.5	388.5	1057	552.2

Version : OAI2222ELD

Cell Unit = 18

State B1 B2 C1 C2 D1 D2	Path	Output Load									
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff	
		tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl
0 1 0 1 0 1	A2-O	285.8	252.5	297.4	261.1	321.5	277.6	371.1	305.7	479.2	356.7
0 1 0 1 1 0	A2-O	285.8	252.5	297.4	261.1	321.5	277.6	371.1	305.7	479.2	356.7
0 1 0 1 1 1	A2-O	285.8	252.0	297.4	260.9	321.5	277.1	371.1	305.2	479.2	356.2
0 1 1 0 0 1	A2-O	285.8	252.5	297.4	261.1	321.5	277.6	371.1	305.7	479.2	356.7
0 1 1 0 1 0	A2-O	285.8	252.5	297.4	261.1	321.5	277.6	371.1	305.7	479.2	356.7
0 1 1 0 1 1	A2-O	285.8	252.0	297.4	260.9	321.5	277.1	371.1	305.2	479.2	356.2
0 1 1 1 0 1	A2-O	285.8	252.0	297.4	260.6	321.5	277.0	371.1	305.1	479.2	356.0
0 1 1 1 1 0	A2-O	285.8	252.0	297.4	260.6	321.5	277.0	371.1	305.1	479.2	356.0
0 1 1 1 1 1	A2-O	285.8	251.3	297.4	260.1	321.5	276.5	371.0	304.6	479.2	355.5
1 0 0 1 0 1	A2-O	270.0	240.6	281.5	249.8	304.9	265.9	354.7	294.2	462.8	345.1
1 0 0 1 1 0	A2-O	270.0	240.6	281.5	249.8	304.9	265.9	354.7	294.2	462.8	345.1
1 0 0 1 1 1	A2-O	269.9	240.1	281.5	249.3	304.9	265.4	354.7	293.7	462.8	344.7
1 0 1 0 0 1	A2-O	270.0	240.6	281.5	249.8	304.9	265.9	354.7	294.2	462.8	345.1
1 0 1 0 1 0	A2-O	270.0	240.6	281.5	249.8	304.9	265.9	354.7	294.2	462.8	345.1
1 0 1 0 1 1	A2-O	269.9	240.1	281.5	249.3	304.9	265.4	354.7	293.7	462.8	344.7
1 0 1 1 0 1	A2-O	269.9	240.0	281.5	249.2	304.9	265.3	354.7	293.6	462.8	344.6
1 0 1 1 1 0	A2-O	269.9	240.0	281.5	249.2	304.9	265.3	354.7	293.6	462.8	344.6
1 0 1 1 1 1	A2-O	269.9	239.5	281.5	248.7	304.8	264.8	354.6	293.1	462.8	344.1
1 1 0 1 0 1	A2-O	269.3	228.6	280.9	237.9	304.2	253.9	354.0	282.2	461.6	333.2
1 1 0 1 1 0	A2-O	269.3	228.6	280.9	237.9	304.2	253.9	354.0	282.2	461.6	333.2
1 1 0 1 1 1	A2-O	269.3	228.0	280.9	237.1	304.2	253.4	354.0	281.6	461.5	332.6
1 1 1 0 0 1	A2-O	269.3	228.6	280.9	237.9	304.2	253.9	354.0	282.2	461.6	333.2
1 1 1 0 1 0	A2-O	269.3	228.6	280.9	237.9	304.2	253.9	354.0	282.2	461.6	333.2
1 1 1 0 1 1	A2-O	269.3	228.0	280.9	237.1	304.2	253.4	354.0	281.6	461.5	332.6
1 1 1 1 0 1	A2-O	269.3	228.0	280.9	237.2	304.2	253.4	354.0	281.6	461.5	332.6
1 1 1 1 1 0	A2-O	269.3	228.0	280.9	237.2	304.2	253.4	354.0	281.6	461.5	332.6
1 1 1 1 1 1	A2-O	269.3	227.4	280.9	236.5	304.2	252.8	354.0	281.0	461.5	332.0
0 1 0 1 0 1	A1-O	300.7	262.4	312.2	271.6	336.0	287.8	386.0	316.1	494.1	367.0
0 1 0 1 1 0	A1-O	300.7	262.4	312.2	271.6	336.0	287.8	386.0	316.1	494.1	367.0
0 1 0 1 1 1	A1-O	300.6	261.9	312.2	271.1	335.9	287.3	386.0	315.6	494.1	366.5
0 1 1 0 0 1	A1-O	300.7	262.4	312.2	271.6	336.0	287.8	386.0	316.1	494.1	367.0
0 1 1 0 1 0	A1-O	300.7	262.4	312.2	271.6	336.0	287.8	386.0	316.1	494.1	367.0
0 1 1 0 1 1	A1-O	300.6	261.9	312.2	271.1	335.9	287.3	386.0	315.6	494.1	366.5
0 1 1 1 0 1	A1-O	300.6	262.0	312.2	271.1	335.9	287.3	386.0	315.6	494.1	366.5
0 1 1 1 1 0	A1-O	300.6	262.0	312.2	271.1	335.9	287.3	386.0	315.6	494.1	366.5
0 1 1 1 1 1	A1-O	300.6	261.5	312.1	270.6	335.9	286.8	386.0	315.1	494.1	365.9
1 0 0 1 0 1	A1-O	284.6	251.0	296.2	260.1	319.5	276.2	369.3	304.6	477.5	355.6
1 0 0 1 1 0	A1-O	284.6	251.0	296.2	260.1	319.5	276.2	369.3	304.6	477.5	355.6
1 0 0 1 1 1	A1-O	284.6	250.7	296.2	259.5	319.5	276.0	369.3	304.2	477.5	355.1

1 0 1 0 0 1	A1-O	284.6	251.0	296.2	260.1	319.5	276.2	369.3	304.6	477.5	355.6	714.0	454.8
1 0 1 0 1 0	A1-O	284.6	251.0	296.2	260.1	319.5	276.2	369.3	304.6	477.5	355.6	714.0	454.8
1 0 1 0 1 1	A1-O	284.6	250.7	296.2	259.5	319.5	276.0	369.3	304.2	477.5	355.1	714.0	454.3
1 0 1 1 0 1	A1-O	284.6	250.5	296.2	259.5	319.5	275.7	369.3	304.0	477.5	355.0	714.0	454.0
1 0 1 1 1 0	A1-O	284.6	250.5	296.2	259.5	319.5	275.7	369.3	304.0	477.5	355.0	714.0	454.0
1 0 1 1 1 1	A1-O	284.6	250.2	296.2	259.0	319.5	275.4	369.3	303.5	477.5	354.4	714.0	453.6
1 1 0 1 0 1	A1-O	284.1	236.8	295.7	245.6	319.0	262.1	368.8	290.2	476.9	341.2	713.5	440.4
1 1 0 1 1 0	A1-O	284.1	236.8	295.7	245.6	319.0	262.1	368.8	290.2	476.9	341.2	713.5	440.4
1 1 0 1 1 1	A1-O	284.1	236.2	295.7	245.1	319.0	261.5	368.8	289.7	476.9	340.6	713.4	439.8
1 1 1 0 0 1	A1-O	284.1	236.8	295.7	245.6	319.0	262.1	368.8	290.2	476.9	341.2	713.5	440.4
1 1 1 0 1 0	A1-O	284.1	236.8	295.7	245.6	319.0	262.1	368.8	290.2	476.9	341.2	713.5	440.4
1 1 1 0 1 1	A1-O	284.1	236.2	295.7	245.1	319.0	261.5	368.8	289.7	476.9	340.6	713.4	439.8
1 1 1 1 0 1	A1-O	284.1	236.3	295.7	245.1	319.0	261.6	368.8	289.5	476.9	340.5	713.4	439.7
1 1 1 1 1 0	A1-O	284.1	236.3	295.7	245.1	319.0	261.6	368.8	289.5	476.9	340.5	713.4	439.7
1 1 1 1 1 1	A1-O	284.0	235.7	295.6	244.6	318.9	260.9	368.8	289.0	476.9	339.9	713.5	439.1
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	B2-O	326.5	259.6	337.9	268.7	361.7	285.0	410.9	313.2	519.2	364.3	755.8	463.5
0 1 0 1 1 0	B2-O	326.5	259.6	337.9	268.7	361.7	285.0	410.9	313.2	519.2	364.3	755.8	463.5
0 1 0 1 1 1	B2-O	326.4	259.1	337.9	268.2	361.7	284.5	410.9	312.7	519.2	363.7	755.8	462.9
0 1 1 0 0 1	B2-O	326.5	259.6	337.9	268.7	361.7	285.0	410.9	313.2	519.2	364.3	755.8	463.5
0 1 1 0 1 0	B2-O	326.5	259.6	337.9	268.7	361.7	285.0	410.9	313.2	519.2	364.3	755.8	463.5
0 1 1 0 1 1	B2-O	326.4	259.1	337.9	268.2	361.7	284.5	410.9	312.7	519.2	363.7	755.8	462.9
0 1 1 1 0 1	B2-O	326.4	259.1	337.9	268.2	361.7	284.4	410.9	312.7	519.2	363.7	755.8	463.0
0 1 1 1 1 0	B2-O	326.4	259.1	337.9	268.2	361.7	284.4	410.9	312.7	519.2	363.7	755.8	463.0
0 1 1 1 1 1	B2-O	326.4	258.6	337.9	267.7	361.7	283.9	410.8	312.1	519.2	363.0	755.8	462.2
1 0 0 1 0 1	B2-O	343.8	271.3	355.5	280.5	379.2	296.6	429.0	324.9	536.6	376.0	773.2	475.2
1 0 0 1 1 0	B2-O	343.8	271.3	355.5	280.5	379.2	296.6	429.0	324.9	536.6	376.0	773.2	475.2
1 0 0 1 1 1	B2-O	343.8	270.8	355.5	280.0	379.2	296.1	429.0	324.4	536.6	375.4	773.2	474.6
1 0 1 0 0 1	B2-O	343.8	271.3	355.5	280.5	379.2	296.6	429.0	324.9	536.6	376.0	773.2	475.2
1 0 1 0 1 0	B2-O	343.8	271.3	355.5	280.5	379.2	296.6	429.0	324.9	536.6	376.0	773.2	475.2
1 0 1 0 1 1	B2-O	343.8	270.8	355.5	280.0	379.2	296.1	429.0	324.4	536.6	375.4	773.2	474.6
1 0 1 1 0 1	B2-O	343.8	270.8	355.5	280.0	379.2	296.1	429.0	324.4	536.6	375.4	773.2	474.6
1 0 1 1 1 0	B2-O	343.8	270.8	355.5	280.0	379.2	296.1	429.0	324.4	536.6	375.4	773.2	474.6
1 0 1 1 1 1	B2-O	343.8	270.3	355.5	279.6	379.1	295.6	428.9	323.9	536.6	374.9	773.2	473.9
1 1 0 1 0 1	B2-O	338.5	250.5	350.1	259.5	373.5	275.8	423.2	304.0	530.9	355.1	766.5	454.3
1 1 0 1 1 0	B2-O	338.5	250.5	350.1	259.5	373.5	275.8	423.2	304.0	530.9	355.1	766.5	454.3
1 1 0 1 1 1	B2-O	338.5	250.1	350.1	258.9	373.5	275.3	423.2	303.6	530.9	354.6	766.5	453.5
1 1 1 0 0 1	B2-O	338.5	250.5	350.1	259.5	373.5	275.8	423.2	304.0	530.9	355.1	766.5	454.3
1 1 1 0 1 0	B2-O	338.5	250.5	350.1	259.5	373.5	275.8	423.2	304.0	530.9	355.1	766.5	454.3
1 1 1 0 1 1	B2-O	338.5	250.1	350.1	258.9	373.5	275.3	423.2	303.6	530.9	354.6	766.5	453.5
1 1 1 1 0 1	B2-O	338.5	250.1	350.1	258.9	373.5	275.4	423.2	303.4	530.9	354.3	766.5	453.5
1 1 1 1 1 0	B2-O	338.5	250.1	350.1	258.9	373.5	275.4	423.2	303.4	530.9	354.3	766.5	453.5

1 1 1 1 1 1	B2-O	338.4	249.6	350.1	258.5	373.4	274.8	423.1	302.8	530.9	353.8	766.6	453.0
0 1 0 1 0 1	B1-O	313.5	250.5	325.0	259.3	348.8	275.8	398.2	304.0	506.2	355.0	742.3	454.1
0 1 0 1 1 0	B1-O	313.5	250.5	325.0	259.3	348.8	275.8	398.2	304.0	506.2	355.0	742.3	454.1
0 1 0 1 1 1	B1-O	313.5	250.0	325.0	258.8	348.7	275.3	398.1	303.5	506.2	354.4	742.3	453.4
0 1 1 0 0 1	B1-O	313.5	250.5	325.0	259.3	348.8	275.8	398.2	304.0	506.2	355.0	742.3	454.1
0 1 1 0 1 0	B1-O	313.5	250.5	325.0	259.3	348.8	275.8	398.2	304.0	506.2	355.0	742.3	454.1
0 1 1 0 1 1	B1-O	313.5	250.0	325.0	258.8	348.7	275.3	398.1	303.5	506.2	354.4	742.3	453.4
0 1 1 1 0 1	B1-O	313.5	250.0	325.0	258.8	348.7	275.3	398.1	303.3	506.2	354.2	742.3	453.4
0 1 1 1 1 0	B1-O	313.5	250.0	325.0	258.8	348.7	275.3	398.1	303.3	506.2	354.2	742.3	453.4
0 1 1 1 1 1	B1-O	313.6	249.5	324.9	258.3	348.7	274.7	398.1	302.7	506.2	353.7	742.2	452.9
1 0 0 1 0 1	B1-O	331.3	262.2	343.0	271.4	367.0	287.6	416.5	315.9	524.7	366.9	761.0	466.0
1 0 0 1 1 0	B1-O	331.3	262.2	343.0	271.4	367.0	287.6	416.5	315.9	524.7	366.9	761.0	466.0
1 0 0 1 1 1	B1-O	331.3	261.7	343.0	270.9	367.0	287.0	416.5	315.3	524.7	366.3	761.0	465.5
1 0 1 0 0 1	B1-O	331.3	262.2	343.0	271.4	367.0	287.6	416.5	315.9	524.7	366.9	761.0	466.0
1 0 1 0 1 0	B1-O	331.3	262.2	343.0	271.4	367.0	287.6	416.5	315.9	524.7	366.9	761.0	466.0
1 0 1 0 1 1	B1-O	331.3	261.7	343.0	270.9	367.0	287.0	416.5	315.3	524.7	366.3	761.0	465.5
1 0 1 1 0 1	B1-O	331.3	261.7	343.0	270.9	367.0	287.1	416.5	315.3	524.7	366.4	761.0	465.5
1 0 1 1 1 0	B1-O	331.3	261.7	343.0	270.9	367.0	287.1	416.5	315.3	524.7	366.4	761.0	465.5
1 0 1 1 1 1	B1-O	331.3	261.2	343.0	270.5	367.0	286.5	416.5	314.8	524.6	365.8	761.0	464.8
1 1 0 1 0 1	B1-O	325.7	242.9	337.1	251.8	360.9	268.2	410.3	296.4	518.3	347.3	754.4	446.5
1 1 0 1 1 0	B1-O	325.7	242.9	337.1	251.8	360.9	268.2	410.3	296.4	518.3	347.3	754.4	446.5
1 1 0 1 1 1	B1-O	325.7	242.4	337.1	251.3	360.9	267.6	410.2	295.8	518.3	346.8	754.3	446.0
1 1 1 0 0 1	B1-O	325.7	242.9	337.1	251.8	360.9	268.2	410.3	296.4	518.3	347.3	754.4	446.5
1 1 1 0 1 0	B1-O	325.7	242.9	337.1	251.8	360.9	268.2	410.3	296.4	518.3	347.3	754.4	446.5
1 1 1 0 1 1	B1-O	325.7	242.4	337.1	251.3	360.9	267.6	410.2	295.8	518.3	346.8	754.3	446.0
1 1 1 1 0 1	B1-O	325.7	242.4	337.1	251.3	360.9	267.7	410.2	295.8	518.3	346.6	754.3	445.8
1 1 1 1 1 0	B1-O	325.7	242.4	337.1	251.3	360.9	267.7	410.2	295.8	518.3	346.6	754.3	445.8
1 1 1 1 1 1	B1-O	325.7	242.0	337.1	250.8	360.8	267.1	410.2	295.2	518.3	346.2	754.3	445.3
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	C2-O	260.8	228.9	272.5	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8
0 1 0 1 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
0 1 0 1 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.3	672.0	409.4
0 1 1 0 0 1	C2-O	260.8	228.9	272.5	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8
0 1 1 0 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
0 1 1 0 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.3	672.0	409.4
0 1 1 1 0 1	C2-O	260.8	228.9	272.6	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8
0 1 1 1 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
0 1 1 1 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.2	672.0	409.4
1 0 0 1 0 1	C2-O	260.8	228.9	272.5	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8
1 0 0 1 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
1 0 0 1 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.3	672.0	409.4
1 0 1 0 0 1	C2-O	260.8	228.9	272.5	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8

1 0 1 0 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
1 0 1 0 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.3	672.0	409.4
1 0 1 1 0 1	C2-O	260.8	228.9	272.6	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8
1 0 1 1 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
1 0 1 1 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.2	672.0	409.4
1 1 0 1 0 1	C2-O	260.8	228.9	272.6	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8
1 1 0 1 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
1 1 0 1 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.2	672.0	409.4
1 1 1 0 0 1	C2-O	260.8	228.9	272.6	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8
1 1 1 0 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
1 1 1 0 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.2	672.0	409.4
1 1 1 1 0 1	C2-O	260.8	228.9	272.6	238.0	296.1	254.3	345.5	282.6	453.8	333.6	687.9	432.8
1 1 1 1 1 0	C2-O	245.8	217.3	257.4	225.9	280.7	242.4	330.4	270.4	438.3	321.4	672.9	420.7
1 1 1 1 1 1	C2-O	245.2	205.8	256.8	214.8	280.1	230.9	329.7	259.2	437.7	310.2	672.0	409.4
0 1 0 1 0 1	C1-O	275.8	239.3	287.4	248.4	311.1	264.8	360.4	293.0	468.8	344.0	703.2	443.3
0 1 0 1 1 0	C1-O	260.8	227.6	272.3	236.7	295.6	252.9	345.2	281.2	452.9	332.3	688.8	431.5
0 1 0 1 1 1	C1-O	260.3	214.3	271.9	223.3	295.1	239.6	344.6	267.9	452.5	318.8	688.2	418.1
0 1 1 0 0 1	C1-O	275.8	239.3	287.4	248.4	311.1	264.8	360.4	293.0	468.8	344.0	703.2	443.3
0 1 1 0 1 0	C1-O	260.8	227.6	272.3	236.7	295.6	252.9	345.2	281.2	452.9	332.3	688.8	431.5
0 1 1 0 1 1	C1-O	260.3	214.3	271.9	223.3	295.1	239.6	344.6	267.9	452.5	318.8	688.2	418.1
0 1 1 1 0 1	C1-O	275.8	239.3	287.4	248.4	311.1	264.8	360.4	293.0	468.8	344.0	703.2	443.3
0 1 1 1 1 0	C1-O	260.8	227.6	272.3	236.7	295.6	252.9	345.2	281.2	452.9	332.3	688.8	431.5
0 1 1 1 1 1	C1-O	260.3	214.3	271.9	223.3	295.1	239.6	344.6	267.9	452.5	318.8	688.2	418.0
1 0 0 1 0 1	C1-O	275.8	239.3	287.4	248.4	311.1	264.8	360.4	293.0	468.8	344.0	703.2	443.3
1 0 0 1 1 0	C1-O	260.8	227.6	272.3	236.7	295.6	252.9	345.2	281.2	452.9	332.3	688.8	431.5
1 0 0 1 1 1	C1-O	260.3	214.3	271.9	223.3	295.1	239.6	344.6	267.9	452.5	318.8	688.2	418.1
1 0 1 0 0 1	C1-O	275.8	239.3	287.4	248.4	311.1	264.8	360.4	293.0	468.8	344.0	703.2	443.3
1 0 1 0 1 0	C1-O	260.8	227.6	272.3	236.7	295.6	252.9	345.2	281.2	452.9	332.3	688.8	431.5
1 0 1 0 1 1	C1-O	260.3	214.3	271.9	223.3	295.1	239.6	344.6	267.9	452.5	318.8	688.2	418.1
1 0 1 1 0 1	C1-O	275.8	239.3	287.4	248.4	311.1	264.8	360.4	293.0	468.8	344.0	703.2	443.3
1 0 1 1 1 0	C1-O	260.8	227.6	272.3	236.7	295.6	252.9	345.2	281.2	452.9	332.3	688.8	431.5
1 0 1 1 1 1	C1-O	260.3	214.3	271.9	223.3	295.1	239.6	344.6	267.9	452.5	318.8	688.2	418.0
1 1 1 0 0 1	C1-O	275.8	239.3	287.4	248.4	311.1	264.8	360.4	293.0	468.8	344.0	703.2	443.3
1 1 1 0 1 0	C1-O	260.8	227.6	272.3	236.7	295.6	252.9	345.2	281.2	452.9	332.3	688.8	431.4
1 1 1 0 1 1	C1-O	260.3	214.3	271.9	223.3	295.1	239.6	344.6	267.8	452.5	318.8	688.2	418.0
1 1 1 1 0 1	C1-O	275.8	239.4	287.4	248.4	311.1	264.8	360.4	293.0	468.8	344.0	703.2	443.3
1 1 1 1 1 0	C1-O	260.8	227.6	272.4	236.7	295.6	252.9	345.2	281.2	452.9	332.2	688.8	431.4
1 1 1 1 1 1	C1-O	260.3	214.3	271.9	223.3	295.1	239.6	344.6	267.8	452.5	318.8	688.2	418.0

A1 A2 B1 B2 C1 C2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 1 0 1 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
0 1 0 1 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.3	749.0	452.5
0 1 0 1 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
0 1 1 0 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
0 1 1 0 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.3	749.0	452.5
0 1 1 0 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
0 1 1 1 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
0 1 1 1 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.3	749.0	452.5
0 1 1 1 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
1 0 0 1 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
1 0 0 1 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.3	749.0	452.5
1 0 0 1 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
1 0 1 0 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
1 0 1 0 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.3	749.0	452.5
1 0 1 0 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
1 0 1 1 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
1 0 1 1 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.3	749.0	452.5
1 0 1 1 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
1 1 0 1 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
1 1 0 1 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.2	749.0	452.5
1 1 0 1 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
1 1 1 0 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
1 1 1 0 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.2	749.0	452.5
1 1 1 0 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
1 1 1 1 0 1	D2-O	303.7	237.5	315.3	246.3	338.8	262.8	387.9	291.0	495.5	342.1	731.4	441.3
1 1 1 1 1 0	D2-O	319.8	248.8	331.4	257.6	355.5	274.1	405.0	302.2	513.0	353.2	749.0	452.5
1 1 1 1 1 1	D2-O	315.9	228.9	327.4	238.1	351.0	254.2	400.1	282.5	508.1	333.5	743.5	432.6
0 1 0 1 0 1	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
0 1 0 1 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.3
0 1 0 1 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
0 1 1 0 0 1	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
0 1 1 0 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.3
0 1 1 0 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
0 1 1 1 0 1	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
0 1 1 1 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.2
0 1 1 1 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
1 0 0 1 0 1	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
1 0 0 1 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.3
1 0 0 1 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
1 0 1 0 0 1	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
1 0 1 0 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.3
1 0 1 0 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
1 0 1 0 1 0	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
1 0 1 0 1 1	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.3

1 0 1 0 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
1 0 1 1 0 1	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
1 0 1 1 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.2
1 0 1 1 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
1 1 0 1 0 1	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
1 1 0 1 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.2
1 1 0 1 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
1 1 1 0 0 1	D1-O	290.8	227.7	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
1 1 1 0 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.2
1 1 1 0 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9
1 1 1 1 0 1	D1-O	290.8	227.8	302.3	236.8	325.6	252.9	375.3	281.2	482.5	332.2	719.4	431.4
1 1 1 1 1 0	D1-O	307.0	239.6	318.7	248.4	342.3	264.7	391.8	293.0	499.1	344.0	734.4	443.2
1 1 1 1 1 1	D1-O	302.9	221.2	314.3	230.4	337.8	246.5	387.5	274.7	495.5	325.7	731.5	424.9

Version : OAI2222HLD

Cell Unit = 20

State B1 B2 C1 C2 D1 D2	Path	Output Load									
		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff	
		tph	tph	tph	tph	tph	tph	tph	tph	tph	tph
0 1 0 1 0 1	A2-O	304.7	274.7	313.2	282.2	331.3	297.0	370.3	324.2	463.4	374.6
0 1 0 1 1 0	A2-O	304.7	274.7	313.2	282.2	331.3	297.0	370.3	324.2	463.4	374.6
0 1 0 1 1 1	A2-O	304.7	274.1	313.2	281.6	331.2	296.4	370.3	323.5	463.4	373.9
0 1 1 0 0 1	A2-O	304.7	274.7	313.2	282.2	331.3	297.0	370.3	324.2	463.4	374.6
0 1 1 0 1 0	A2-O	304.7	274.7	313.2	282.2	331.3	297.0	370.3	324.2	463.4	374.6
0 1 1 0 1 1	A2-O	304.7	274.1	313.2	281.6	331.2	296.4	370.3	323.5	463.4	373.9
0 1 1 1 0 1	A2-O	304.7	274.1	313.2	281.6	331.3	296.4	370.3	323.6	463.4	373.9
0 1 1 1 1 0	A2-O	304.7	274.1	313.2	281.6	331.3	296.4	370.3	323.6	463.4	373.9
0 1 1 1 1 1	A2-O	304.6	273.5	313.2	281.0	331.2	295.7	370.2	322.9	463.4	373.3
1 0 0 1 0 1	A2-O	286.8	263.1	295.1	270.6	312.6	285.4	351.5	312.8	444.8	363.0
1 0 0 1 1 0	A2-O	286.8	263.1	295.1	270.6	312.6	285.4	351.5	312.8	444.8	363.0
1 0 0 1 1 1	A2-O	286.8	262.6	295.0	270.3	312.6	284.9	351.5	312.1	444.7	362.4
1 0 1 0 0 1	A2-O	286.8	263.1	295.1	270.6	312.6	285.4	351.5	312.8	444.8	363.0
1 0 1 0 1 0	A2-O	286.8	263.1	295.1	270.6	312.6	285.4	351.5	312.8	444.8	363.0
1 0 1 0 1 1	A2-O	286.8	262.6	295.0	270.3	312.6	284.9	351.5	312.1	444.7	362.4
1 0 1 1 0 1	A2-O	286.8	262.6	295.0	270.3	312.6	284.9	351.5	312.1	444.7	362.4
1 0 1 1 1 0	A2-O	286.8	262.6	295.0	270.3	312.6	284.9	351.5	312.1	444.7	362.4
1 0 1 1 1 1	A2-O	286.8	262.0	295.0	269.8	312.6	284.3	351.4	311.3	444.7	361.8
1 1 0 1 0 1	A2-O	286.2	250.6	294.4	258.1	312.0	273.2	350.8	300.3	444.1	350.5
1 1 0 1 1 0	A2-O	286.2	250.6	294.4	258.1	312.0	273.2	350.8	300.3	444.1	350.5
1 1 0 1 1 1	A2-O	286.2	249.9	294.4	257.4	311.9	272.5	350.8	299.5	444.0	349.8
1 1 1 0 0 1	A2-O	286.2	250.6	294.4	258.1	312.0	273.2	350.8	300.3	444.1	350.5
1 1 1 0 1 0	A2-O	286.2	250.6	294.4	258.1	312.0	273.2	350.8	300.3	444.1	350.5
1 1 1 0 1 1	A2-O	286.2	249.9	294.4	257.4	311.9	272.5	350.8	299.5	444.0	349.8
1 1 1 1 0 1	A2-O	286.1	249.9	294.4	257.5	311.9	272.5	350.8	299.6	444.0	349.8
1 1 1 1 1 0	A2-O	286.1	249.9	294.4	257.5	311.9	272.5	350.8	299.6	444.0	349.8
1 1 1 1 1 1	A2-O	286.1	249.2	294.3	256.8	311.9	271.6	350.7	298.9	444.0	349.1
0 1 0 1 0 1	A1-O	319.1	284.9	327.6	292.5	345.6	307.4	384.7	334.7	477.8	384.8
0 1 0 1 1 0	A1-O	319.1	284.9	327.6	292.5	345.6	307.4	384.7	334.7	477.8	384.8
0 1 0 1 1 1	A1-O	319.1	284.3	327.6	291.9	345.6	306.7	384.7	334.0	477.8	384.2
0 1 1 0 0 1	A1-O	319.1	284.9	327.6	292.5	345.6	307.4	384.7	334.7	477.8	384.8
0 1 1 0 1 0	A1-O	319.1	284.9	327.6	292.5	345.6	307.4	384.7	334.7	477.8	384.8
0 1 1 0 1 1	A1-O	319.1	284.3	327.6	291.9	345.6	306.7	384.7	334.0	477.8	384.2
0 1 1 1 0 1	A1-O	319.1	284.3	327.6	291.9	345.6	306.8	384.7	334.0	477.8	384.2
0 1 1 1 1 0	A1-O	319.1	284.3	327.6	291.9	345.6	306.8	384.7	334.0	477.8	384.2
0 1 1 1 1 1	A1-O	319.1	283.7	327.5	291.3	345.6	306.1	384.6	333.3	477.7	383.6
1 0 0 1 0 1	A1-O	301.3	273.6	309.5	281.1	327.1	295.8	366.0	323.0	459.2	373.4
1 0 0 1 1 0	A1-O	301.3	273.6	309.5	281.1	327.1	295.8	366.0	323.0	459.2	373.4
1 0 0 1 1 1	A1-O	301.3	272.6	309.5	280.2	327.1	295.2	365.9	322.3	459.2	372.6

1 0 1 0 0 1	A1-O	301.3	273.6	309.5	281.1	327.1	295.8	366.0	323.0	459.2	373.4	687.9	474.9
1 0 1 0 1 0	A1-O	301.3	273.6	309.5	281.1	327.1	295.8	366.0	323.0	459.2	373.4	687.9	474.9
1 0 1 0 1 1	A1-O	301.3	272.6	309.5	280.2	327.1	295.2	365.9	322.3	459.2	372.6	687.8	474.0
1 0 1 1 0 1	A1-O	301.3	272.9	309.5	280.5	327.1	295.2	366.0	322.4	459.2	372.8	687.9	474.2
1 0 1 1 1 0	A1-O	301.3	272.9	309.5	280.5	327.1	295.2	366.0	322.4	459.2	372.8	687.9	474.2
1 0 1 1 1 1	A1-O	301.3	272.3	309.5	279.9	327.1	294.5	366.0	321.8	459.2	372.1	687.9	473.5
1 1 0 1 0 1	A1-O	300.8	258.5	309.0	266.0	326.6	280.8	365.5	308.0	458.7	358.4	687.4	459.8
1 1 0 1 1 0	A1-O	300.8	258.5	309.0	266.0	326.6	280.8	365.5	308.0	458.7	358.4	687.4	459.8
1 1 0 1 1 1	A1-O	300.8	257.9	308.9	265.3	326.6	280.1	365.4	307.3	458.6	357.6	687.3	459.1
1 1 1 0 0 1	A1-O	300.8	258.5	309.0	266.0	326.6	280.8	365.5	308.0	458.7	358.4	687.4	459.8
1 1 1 0 1 0	A1-O	300.8	258.5	309.0	266.0	326.6	280.8	365.5	308.0	458.7	358.4	687.4	459.8
1 1 1 0 1 1	A1-O	300.8	257.9	308.9	265.3	326.6	280.1	365.4	307.3	458.6	357.6	687.3	459.1
1 1 1 1 0 1	A1-O	300.8	257.9	308.9	265.4	326.6	280.1	365.4	307.3	458.6	357.7	687.3	459.1
1 1 1 1 1 0	A1-O	300.8	257.9	308.9	265.4	326.6	280.1	365.4	307.3	458.6	357.7	687.3	459.1
1 1 1 1 1 1	A1-O	300.8	257.3	308.9	264.7	326.5	279.4	365.4	306.6	458.6	357.0	687.3	458.4
A1 A2 C1 C2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0 1 0 1	B2-O	343.3	282.4	351.6	290.0	369.3	304.9	408.1	332.1	501.4	382.3	730.0	483.8
0 1 0 1 1 0	B2-O	343.3	282.4	351.6	290.0	369.3	304.9	408.1	332.1	501.4	382.3	730.0	483.8
0 1 0 1 1 1	B2-O	343.3	281.7	351.6	289.3	369.2	304.2	408.1	331.4	501.3	381.7	730.0	483.1
0 1 1 0 0 1	B2-O	343.3	282.4	351.6	290.0	369.3	304.9	408.1	332.1	501.4	382.3	730.0	483.8
0 1 1 0 1 0	B2-O	343.3	282.4	351.6	290.0	369.3	304.9	408.1	332.1	501.4	382.3	730.0	483.8
0 1 1 0 1 1	B2-O	343.3	281.7	351.6	289.3	369.2	304.2	408.1	331.4	501.3	381.7	730.0	483.1
0 1 1 1 0 1	B2-O	343.3	281.8	351.6	289.4	369.2	304.3	408.1	331.5	501.3	381.7	730.1	483.1
0 1 1 1 1 0	B2-O	343.3	281.8	351.6	289.4	369.2	304.3	408.1	331.5	501.3	381.7	730.1	483.1
0 1 1 1 1 1	B2-O	343.3	281.1	351.5	288.7	369.2	303.7	408.0	330.8	501.3	381.0	730.0	482.4
1 0 0 1 0 1	B2-O	362.7	293.7	371.3	301.3	389.4	316.1	428.5	343.4	521.6	393.6	750.3	495.1
1 0 0 1 1 0	B2-O	362.7	293.7	371.3	301.3	389.4	316.1	428.5	343.4	521.6	393.6	750.3	495.1
1 0 0 1 1 1	B2-O	362.7	293.0	371.3	300.6	389.4	315.5	428.4	342.7	521.6	393.0	750.3	494.4
1 0 1 0 0 1	B2-O	362.7	293.7	371.3	301.3	389.4	316.1	428.5	343.4	521.6	393.6	750.3	495.1
1 0 1 0 1 0	B2-O	362.7	293.7	371.3	301.3	389.4	316.1	428.5	343.4	521.6	393.6	750.3	495.1
1 0 1 0 1 1	B2-O	362.7	293.0	371.3	300.6	389.4	315.5	428.4	342.7	521.6	393.0	750.3	494.4
1 0 1 1 0 1	B2-O	362.7	293.1	371.3	300.7	389.4	315.5	428.4	342.8	521.6	393.1	750.3	494.4
1 0 1 1 1 0	B2-O	362.7	293.1	371.3	300.7	389.4	315.5	428.4	342.8	521.6	393.1	750.3	494.4
1 0 1 1 1 1	B2-O	362.7	292.4	371.3	300.0	389.4	315.0	428.4	342.1	521.6	392.4	750.3	493.7
1 1 0 1 0 1	B2-O	355.2	271.9	363.5	279.5	381.3	294.5	420.3	321.6	513.4	371.9	742.2	473.3
1 1 0 1 1 0	B2-O	355.2	271.9	363.5	279.5	381.3	294.5	420.3	321.6	513.4	371.9	742.2	473.3
1 1 0 1 1 1	B2-O	355.2	271.4	363.5	279.0	381.3	293.7	420.3	320.9	513.4	371.3	742.2	472.7
1 1 1 0 0 1	B2-O	355.2	271.9	363.5	279.5	381.3	294.5	420.3	321.6	513.4	371.9	742.2	473.3
1 1 1 0 1 0	B2-O	355.2	271.9	363.5	279.5	381.3	294.5	420.3	321.6	513.4	371.9	742.2	473.3
1 1 1 0 1 1	B2-O	355.2	271.4	363.5	279.0	381.3	293.7	420.3	320.9	513.4	371.3	742.2	472.7
1 1 1 1 0 1	B2-O	355.2	271.4	363.5	279.1	381.3	293.7	420.3	320.9	513.4	371.3	742.2	472.7
1 1 1 1 1 0	B2-O	355.2	271.4	363.5	279.1	381.3	293.7	420.3	320.9	513.4	371.3	742.2	472.7

1 1 1 1 1 1	B2-O	355.2	270.8	363.4	278.5	381.3	293.1	420.3	320.3	513.4	370.6	742.1	472.0
0 1 0 1 0 1	B1-O	331.6	272.8	339.9	280.3	357.5	295.0	396.5	322.3	489.6	372.7	718.4	474.1
0 1 0 1 1 0	B1-O	331.6	272.8	339.9	280.3	357.5	295.0	396.5	322.3	489.6	372.7	718.4	474.1
0 1 0 1 1 1	B1-O	331.5	271.9	339.9	279.5	357.5	294.4	396.5	321.6	489.6	371.8	718.4	473.2
0 1 1 0 0 1	B1-O	331.6	272.8	339.9	280.3	357.5	295.0	396.5	322.3	489.6	372.7	718.4	474.1
0 1 1 0 1 0	B1-O	331.6	272.8	339.9	280.3	357.5	295.0	396.5	322.3	489.6	372.7	718.4	474.1
0 1 1 0 1 1	B1-O	331.5	271.9	339.9	279.5	357.5	294.4	396.5	321.6	489.6	371.8	718.4	473.2
0 1 1 1 0 1	B1-O	331.5	272.3	339.9	279.7	357.5	294.4	396.5	321.6	489.6	372.0	718.3	473.4
0 1 1 1 1 0	B1-O	331.5	272.3	339.9	279.7	357.5	294.4	396.5	321.6	489.6	372.0	718.3	473.4
0 1 1 1 1 1	B1-O	331.5	271.5	339.8	279.1	357.5	293.8	396.4	321.0	489.6	371.3	718.3	472.7
1 0 0 1 0 1	B1-O	351.2	284.2	359.6	291.8	377.7	306.8	416.6	333.9	509.8	384.2	738.5	485.7
1 0 0 1 1 0	B1-O	351.2	284.2	359.6	291.8	377.7	306.8	416.6	333.9	509.8	384.2	738.5	485.7
1 0 0 1 1 1	B1-O	351.1	283.8	359.6	291.4	377.6	306.0	416.6	333.2	509.8	383.6	738.5	485.1
1 0 1 0 0 1	B1-O	351.2	284.2	359.6	291.8	377.7	306.8	416.6	333.9	509.8	384.2	738.5	485.7
1 0 1 0 1 0	B1-O	351.2	284.2	359.6	291.8	377.7	306.8	416.6	333.9	509.8	384.2	738.5	485.7
1 0 1 0 1 1	B1-O	351.1	283.8	359.6	291.4	377.6	306.0	416.6	333.2	509.8	383.6	738.5	485.1
1 0 1 1 0 1	B1-O	351.1	283.8	359.6	291.5	377.6	306.1	416.6	333.3	509.8	383.6	738.5	485.1
1 0 1 1 1 0	B1-O	351.1	283.8	359.6	291.5	377.6	306.1	416.6	333.3	509.8	383.6	738.5	485.1
1 0 1 1 1 1	B1-O	351.1	283.2	359.6	290.9	377.6	305.4	416.5	332.6	509.7	383.0	738.5	484.4
1 1 0 1 0 1	B1-O	343.8	264.4	352.0	272.0	369.7	287.0	408.6	314.1	501.8	364.4	730.5	465.8
1 1 0 1 1 0	B1-O	343.8	264.4	352.0	272.0	369.7	287.0	408.6	314.1	501.8	364.4	730.5	465.8
1 1 0 1 1 1	B1-O	343.8	263.9	352.0	271.5	369.7	286.1	408.6	313.4	501.7	363.7	730.4	465.2
1 1 1 0 0 1	B1-O	343.8	264.4	352.0	272.0	369.7	287.0	408.6	314.1	501.8	364.4	730.5	465.8
1 1 1 0 1 0	B1-O	343.8	264.4	352.0	272.0	369.7	287.0	408.6	314.1	501.8	364.4	730.5	465.8
1 1 1 0 1 1	B1-O	343.8	263.9	352.0	271.5	369.7	286.1	408.6	313.4	501.7	363.7	730.4	465.2
1 1 1 1 0 1	B1-O	343.8	263.9	352.0	271.5	369.7	286.2	408.6	313.4	501.7	363.8	730.4	465.2
1 1 1 1 1 0	B1-O	343.8	263.9	352.0	271.5	369.7	286.2	408.6	313.4	501.7	363.8	730.4	465.2
1 1 1 1 1 1	B1-O	343.7	263.3	352.0	270.9	369.7	285.5	408.5	312.7	501.7	363.1	730.4	464.5
A1 A2 B1 B2 D1 D2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0 1 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1
0 1 0 1 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
0 1 0 1 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
0 1 1 0 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1
0 1 1 0 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
0 1 1 0 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
0 1 1 1 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1
0 1 1 1 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
0 1 1 1 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
1 0 0 1 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1
1 0 0 1 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
1 0 0 1 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
1 0 1 0 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1

1 0 1 0 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
1 0 1 0 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
1 0 1 1 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1
1 0 1 1 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
1 0 1 1 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
1 1 0 1 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1
1 1 0 1 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
1 1 0 1 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
1 1 1 0 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1
1 1 1 0 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
1 1 1 0 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
1 1 1 1 0 1	C2-O	282.4	252.6	291.0	260.2	309.0	275.0	347.9	302.3	441.0	352.6	669.5	454.1
1 1 1 1 1 0	C2-O	265.5	240.7	273.7	248.1	291.3	262.8	330.3	290.0	423.3	340.4	651.8	441.9
1 1 1 1 1 1	C2-O	264.9	228.7	273.1	236.3	290.7	251.0	329.5	278.2	422.7	328.5	651.2	429.8
0 1 0 1 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
0 1 0 1 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.4	664.5	451.9
0 1 0 1 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8
0 1 1 0 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
0 1 1 0 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.4	664.5	451.9
0 1 1 0 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8
0 1 1 1 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
0 1 1 1 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.3	664.5	451.9
0 1 1 1 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8
1 0 0 1 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
1 0 0 1 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.4	664.5	451.9
1 0 0 1 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8
1 0 1 0 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
1 0 1 0 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.4	664.5	451.9
1 0 1 0 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8
1 0 1 1 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
1 0 1 1 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.4	664.5	451.9
1 0 1 1 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8
1 1 0 1 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
1 1 0 1 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.3	664.5	451.9
1 1 0 1 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8
1 1 1 0 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
1 1 1 0 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.3	664.5	451.9
1 1 1 0 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8
1 1 1 1 0 1	C1-O	295.3	262.2	303.7	269.6	321.7	284.4	360.8	311.6	453.7	362.0	682.3	463.5
1 1 1 1 1 0	C1-O	278.5	250.5	286.6	258.1	304.2	272.9	343.0	300.2	436.0	350.3	664.5	451.8
1 1 1 1 1 1	C1-O	278.0	236.4	286.1	244.0	303.7	258.8	342.5	286.1	435.5	336.3	664.0	437.8

A1 A2 B1 B2 C1 C2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl										
0 1 0 1 0 1	D2-O	323.3	260.6	331.5	268.3	349.1	282.9	388.0	310.2	481.0	360.5	709.5	462.0
0 1 0 1 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.9
0 1 0 1 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
0 1 1 0 0 1	D2-O	323.3	260.6	331.5	268.3	349.1	282.9	388.0	310.2	481.0	360.5	709.5	462.0
0 1 1 0 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.9
0 1 1 0 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
0 1 1 1 0 1	D2-O	323.3	260.6	331.5	268.3	349.1	282.9	388.0	310.2	481.0	360.5	709.5	462.0
0 1 1 1 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.8
0 1 1 1 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
1 0 0 1 0 1	D2-O	323.3	260.6	331.5	268.3	349.1	282.9	388.0	310.2	481.0	360.5	709.5	462.0
1 0 0 1 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.9
1 0 0 1 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
1 0 1 0 0 1	D2-O	323.3	260.6	331.5	268.3	349.1	282.9	388.0	310.2	481.0	360.5	709.5	462.0
1 0 1 0 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.9
1 0 1 0 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
1 0 1 1 0 1	D2-O	323.3	260.6	331.5	268.3	349.1	282.9	388.0	310.2	481.0	360.5	709.5	462.0
1 0 1 1 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.8
1 0 1 1 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
1 1 0 1 0 1	D2-O	323.3	260.6	331.5	268.3	349.1	282.9	388.0	310.2	481.0	360.5	709.6	462.0
1 1 0 1 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.8
1 1 0 1 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
1 1 1 0 0 1	D2-O	323.3	260.6	331.5	268.3	349.1	282.9	388.0	310.2	481.0	360.5	709.6	462.0
1 1 1 0 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.8
1 1 1 0 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
1 1 1 1 0 1	D2-O	323.3	260.6	331.5	268.3	349.2	282.9	388.0	310.2	481.0	360.5	709.6	462.0
1 1 1 1 1 0	D2-O	340.3	271.5	348.9	279.0	367.0	293.7	406.1	320.9	499.1	371.3	727.6	472.8
1 1 1 1 1 1	D2-O	335.3	251.5	343.6	259.0	361.4	273.9	400.3	301.1	493.2	351.4	721.8	452.9
0 1 0 1 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	351.0	697.5	452.4
0 1 0 1 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.5
0 1 0 1 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.1
0 1 1 0 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	351.0	697.5	452.4
0 1 1 0 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.5
0 1 1 0 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.1
0 1 1 1 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	350.9	697.5	452.4
0 1 1 1 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.5
0 1 1 1 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.1
1 0 0 1 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	351.0	697.5	452.4
1 0 0 1 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.5
1 0 0 1 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.1
1 0 1 0 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	351.0	697.5	452.4
1 0 1 0 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.5

1 0 1 0 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.1
1 0 1 1 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	350.9	697.5	452.4
1 0 1 1 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.5
1 0 1 1 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.1
1 1 0 1 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	350.9	697.5	452.4
1 1 0 1 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.5
1 1 0 1 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.1
1 1 1 0 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	350.9	697.5	452.4
1 1 1 0 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.5
1 1 1 0 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.1
1 1 1 1 0 1	D1-O	311.1	251.0	319.4	258.6	337.1	273.5	376.0	300.7	468.9	350.9	697.5	452.4
1 1 1 1 1 0	D1-O	328.5	262.1	336.9	269.7	355.0	284.4	393.9	311.6	487.0	362.0	715.5	463.4
1 1 1 1 1 1	D1-O	323.4	243.7	331.6	251.2	349.2	266.1	388.0	293.3	481.0	343.6	709.6	445.0

Version : OAI2222KLD

Cell Unit = 22

State B1 B2 C1 C2 D1 D2	Path	Output Load									
		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff	
		tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl	tphh	tphl
0 1 0 1 0 1	A2-O	341.1	346.7	347.6	353.4	362.6	367.9	395.8	396.9	476.4	451.9
0 1 0 1 1 0	A2-O	341.1	346.7	347.6	353.4	362.6	367.9	395.8	396.9	476.4	451.9
0 1 0 1 1 1	A2-O	341.1	346.0	347.6	352.8	362.6	367.3	395.8	396.3	476.3	451.2
0 1 1 0 0 1	A2-O	341.1	346.7	347.6	353.4	362.6	367.9	395.8	396.9	476.4	451.9
0 1 1 0 1 0	A2-O	341.1	346.7	347.6	353.4	362.6	367.9	395.8	396.9	476.4	451.9
0 1 1 0 1 1	A2-O	341.1	346.0	347.6	352.8	362.6	367.3	395.8	396.3	476.3	451.2
0 1 1 1 0 1	A2-O	341.1	346.1	347.6	352.8	362.6	367.3	395.8	396.3	476.3	451.3
0 1 1 1 1 0	A2-O	341.1	346.1	347.6	352.8	362.6	367.3	395.8	396.3	476.3	451.3
0 1 1 1 1 1	A2-O	341.1	345.4	347.6	352.2	362.6	366.7	395.7	395.6	476.3	450.6
1 0 0 1 0 1	A2-O	319.5	335.3	325.8	341.8	340.4	356.4	373.3	385.5	453.9	440.5
1 0 0 1 1 0	A2-O	319.5	335.3	325.8	341.8	340.5	356.4	373.3	385.5	453.9	440.5
1 0 0 1 1 1	A2-O	319.4	334.6	325.7	341.2	340.4	355.7	373.3	384.8	453.8	439.7
1 0 1 0 0 1	A2-O	319.5	335.3	325.8	341.8	340.4	356.4	373.3	385.5	453.9	440.5
1 0 1 0 1 0	A2-O	319.5	335.3	325.8	341.8	340.4	356.4	373.3	385.5	453.9	440.5
1 0 1 0 1 1	A2-O	319.4	334.6	325.7	341.2	340.4	355.7	373.3	384.8	453.8	439.7
1 0 1 1 0 1	A2-O	319.4	334.7	325.7	341.2	340.4	355.8	373.3	384.9	453.8	439.8
1 0 1 1 1 0	A2-O	319.4	334.7	325.7	341.2	340.4	355.8	373.3	384.9	453.8	439.8
1 0 1 1 1 1	A2-O	319.4	334.0	325.7	340.5	340.4	355.1	373.2	384.2	453.8	439.1
1 1 0 1 0 1	A2-O	318.8	322.7	325.1	329.2	339.8	344.0	372.6	372.7	453.2	427.8
1 1 0 1 1 0	A2-O	318.8	322.7	325.1	329.2	339.8	344.0	372.6	372.7	453.2	427.8
1 1 0 1 1 1	A2-O	318.8	322.0	325.1	328.5	339.7	343.3	372.6	371.9	453.1	427.0
1 1 1 0 0 1	A2-O	318.8	322.7	325.1	329.2	339.8	344.0	372.6	372.7	453.2	427.8
1 1 1 0 1 0	A2-O	318.8	322.7	325.1	329.2	339.8	344.0	372.6	372.7	453.2	427.8
1 1 1 0 1 1	A2-O	318.8	322.0	325.1	328.5	339.7	343.3	372.6	371.9	453.1	427.0
1 1 1 1 0 1	A2-O	318.8	322.0	325.1	328.5	339.7	343.3	372.6	372.0	453.2	427.1
1 1 1 1 1 0	A2-O	318.8	322.0	325.1	328.5	339.7	343.3	372.6	372.0	453.2	427.1
1 1 1 1 1 1	A2-O	318.7	321.3	325.0	327.8	339.7	342.3	372.6	371.2	453.1	426.3
0 1 0 1 0 1	A1-O	355.5	357.1	362.0	363.6	377.0	378.4	410.2	407.2	490.8	462.2
0 1 0 1 1 0	A1-O	355.5	357.1	362.0	363.6	377.0	378.4	410.2	407.2	490.8	462.2
0 1 0 1 1 1	A1-O	355.5	356.4	362.0	362.9	377.0	377.7	410.2	406.5	490.7	461.5
0 1 1 0 0 1	A1-O	355.5	357.1	362.0	363.6	377.0	378.4	410.2	407.2	490.8	462.2
0 1 1 0 1 0	A1-O	355.5	357.1	362.0	363.6	377.0	378.4	410.2	407.2	490.8	462.2
0 1 1 0 1 1	A1-O	355.5	356.4	362.0	362.9	377.0	377.7	410.2	406.5	490.7	461.5
0 1 1 1 0 1	A1-O	355.5	356.5	362.0	363.0	377.0	377.8	410.2	406.6	490.7	461.6
0 1 1 1 1 0	A1-O	355.5	356.5	362.0	363.0	377.0	377.8	410.2	406.6	490.7	461.6
0 1 1 1 1 1	A1-O	355.4	355.8	361.9	362.3	376.9	377.1	410.0	405.8	490.6	460.9
1 0 0 1 0 1	A1-O	333.9	345.4	340.2	352.0	354.9	366.7	387.7	395.5	468.3	450.6
1 0 0 1 1 0	A1-O	333.9	345.4	340.2	352.0	354.9	366.7	387.7	395.5	468.3	450.6
1 0 0 1 1 1	A1-O	333.9	344.8	340.2	351.3	354.9	366.1	387.7	394.8	468.3	449.9

1 0 1 0 0 1	A1-O	333.9	345.4	340.2	352.0	354.9	366.7	387.7	395.5	468.3	450.6	687.5	561.3
1 0 1 0 1 0	A1-O	333.9	345.4	340.2	352.0	354.9	366.7	387.7	395.5	468.3	450.6	687.5	561.3
1 0 1 0 1 1	A1-O	333.9	344.8	340.2	351.3	354.9	366.1	387.7	394.8	468.3	449.9	687.5	560.6
1 0 1 1 0 1	A1-O	333.9	344.9	340.2	351.3	354.9	366.1	387.7	395.1	468.3	450.0	687.5	560.7
1 0 1 1 1 0	A1-O	333.9	344.9	340.2	351.3	354.9	366.1	387.7	395.1	468.3	450.0	687.5	560.7
1 0 1 1 1 1	A1-O	334.0	344.2	340.2	350.7	354.9	365.4	387.8	394.5	468.3	449.3	687.5	560.0
1 1 0 1 0 1	A1-O	333.3	330.6	339.7	337.0	354.3	351.6	387.2	380.5	467.7	435.6	686.9	546.3
1 1 0 1 1 0	A1-O	333.3	330.6	339.7	337.0	354.3	351.6	387.2	380.5	467.7	435.6	686.9	546.3
1 1 0 1 1 1	A1-O	333.4	330.0	339.7	336.4	354.3	350.9	387.2	379.7	467.8	434.9	686.9	545.6
1 1 1 0 0 1	A1-O	333.3	330.6	339.7	337.0	354.3	351.6	387.2	380.5	467.7	435.6	686.9	546.3
1 1 1 0 1 0	A1-O	333.3	330.6	339.7	337.0	354.3	351.6	387.2	380.5	467.7	435.6	686.9	546.3
1 1 1 0 1 1	A1-O	333.4	330.0	339.7	336.4	354.3	350.9	387.2	379.7	467.8	434.9	686.9	545.6
1 1 1 1 0 1	A1-O	333.4	329.8	339.7	336.6	354.3	351.0	387.2	380.0	467.8	434.9	686.9	545.6
1 1 1 1 1 0	A1-O	333.4	329.8	339.7	336.6	354.3	351.0	387.2	380.0	467.8	434.9	686.9	545.6
1 1 1 1 1 1	A1-O	333.4	329.1	339.7	335.9	354.3	350.3	387.2	379.3	467.7	434.2	686.9	544.9
A1 A2 C1 C2 D1 D2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0 1 0 1	B2-O	376.6	354.5	382.9	361.1	397.6	375.9	430.5	404.7	511.1	459.7	730.3	570.4
0 1 0 1 1 0	B2-O	376.6	354.5	382.9	361.1	397.6	375.9	430.5	404.7	511.1	459.7	730.3	570.4
0 1 0 1 1 1	B2-O	376.5	353.9	382.9	360.4	397.6	375.2	430.5	403.9	511.1	459.0	730.2	569.7
0 1 1 0 0 1	B2-O	376.6	354.5	382.9	361.1	397.6	375.9	430.5	404.7	511.1	459.7	730.3	570.4
0 1 1 0 1 0	B2-O	376.6	354.5	382.9	361.1	397.6	375.9	430.5	404.7	511.1	459.7	730.3	570.4
0 1 1 0 1 1	B2-O	376.5	353.9	382.9	360.4	397.6	375.2	430.5	403.9	511.1	459.0	730.2	569.7
0 1 1 1 0 1	B2-O	376.5	353.9	382.9	360.5	397.6	375.2	430.5	404.0	511.1	459.0	730.2	569.7
0 1 1 1 1 0	B2-O	376.5	353.9	382.9	360.5	397.6	375.2	430.5	404.0	511.1	459.0	730.2	569.7
0 1 1 1 1 1	B2-O	376.5	353.2	382.8	359.8	397.6	374.5	430.5	403.3	511.0	458.3	730.2	569.0
1 0 0 1 0 1	B2-O	400.0	365.9	406.6	372.4	421.8	387.2	455.0	416.0	535.6	471.0	754.8	581.7
1 0 0 1 1 0	B2-O	400.0	365.9	406.6	372.4	421.8	387.2	455.0	416.0	535.6	471.0	754.8	581.7
1 0 0 1 1 1	B2-O	400.0	365.2	406.6	371.7	421.7	386.5	455.0	415.3	535.6	470.3	754.8	581.0
1 0 1 0 0 1	B2-O	400.0	365.9	406.6	372.4	421.8	387.2	455.0	416.0	535.6	471.0	754.8	581.7
1 0 1 0 1 0	B2-O	400.0	365.9	406.6	372.4	421.8	387.2	455.0	416.0	535.6	471.0	754.8	581.7
1 0 1 0 1 1	B2-O	400.0	365.2	406.6	371.7	421.7	386.5	455.0	415.3	535.6	470.3	754.8	581.0
1 0 1 1 0 1	B2-O	400.0	365.2	406.6	371.8	421.7	386.5	455.0	415.3	535.6	470.4	754.8	581.1
1 0 1 1 1 0	B2-O	400.0	365.2	406.6	371.8	421.7	386.5	455.0	415.3	535.6	470.4	754.8	581.1
1 0 1 1 1 1	B2-O	400.0	364.6	406.6	371.1	421.7	385.9	455.0	414.6	535.5	469.6	754.7	580.3
1 1 0 1 0 1	B2-O	388.5	344.0	394.9	350.6	409.7	365.4	442.7	394.1	523.2	449.2	742.4	559.9
1 1 0 1 1 0	B2-O	388.5	344.0	394.9	350.6	409.7	365.4	442.7	394.1	523.2	449.2	742.4	559.9
1 1 0 1 1 1	B2-O	388.5	343.4	394.9	349.8	409.7	364.6	442.6	393.6	523.2	448.5	742.3	559.2
1 1 1 0 0 1	B2-O	388.5	344.0	394.9	350.6	409.7	365.4	442.7	394.1	523.2	449.2	742.4	559.9
1 1 1 0 1 0	B2-O	388.5	344.0	394.9	350.6	409.7	365.4	442.7	394.1	523.2	449.2	742.4	559.9
1 1 1 0 1 1	B2-O	388.5	343.4	394.9	349.8	409.7	364.6	442.6	393.6	523.2	448.5	742.3	559.2
1 1 1 1 0 1	B2-O	388.5	343.5	394.9	349.9	409.7	364.6	442.6	393.7	523.2	448.5	742.3	559.2
1 1 1 1 1 0	B2-O	388.5	343.5	394.9	349.9	409.7	364.6	442.6	393.7	523.2	448.5	742.3	559.2

1 1 1 1 1 1	B2-O	388.5	342.8	394.9	349.3	409.6	363.9	442.6	393.0	523.1	447.8	742.3	558.5
0 1 0 1 0 1	B1-O	364.8	344.7	371.1	351.2	385.9	366.0	418.8	394.8	499.4	449.8	718.6	560.5
0 1 0 1 1 0	B1-O	364.8	344.7	371.1	351.2	385.9	366.0	418.8	394.8	499.4	449.8	718.6	560.5
0 1 0 1 1 1	B1-O	364.7	344.0	371.1	350.5	385.9	365.3	418.8	394.1	499.4	449.1	718.6	559.8
0 1 1 0 0 1	B1-O	364.8	344.7	371.1	351.2	385.9	366.0	418.8	394.8	499.4	449.8	718.6	560.5
0 1 1 0 1 0	B1-O	364.8	344.7	371.1	351.2	385.9	366.0	418.8	394.8	499.4	449.8	718.6	560.5
0 1 1 0 1 1	B1-O	364.7	344.0	371.1	350.5	385.9	365.3	418.8	394.1	499.4	449.1	718.6	559.8
0 1 1 1 0 1	B1-O	364.7	344.1	371.1	350.6	385.9	365.4	418.8	394.4	499.4	449.3	718.6	560.0
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1 0 0 1 0 1	B1-O	388.2	356.4	394.9	363.0	410.1	377.7	443.3	406.4	524.0	461.5	743.0	572.3
1 0 0 1 1 0	B1-O	388.2	356.4	394.9	363.0	410.1	377.7	443.3	406.4	524.0	461.5	743.0	572.3
1 0 0 1 1 1	B1-O	388.2	355.8	394.9	362.3	410.1	376.9	443.3	406.0	523.9	461.0	743.0	571.6
1 0 1 0 0 1	B1-O	388.2	356.4	394.9	363.0	410.1	377.7	443.3	406.4	524.0	461.5	743.0	572.3
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1 1 0 1 0 1	B1-O	377.0	336.5	383.3	343.1	398.1	357.8	430.9	386.5	511.5	441.6	730.7	552.3
1 1 0 1 1 0	B1-O	377.0	336.5	383.3	343.1	398.1	357.8	430.9	386.5	511.5	441.6	730.7	552.3
1 1 0 1 1 1	B1-O	377.0	335.8	383.3	342.3	398.0	357.0	430.9	386.1	511.5	440.9	730.7	551.6
1 1 1 0 0 1	B1-O	377.0	336.5	383.3	343.1	398.1	357.8	430.9	386.5	511.5	441.6	730.7	552.3
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1 1 1 1 1 1	B1-O	376.9	335.3	383.3	341.7	398.0	356.4	430.9	385.5	511.5	440.2	730.6	550.9
A1 A2 B1 B2 D1 D2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0 1 0 1	C2-O	319.7	325.4	326.3	331.8	341.3	346.3	374.5	375.3	455.0	430.5	674.0	541.2
0 1 0 1 1 0	C2-O	298.6	313.0	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
0 1 0 1 1 1	C2-O	297.9	301.0	304.2	307.5	318.9	322.2	351.7	351.3	432.1	406.1	651.1	516.8
0 1 1 0 0 1	C2-O	319.7	325.4	326.3	331.8	341.3	346.3	374.5	375.3	455.0	430.5	674.0	541.2
0 1 1 0 1 0	C2-O	298.6	313.0	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
0 1 1 0 1 1	C2-O	297.9	301.0	304.2	307.5	318.9	322.2	351.7	351.3	432.1	406.1	651.1	516.8
0 1 1 1 0 1	C2-O	319.7	325.4	326.3	331.8	341.3	346.3	374.5	375.3	455.0	430.4	674.0	541.2
0 1 1 1 1 0	C2-O	298.6	313.0	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
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1 0 0 1 0 1	C2-O	319.7	325.4	326.3	331.8	341.3	346.3	374.5	375.3	455.0	430.5	674.0	541.2
1 0 0 1 1 0	C2-O	298.6	313.0	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
1 0 0 1 1 1	C2-O	297.9	301.0	304.2	307.5	318.9	322.2	351.7	351.3	432.1	406.1	651.1	516.8
1 0 1 0 0 1	C2-O	319.7	325.4	326.3	331.8	341.3	346.3	374.5	375.3	455.0	430.5	674.0	541.2

1 0 1 0 1 0	C2-O	298.6	313.0	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
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1 0 1 1 1 0	C2-O	298.6	313.0	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
1 0 1 1 1 1	C2-O	297.9	301.1	304.2	307.5	318.9	322.2	351.7	351.3	432.1	406.1	651.1	516.8
1 1 0 1 0 1	C2-O	319.7	325.4	326.3	331.8	341.3	346.3	374.5	375.3	455.0	430.4	674.0	541.2
1 1 0 1 1 0	C2-O	298.6	312.9	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
1 1 0 1 1 1	C2-O	297.9	301.0	304.2	307.5	318.9	322.2	351.7	351.3	432.1	406.1	651.1	516.8
1 1 1 0 0 1	C2-O	319.7	325.4	326.3	331.8	341.3	346.3	374.5	375.3	455.0	430.4	674.0	541.2
1 1 1 0 1 0	C2-O	298.6	312.9	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
1 1 1 0 1 1	C2-O	297.9	301.0	304.2	307.5	318.9	322.2	351.7	351.3	432.1	406.1	651.1	516.8
1 1 1 1 0 1	C2-O	319.7	325.4	326.3	331.8	341.3	346.3	374.5	375.3	455.0	430.4	674.0	541.2
1 1 1 1 1 0	C2-O	298.6	313.0	304.9	319.8	319.5	334.2	352.3	363.2	432.8	418.2	651.8	528.9
1 1 1 1 1 1	C2-O	297.9	301.0	304.2	307.5	318.9	322.2	351.7	351.2	432.1	406.1	651.1	516.8
0 1 0 1 0 1	C1-O	332.5	334.6	339.1	341.4	354.2	355.9	387.3	384.9	467.8	439.9	686.8	550.6
0 1 0 1 1 0	C1-O	311.3	323.1	317.7	329.6	332.3	344.4	365.1	373.2	445.6	428.2	664.6	538.9
0 1 0 1 1 1	C1-O	310.7	309.0	317.1	315.5	331.7	330.0	364.6	359.0	445.0	414.1	664.0	524.8
0 1 1 0 0 1	C1-O	332.5	334.6	339.1	341.4	354.2	355.9	387.3	384.9	467.8	439.9	686.8	550.6
0 1 1 0 1 0	C1-O	311.3	323.1	317.7	329.6	332.3	344.4	365.1	373.2	445.6	428.2	664.6	538.9
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0 1 1 1 0 1	C1-O	332.5	334.6	339.1	341.4	354.2	355.9	387.3	384.9	467.8	439.9	686.8	550.6
0 1 1 1 1 0	C1-O	311.3	323.1	317.7	329.6	332.3	344.4	365.1	373.2	445.6	428.2	664.6	538.9
0 1 1 1 1 1	C1-O	310.7	309.0	317.1	315.5	331.7	330.0	364.6	359.0	445.1	414.1	664.1	524.8
1 0 0 1 0 1	C1-O	332.5	334.6	339.1	341.4	354.2	355.9	387.3	384.9	467.8	439.9	686.8	550.6
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1 1 1 1 0 1	C1-O	332.5	334.6	339.1	341.4	354.2	355.9	387.3	384.9	467.8	439.9	686.8	550.6
1 1 1 1 1 0	C1-O	311.3	323.1	317.7	329.6	332.3	344.4	365.1	373.2	445.6	428.2	664.6	538.9
1 1 1 1 1 1	C1-O	310.8	309.0	317.1	315.5	331.8	330.0	364.6	358.9	445.1	414.1	664.1	524.8

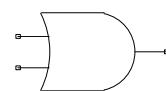
A1 A2 B1 B2 C1 C2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl										
0 1 0 1 0 1	D2-O	357.0	333.2	363.3	339.7	378.0	354.4	410.9	383.5	491.4	438.3	710.3	549.1
0 1 0 1 1 0	D2-O	378.4	344.0	385.0	350.8	400.1	365.3	433.4	394.3	513.8	449.3	732.8	560.0
0 1 0 1 1 1	D2-O	369.1	324.2	375.5	330.7	390.2	345.2	423.2	374.1	503.6	429.2	722.6	539.9
0 1 1 0 0 1	D2-O	357.0	333.2	363.3	339.7	378.0	354.4	410.9	383.5	491.4	438.3	710.3	549.1
0 1 1 0 1 0	D2-O	378.4	344.0	385.0	350.8	400.1	365.3	433.4	394.3	513.8	449.3	732.8	560.0
0 1 1 0 1 1	D2-O	369.1	324.2	375.5	330.7	390.2	345.2	423.2	374.1	503.6	429.2	722.6	539.9
0 1 1 1 0 1	D2-O	357.0	333.2	363.3	339.7	378.0	354.4	410.9	383.5	491.4	438.3	710.3	549.1
0 1 1 1 1 0	D2-O	378.4	344.0	385.0	350.8	400.1	365.3	433.4	394.3	513.8	449.3	732.8	560.0
0 1 1 1 1 1	D2-O	369.1	324.2	375.5	330.7	390.2	345.2	423.2	374.1	503.6	429.2	722.6	539.9
1 0 0 1 0 1	D2-O	357.0	333.2	363.3	339.7	378.0	354.4	410.9	383.5	491.4	438.3	710.3	549.1
1 0 0 1 1 0	D2-O	378.4	344.0	385.0	350.8	400.1	365.3	433.4	394.3	513.8	449.3	732.8	560.0
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1 0 1 0 1 1	D2-O	369.1	324.2	375.5	330.7	390.2	345.2	423.2	374.1	503.6	429.2	722.6	539.9
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1 0 1 1 1 0	D2-O	378.4	344.0	385.0	350.8	400.1	365.3	433.4	394.3	513.8	449.3	732.8	560.0
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1 1 0 1 1 0	D2-O	378.4	344.0	385.0	350.8	400.1	365.3	433.4	394.3	513.8	449.3	732.8	560.0
1 1 0 1 1 1	D2-O	369.1	324.2	375.5	330.7	390.2	345.2	423.2	374.1	503.6	429.2	722.6	539.9
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1 1 1 0 1 0	D2-O	378.4	344.0	385.0	350.8	400.1	365.3	433.4	394.3	513.8	449.3	732.8	560.0
1 1 1 0 1 1	D2-O	369.1	324.2	375.5	330.6	390.2	345.1	423.2	374.1	503.6	429.2	722.6	539.9
1 1 1 1 0 1	D2-O	357.0	333.2	363.3	339.7	378.0	354.4	410.9	383.5	491.4	438.3	710.3	549.1
1 1 1 1 1 0	D2-O	378.4	344.0	385.0	350.8	400.1	365.3	433.4	394.3	513.8	449.3	732.8	560.0
1 1 1 1 1 1	D2-O	369.1	324.2	375.5	330.7	390.2	345.1	423.2	374.1	503.6	429.2	722.6	539.9
0 1 0 1 0 1	D1-O	344.8	323.6	351.2	330.1	366.0	344.9	398.8	373.7	479.3	428.7	698.2	539.4
0 1 0 1 1 0	D1-O	366.3	334.6	373.0	341.1	388.2	355.9	421.4	385.0	501.9	439.9	720.8	550.6
0 1 0 1 1 1	D1-O	357.0	316.3	363.4	322.8	378.1	337.3	410.9	366.2	491.5	421.4	710.4	532.1
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0 1 1 1 0 1	D1-O	344.8	323.6	351.2	330.1	366.0	344.9	398.8	373.7	479.3	428.7	698.2	539.4
0 1 1 1 1 0	D1-O	366.3	334.6	373.0	341.1	388.2	355.9	421.4	385.0	501.9	439.9	720.8	550.6
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1 0 0 1 0 1	D1-O	344.8	323.6	351.2	330.1	366.0	344.9	398.8	373.7	479.3	428.7	698.2	539.4
1 0 0 1 1 0	D1-O	366.3	334.6	373.0	341.1	388.2	355.9	421.4	385.0	501.9	439.9	720.8	550.6
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1 0 1 0 1 0	D1-O	366.3	334.6	373.0	341.1	388.2	355.9	421.4	385.0	501.9	439.9	720.8	550.6

1 0 1 0 1 1	D1-O	357.0	316.3	363.4	322.8	378.1	337.3	410.9	366.2	491.5	421.4	710.4	532.1
1 0 1 1 0 1	D1-O	344.8	323.6	351.2	330.1	366.0	344.9	398.8	373.7	479.3	428.7	698.2	539.4
1 0 1 1 1 0	D1-O	366.3	334.6	373.0	341.1	388.2	355.9	421.4	385.0	501.9	439.9	720.8	550.6
1 0 1 1 1 1	D1-O	357.0	316.3	363.4	322.8	378.1	337.3	411.0	366.2	491.5	421.4	710.4	532.1
1 1 0 1 0 1	D1-O	344.8	323.6	351.2	330.1	366.0	344.9	398.8	373.7	479.3	428.7	698.2	539.4
1 1 0 1 1 0	D1-O	366.3	334.6	373.0	341.1	388.2	355.9	421.4	384.9	501.9	439.9	720.8	550.6
1 1 0 1 1 1	D1-O	357.0	316.3	363.4	322.8	378.1	337.3	411.0	366.2	491.5	421.4	710.4	532.0
1 1 1 0 0 1	D1-O	344.8	323.6	351.2	330.1	366.0	344.9	398.8	373.7	479.3	428.7	698.2	539.4
1 1 1 0 1 0	D1-O	366.3	334.6	373.0	341.1	388.2	355.9	421.4	384.9	501.9	439.9	720.8	550.6
1 1 1 0 1 1	D1-O	357.0	316.3	363.4	322.8	378.1	337.3	411.0	366.2	491.5	421.4	710.4	532.0
1 1 1 1 0 1	D1-O	344.8	323.6	351.2	330.1	366.0	344.9	398.8	373.7	479.3	428.7	698.2	539.4
1 1 1 1 1 0	D1-O	366.3	334.6	373.0	341.1	388.2	355.9	421.4	384.9	501.9	439.9	720.8	550.6
1 1 1 1 1 1	D1-O	357.0	316.3	363.4	322.8	378.1	337.3	411.0	366.2	491.5	421.4	710.4	532.0

Group Name : OR2

Symbol

Function : 2 Input OR



Truth Table

Schematic

I1	I2	O
0	0	0
OTHERS		1



Pin Order O I1 I2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I1	I2	O		O	
OR2CLD	1.437 1.201		80.58		4.523	
OR2ELD	1.566 1.300		139.3		5.987	
OR2HLD	2.129 1.817		281.0		10.23	
OR2KLD	4.433 3.508		561.9		19.94	
OR2MLD	8.781 7.572		843.7		33.00	
OR2NLD	8.776 7.544		1124.2		40.40	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

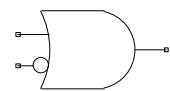
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
OR2CLD	5		tplh	tphl										
	I2-O	118.1	163.8	136.4	176.9	175.4	200.2	259.7	242.0	444.9	321.7	851.9	485.9	
	I1-O	128.1	177.2	146.6	190.2	185.7	213.7	270.1	256.0	455.5	335.5	862.8	499.6	
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
OR2ELD	5	Path	tplh	tphl										
		I2-O	121.0	169.8	135.1	180.9	166.7	202.8	242.8	243.7	428.7	327.5	884.9	514.8
		I1-O	131.3	182.2	145.6	193.9	177.5	215.0	253.8	257.0	439.4	340.2	896.3	528.0
		Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
OR2HLD	7	Path	tplh	tphl										
		I2-O	124.9	182.1	133.8	190.3	154.4	207.1	203.4	239.6	330.7	303.8	664.1	445.9
		I1-O	133.9	194.0	142.9	202.3	163.5	219.1	212.7	251.5	339.9	315.7	674.4	457.8

OR2KLD	12	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		I2-O	121.7	174.3	127.5	179.7	142.5	192.4	180.5	219.8	288.5	277.4	606.1	414.5
		I1-O	131.2	186.2	137.0	191.6	151.9	204.5	190.2	232.0	298.2	289.4	616.2	426.5
OR2MLD	22	Path	1.500 ff		4.768 ff		15.16 ff		48.19 ff		153.2 ff		487.0 ff	
			tplh	tphl										
		I2-O	109.6	152.0	113.9	155.9	125.6	165.8	158.2	189.3	255.8	241.3	562.5	372.9
		I1-O	122.7	171.0	127.0	174.9	138.8	184.7	171.3	208.3	269.2	260.3	576.5	391.9
OR2NLD	25	Path	3.000 ff		8.914 ff		26.48 ff		78.69 ff		233.8 ff		694.7 ff	
			tplh	tphl										
		I2-O	121.6	173.4	127.4	178.7	142.4	191.6	180.5	219.2	288.5	277.2	605.4	414.7
		I1-O	134.1	191.9	139.8	197.3	154.8	210.2	193.0	237.8	301.1	295.8	619.2	433.2

Group Name : OR2B1

Symbol

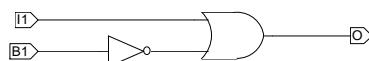
Function : 2 Input OR, One Input Inverted



Truth Table

Schematic

I1	B1	O
0	1	0
OTHERS		1



Pin Order O I1 B1

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading			Power Consumption		
	I1	B1	O			O			
OR2B1CLD	1.083	1.968		79.31			3.741		
OR2B1ELD	1.595	1.214		139.0			7.182		
OR2B1HLD	2.180	1.144		280.9			11.67		
OR2B1KLD	4.151	1.445		561.8			22.65		

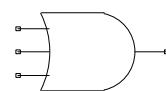
**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
OR2B1CLD	5		tplh	tphl										
	B1-O	102.3	61.39	121.9	73.25	162.6	96.61	248.0	143.2	434.1	239.0	839.3	445.5	
	I1-O	125.5	166.5	144.1	179.0	183.3	202.5	268.0	249.5	453.7	344.5	860.6	550.4	
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
OR2B1ELD	7	Path	tplh	tphl										
		B1-O	218.5	198.3	232.9	209.4	264.8	231.2	340.8	272.4	527.0	356.3	982.3	543.5
		I1-O	131.5	184.7	145.7	195.9	177.6	217.0	253.9	258.8	439.4	342.2	896.3	530.0
		Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
OR2B1HLD	9	Path	tplh	tphl										
		B1-O	238.1	218.0	247.1	226.3	267.8	242.9	317.0	275.4	443.8	339.7	777.9	481.8
		I1-O	134.3	196.4	143.2	204.6	163.8	221.6	213.0	254.0	340.1	318.3	674.5	460.4
		Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
OR2B1KLD	14	Path	tplh	tphl										
		B1-O	252.1	227.7	258.1	233.1	273.6	246.1	312.0	273.8	420.0	331.9	737.6	469.5
		I1-O	132.9	192.0	138.7	197.5	153.7	210.4	192.0	238.3	299.9	296.4	617.8	434.0

Group Name : OR3

Symbol

Function : 3 Input OR



Truth Table

Schematic

I1	I2	I3	O
0	0	0	0
OTHERS			1



Pin Order O I1 I2 I3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	I1	I2	I3	O		O	
OR3CLD	1.783	1.606	1.532	80.77		5.988	
OR3ELD	1.921	1.720	1.649	139.3		7.611	
OR3HLD	4.017	3.414	3.053	280.8		13.84	
OR3KLD	8.461	7.486	6.372	561.5		29.04	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

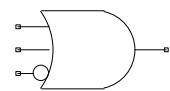
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
OR3CLD	7		tplh	tphl										
	I3-O	133.4	181.2	152.2	196.3	191.2	223.1	276.4	269.1	462.2	354.7	866.3	522.4	
	I2-O	148.2	213.6	167.1	228.7	206.2	255.7	291.6	302.6	477.8	387.7	883.6	555.8	
	I1-O	157.0	226.3	176.7	241.4	217.0	267.6	302.9	314.2	489.4	399.9	895.6	567.9	
OR3ELD	7	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		I3-O	134.8	189.5	149.3	202.3	181.4	227.3	257.6	273.4	443.7	363.9	899.7	556.2
		I2-O	150.0	221.8	164.5	234.4	197.3	259.2	273.5	306.8	460.2	396.5	916.5	589.4
		I1-O	159.0	234.0	174.0	246.6	207.5	271.1	284.3	317.6	470.7	408.8	928.5	601.3
OR3HLD	11	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		I3-O	125.2	169.9	134.0	178.6	154.5	195.8	203.4	229.5	330.4	296.3	664.5	441.3
		I2-O	141.1	203.0	150.1	211.4	170.6	228.9	219.9	262.8	347.4	329.7	682.0	474.7
		I1-O	150.5	215.4	159.8	223.8	181.2	241.3	231.2	275.2	359.4	342.0	694.5	487.0

OR3KLD	26	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		I3-O	124.1	168.3	130.0	174.1	144.8	188.0	183.0	217.7	290.8	279.9	608.3	422.7
		I2-O	142.2	209.8	148.2	215.7	163.4	229.6	201.9	259.5	310.4	321.9	628.5	464.7
		I1-O	153.2	228.1	159.4	234.0	175.1	247.7	214.8	277.5	324.4	340.0	643.8	482.8

Group Name : OR3B1

Symbol

Function : 3 Input OR, One Input Inverted



Truth Table

Schematic

I1	I2	B1	O
0	0	1	0
OTHERS			1



Pin Order O I1 I2 B1

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	I1	I2	B1	O		O	
OR3B1CLD	1.762	1.490	1.034	80.71		6.770	
OR3B1ELD	1.915	1.612	1.030	139.3		8.552	
OR3B1HLD	4.050	3.493	1.172	280.9		15.23	
OR3B1KLD	8.555	7.227	1.838	561.6		32.04	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

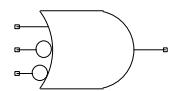
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
OR3B1CLD	8		tplh	tphl										
	B1-O	232.6	213.3	251.5	228.6	290.5	255.8	375.8	303.0	561.6	388.5	966.1	556.9	
	I2-O	149.3	218.2	168.4	233.2	207.5	260.3	293.0	308.1	478.8	393.3	884.4	561.4	
	I1-O	158.7	231.3	178.5	246.5	218.8	273.0	304.6	320.5	490.9	406.5	897.5	575.0	
OR3B1ELD	8	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		B1-O	238.0	221.7	252.8	234.7	285.2	259.7	361.4	306.9	547.5	397.2	1002	590.1
		I2-O	150.3	224.8	164.8	237.1	197.7	262.1	273.9	309.5	460.6	399.6	915.8	592.6
		I1-O	159.9	236.9	174.9	249.5	208.4	274.5	285.2	321.8	471.6	412.4	929.4	604.9
OR3B1HLD	12	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		B1-O	298.2	228.5	307.6	237.1	328.7	254.5	378.0	288.6	505.2	355.6	839.3	500.8
		I2-O	136.1	206.7	145.2	215.2	165.9	232.8	215.2	266.9	342.6	334.2	677.0	479.6
		I1-O	152.0	220.9	161.3	229.4	182.7	246.9	232.7	281.0	360.7	348.3	695.8	493.6

OR3B1KLD	27	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		B1-O	295.3	234.6	301.6	240.5	317.3	254.3	356.0	284.3	464.0	347.2	781.7	490.6
		I2-O	143.8	215.7	149.7	221.5	165.0	235.5	203.5	265.5	311.9	328.5	630.0	471.9
		I1-O	155.4	233.7	161.6	239.7	177.3	253.5	216.9	283.6	326.2	346.4	645.5	489.8

Group Name : OR3B2

Symbol

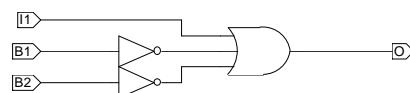
Function : 3 Input OR, Two Input Inverted



Truth Table

Schematic

I1	B1	B2	O
0	1	1	0
OTHERS			1



Pin Order O I1 B1 B2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading		Power Consumption	
	I1	B1	B2	O		O	
OR3B2CLD	1.321	1.905	2.163	86.13		4.920	
OR3B2ELD	1.948	1.091	1.140	139.2		9.722	
OR3B2HLD	4.140	1.673	1.735	280.8		17.25	
OR3B2KLD	4.148	1.738	1.739	560.8		24.59	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

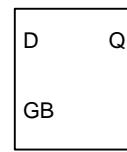
Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
OR3B2CLD	7		tplh	tphl										
	B1-O	111.7	74.45	129.2	86.57	166.0	111.1	243.6	161.4	411.8	266.9	779.7	496.5	
	B2-O	127.1	77.84	144.2	89.07	180.3	112.8	258.0	162.0	426.2	267.2	793.9	496.6	
	I1-O	134.1	167.1	151.0	179.3	186.7	203.3	263.4	253.8	431.8	358.1	798.7	587.8	
OR3B2ELD	10	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		B1-O	249.8	231.2	264.4	244.4	297.3	269.8	373.3	317.4	558.7	408.6	1015	602.3
		B2-O	272.2	272.0	286.9	285.0	319.7	309.7	396.3	357.2	582.7	449.7	1039	643.0
		I1-O	162.6	244.9	177.8	258.1	211.5	283.2	288.2	330.3	474.7	422.7	932.6	615.8
OR3B2HLD	15	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		B1-O	234.9	212.9	243.9	221.4	264.5	239.1	313.6	273.1	440.6	340.4	774.7	485.8
		B2-O	254.5	255.3	263.5	263.8	284.6	281.5	334.0	315.6	461.3	382.8	795.9	528.2
		I1-O	151.7	221.6	161.0	230.1	182.5	247.5	232.5	281.9	360.7	349.1	695.9	494.5

OR3B2KLD	17	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		B1-O	259.9	268.5	266.6	275.3	283.2	291.4	323.1	325.3	431.3	393.6	749.0	543.8
		B2-O	278.9	310.9	285.5	318.0	302.1	333.9	342.3	367.7	451.0	436.0	769.2	586.2
		I1-O	176.3	275.9	183.2	282.7	200.2	298.8	240.8	332.4	350.1	401.1	669.0	551.1

Group Name : QDBAH

Symbol

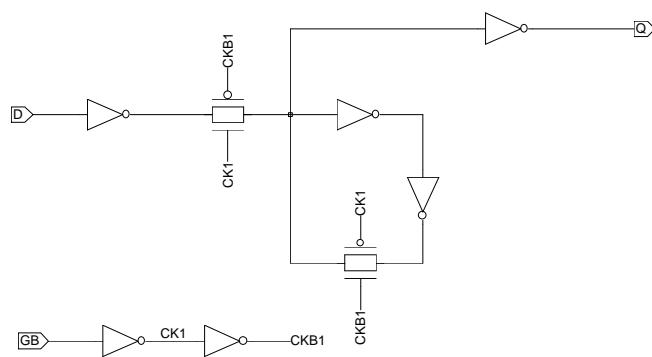
Function : D Latch, Active Low, Single Output



Truth Table

GB	D	Q
0	0	0
0	1	1
1	X	Q

Schematic



Pin Order Q D GB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption		
	D	GB	Q		Q	D	GB
QDBAHELD	1.825	1.340	139.1		14.64	1.903	5.346
QDBAHHLD	2.783	1.629	280.6		19.63	2.711	6.222

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
QDBAHELD	16		tplh	tphl									
	D-Q	170.7	227.2	187.7	241.7	223.0	269.3	301.7	318.4	488.1	409.7	944.5	602.5
	GB-Q	260.2	306.9	277.2	321.3	312.6	349.0	391.4	398.0	577.8	489.5	1034	681.9

QDBAHHLD	17	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		D-Q	164.8	229.1	176.7	240.3	201.9	262.8	256.2	303.9	385.0	377.7	719.4	528.2
		GB-Q	255.2	305.2	267.1	316.3	292.3	338.7	346.6	379.7	475.4	453.5	809.8	604.0

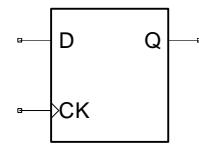
**Timing Constraint (ps)**

Item	Version	
	QDBAHELD	QDBAHHLD
Setup Timing D / GB /	168.1	157.0
Setup Timing D \ GB /	191.5	186.6
Hold Timing D / GB /	-69.18	-71.64
Hold Timing D \ GB /	-79.04	-86.44
Minimum L-pulse Width GB	341.3	352.4

Group Name : QDFF

Symbol

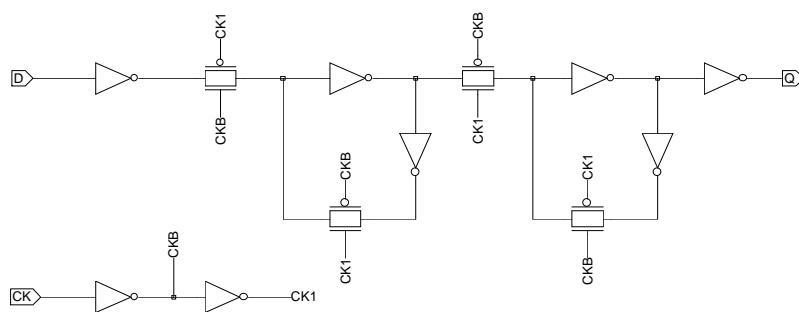
Function : D Flip-Flop, Single Output



Truth Table

CK	D	Q
0	0	
1	1	
X	X	Q

Schematic



Pin Order Q D CK

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption			
	D	CK	Q		Q	D	CK	
QDFFCLD	1.358	1.368		80.88		16.27	5.165	5.948
QDFFELD	1.355	1.601		140.2		18.17	5.199	6.488
QDFFHLD	1.343	1.555		282.3		21.85	5.085	6.343
QDFFKLD	1.347	2.790		564.2		29.65	5.047	8.599

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
QDFFCLD	20		tplh	tphl										
	CK-Q	317.1	323.6	335.9	335.1	375.3	355.6	460.5	394.2	645.0	470.6	1051	633.2	
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
QDFFELD	20	CK-Q	312.2	318.8	326.5	329.2	358.6	348.9	434.6	386.9	621.0	466.6	1077	652.1

QDFFHLD	21	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		CK-Q	326.3	305.6	335.5	312.4	355.8	326.0	404.5	352.3	531.7	408.8	865.7	545.0
QDFFKLD	24	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		CK-Q	329.3	307.1	336.1	312.9	352.4	325.8	391.1	352.5	499.0	407.8	816.5	541.9

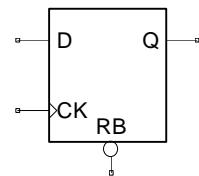
**Timing Constraint (ps)**

Item \ Version	QDFFCLD	QDFFELD	QDFFHLD	QDFFKLD
Setup Timing D / CK /	156.8	166.7	166.7	164.2
Setup Timing D \ CK /	190.1	197.5	207.3	236.9
Hold Timing D / CK /	-38.12	-38.12	-28.26	-13.47
Hold Timing D \ CK /	-14.70	-14.70	-14.70	-25.79
Minimum H-pulse Width CK	258.3	258.3	297.8	305.1
Minimum L-pulse Width CK	455.4	425.2	425.2	361.8

Group Name : QDFFRB

Symbol

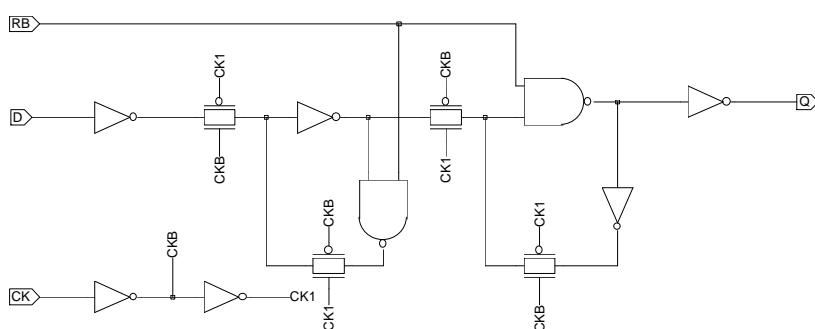
Function : D Flip-flop with Clear, Single Output



Truth Table

CK	D	RB	Q
0	1		0
1	1		1
X	X	0	0

Schematic



Pin Order Q D CK RB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading		Power Consumption			
	D	CK	RB	Q		Q	D	CK	
QDFFRBCLD	1.356	1.363	2.765		89.52		18.53	6.545	6.016
QDFFRBELD	1.356	1.594	2.748		139.8		20.69	6.548	6.516
QDFFRBHLD	1.357	1.609	3.787		282.2		24.71	6.553	6.510
QDFFRBKLD	1.357	2.764	3.740		563.0		31.86	6.531	8.657

#### AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff
QDFFRBCLD	22		tplh	tphl									
	RB-Q	-	144.6	-	155.8	-	176.1	-	214.3	-	290.4	-	454.5
	CK-Q	320.1	317.5	338.2	328.7	374.6	348.9	452.0	386.8	619.9	462.9	986.5	625.3

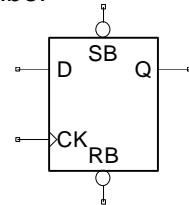
QDFFRBELD	22	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		RB-Q	-	153.3	-	163.4	-	182.6	-	220.1	-	299.2	-	486.7
		CK-Q	320.5	310.0	336.1	320.0	370.0	338.8	446.2	376.4	632.5	455.2	1088	640.6
QDFFRBHLD	24	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		RB-Q	-	135.1	-	141.9	-	155.7	-	182.3	-	239.1	-	376.1
		CK-Q	329.2	304.9	339.5	311.8	361.5	325.6	411.7	352.2	539.3	408.9	873.6	545.2
QDFFRBKLD	27	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		RB-Q	-	171.1	-	176.8	-	189.7	-	216.4	-	272.3	-	407.7
		CK-Q	337.2	301.9	345.1	307.7	363.5	320.5	405.6	347.2	515.1	403.0	833.2	537.6

**Timing Constraint (ps)**

Item \ Version	QDFFRBCLD	QDFFRBELD	QDFFRBHLD	QDFFRBKLD
Setup Timing D / CK /	144.5	154.3	156.8	171.6
Setup Timing D \ CK /	219.7	241.9	241.9	281.3
Hold Timing D / CK /	-52.92	-50.45	-45.52	-38.12
Hold Timing D \ CK /	-25.79	-27.03	-22.10	-30.73
Minimum H-pulse Width CK	246.0	258.3	285.4	297.8
Minimum L-pulse Width CK	494.8	460.3	460.3	396.3
Minimum L-pulse Width RB	356.9	337.2	246.0	322.4
Recovery Timing RB / CK /	-55.28	-40.48	-31.85	-7.192
Removal Timing RB / CK /	228.2	213.4	206.0	173.9

Group Name : QDFFRSB

Symbol

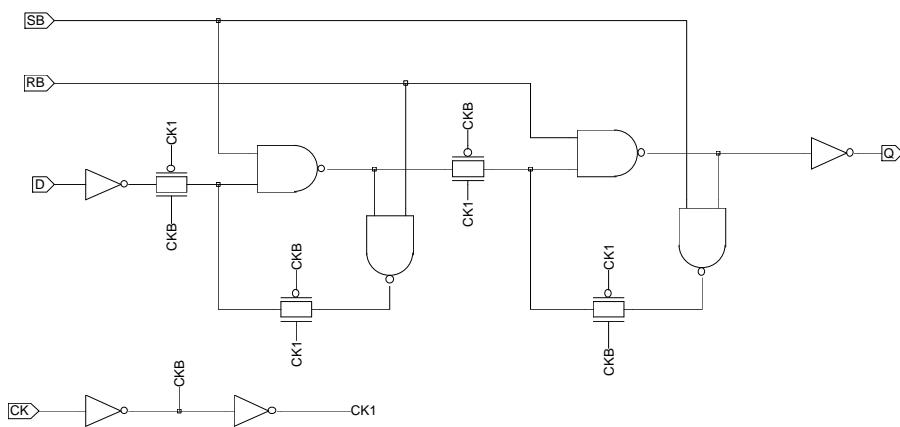


Function : D Flip-Flop with Clear/Set, Single Output

Truth Table

CK	D	RB	SB	Q
0	1	1	1	0
1	1	1	1	1
X	X	1	0	1
X	X	0	1	0
X	X	0	0	0

Schematic



Pin Order Q D CK RB SB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading	Power Consumption		
	D	CK	RB	SB		Q	D	CK
QDFFRSBELD	1.339	1.556	2.188	2.879	139.2	20.84	5.053	6.408
QDFFRSBHLD	1.339	1.557	3.329	3.032	281.9	26.22	5.164	6.409

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

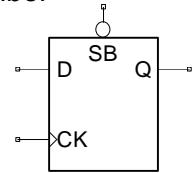
Version	Cell Unit	Output Load													
QDFFRSBELD	26	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
			tplh	tphl											
		RB-Q	-	207.4	-	219.7	-	243.0	-	286.3	-	372.4	-	562.1	
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
			tplh	tphl											
		SB-Q	483.3	-	497.8	-	525.5	-	578.1	-	686.8	-	923.0	-	
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
			tplh	tphl											
		CK-Q	418.9	410.2	436.6	422.8	473.0	446.1	551.8	489.9	738.2	576.1	1195	764.9	
QDFFRSBHLD	27	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff		
			tplh	tphl											
		RB-Q	-	177.7	-	186.1	-	202.5	-	233.3	-	294.6	-	435.3	
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
			tplh	tphl											
		SB-Q	495.4	-	505.3	-	525.1	-	565.5	-	658.9	-	887.7	-	
		Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff		
			tplh	tphl											
		CK-Q	426.3	397.5	437.5	406.2	460.8	423.1	511.6	454.5	639.3	516.4	973.9	657.0	

## Timing Constraint (ps)

Item	Version	QDFFRSBELD	QDFFRSBHLD
Setup Timing D / CK /		245.5	257.9
Setup Timing D \ CK /		269.0	273.9
Hold Timing D / CK /		-1.137	-6.069
Hold Timing D \ CK /		-13.47	-12.23
Minimum H-pulse Width CK		376.6	420.9
Minimum L-pulse Width CK		475.1	480.0
Minimum L-pulse Width RB		484.4	361.8
Minimum L-pulse Width SB		542.9	600.8
Recovery Timing RB / CK /		-40.48	-40.48
Recovery Timing SB / CK /		69.25	64.32
Removal Timing RB / CK /		178.9	171.5
Removal Timing SB / CK /		21.05	21.05

Group Name : QDFFSB

Symbol

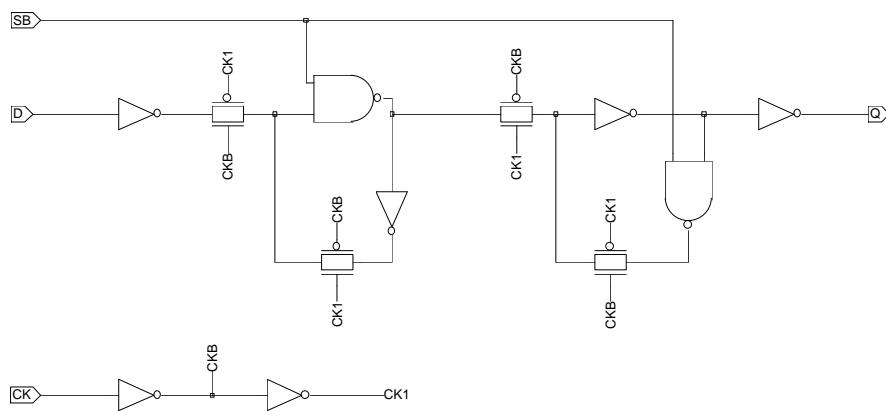


Function : D Flip-Flop with Set, Single Output

Truth Table

CK	D	SB	Q
0	1		0
1	1		1
X	X	0	1

Schematic



Pin Order Q D CK SB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading		Power Consumption			
	D	CK	SB	Q		Q	D	CK	
QDFFSBELD	1.350	1.557	2.371		139.7		20.37	5.242	6.341
QDFFSBHLD	1.350	1.557	2.706		282.4		25.30	5.250	6.335

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load						
QDFFSBELD	22	Path	1.500 ff	3.306 ff	7.287 ff	16.06 ff	35.40 ff	78.03 ff
			tplh tphl					
		SB-Q	434.2 -	446.0 -	469.7 -	519.2 -	626.4 -	862.8 -
	24	Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff
			tplh tphl					
		CK-Q	359.5 318.5	374.0 327.9	406.5 346.6	482.8 383.6	669.0 462.8	1125 648.0
QDFFSBHLD	22	Path	1.500 ff	3.711 ff	9.182 ff	22.72 ff	56.20 ff	139.0 ff
			tplh tphl					
		SB-Q	399.6 -	407.9 -	425.0 -	463.6 -	556.4 -	784.8 -
	24	Path	1.500 ff	3.971 ff	10.51 ff	27.82 ff	73.64 ff	194.9 ff
			tplh tphl					
		CK-Q	368.5 320.9	378.0 327.7	398.7 341.4	447.7 368.1	574.7 424.8	908.8 561.6

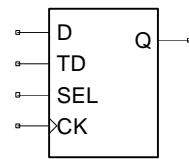
### Timing Constraint (ps)

Item \ Version	QDFFSBELD	QDFFSBHLD
Setup Timing D / CK /	230.8	188.8
Setup Timing D \ CK /	214.7	209.8
Hold Timing D / CK /	-33.19	-33.19
Hold Timing D \ CK /	-20.86	-20.86
Minimum H-pulse Width CK	322.4	356.9
Minimum L-pulse Width CK	425.2	435.7
Minimum L-pulse Width SB	475.1	416.0
Recovery Timing SB / CK /	12.53	0.205
Removal Timing SB / CK /	70.37	75.30

Group Name : QDFZ

Symbol

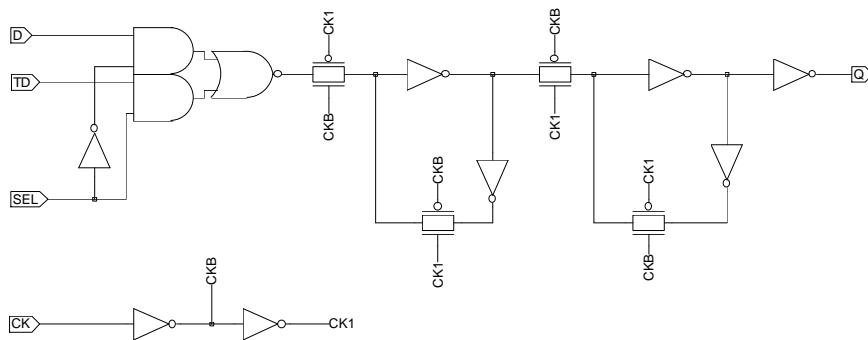
Function : D Flip-Flop with Scan, Single Output



Truth Table

CK	D	TD	SEL	Q
0	X	0		0
1	X	0		1
X	0	1		0
X	1	1		1
X	X	X		Q

Schematic



Pin Order Q D TD CK SEL

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Q	Maximum Loading					Power Consumption				
	D	TD	CK	SEL		Q	Q	D	TD	CK	SEL	Q	D	TD	CK
QDFZCLD	2.002	1.326	1.397	3.188	80.87			16.05	6.451	7.493	5.880	11.93			
QDFZELD	2.002	1.324	1.625	3.188	139.7			17.82	6.465	7.520	6.390	11.95			
QDFZHLD	2.002	1.324	1.626	3.188	282.4			21.85	6.441	7.495	6.386	11.95			
QDFZKLD	2.011	1.251	2.808	3.184	564.2			29.65	6.380	7.438	8.603	11.84			

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
QDFZCLD	25	Path	tplh	tphl									
			CK-Q	313.3	320.7	332.1	332.3	371.5	352.7	456.7	391.2	641.5	467.6
QDFZELD	25	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
			tplh	tphl	tplh								
		CK-Q	308.8	316.0	323.1	326.1	355.2	345.9	431.2	384.1	617.7	464.0	1074
QDFZHLD	25	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff
			tplh	tphl	tplh								
		CK-Q	326.4	305.8	335.5	312.6	355.8	326.2	404.6	352.5	531.8	409.0	865.8
QDFZKLD	28	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff
			tplh	tphl	tplh								
		CK-Q	329.3	307.1	336.2	312.9	352.5	325.9	391.1	352.6	499.0	407.8	816.6

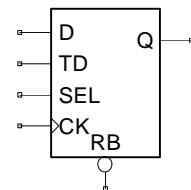
## Timing Constraint (ps)

Item \ Version	QDFZCLD	QDFZELD	QDFZHLD	QDFZKLD
Setup Timing D / CK /	211.0	223.4	220.9	217.2
Setup Timing D \ CK /	217.2	224.6	236.9	266.5
Setup Timing TD / CK /	294.9	303.5	306.0	296.1
Setup Timing TD \ CK /	670.9	683.2	747.3	818.9
Setup Timing SEL / CK /	673.4	683.2	732.6	791.7
Setup Timing SEL \ CK /	303.5	314.6	313.4	314.6
Hold Timing D / CK /	-77.58	-72.65	-33.19	-35.66
Hold Timing D \ CK /	-27.03	-27.03	-28.26	-40.59
Hold Timing TD / CK /	-134.3	-129.4	-57.85	-55.38
Hold Timing TD \ CK /	-123.2	-108.4	-113.3	-145.4
Hold Timing SEL / CK /	-126.9	-117.0	-50.45	-50.45
Hold Timing SEL \ CK /	-29.49	-29.49	-30.73	-44.29
Minimum H-pulse Width CK	247.9	258.3	297.8	305.1
Minimum L-pulse Width CK	620.4	582.9	593.4	514.5

Group Name : QDFZRB

Symbol

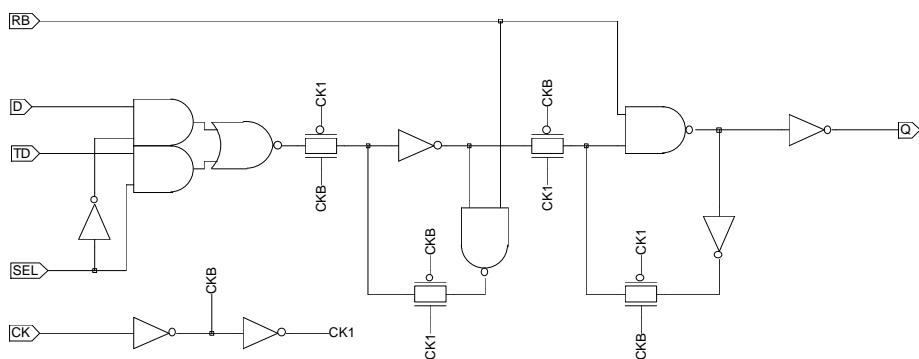
Function : D Flip-Flop with Clear and Scan, Single Output



Truth Table

CK	D	RB	TD	SEL	Q
0	1	X	0	0	0
1	1	X	0	0	1
X	1	0	1	1	0
X	1	1	1	1	1
X	1	X	X	X	Q
X	X	0	X	X	0

Schematic



Pin Order Q D TD CK SEL RB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance					Maximum Loading	Power Consumption				
	D	TD	CK	SEL	RB		Q	D	TD	CK	SEL
QDFZRBCLD	2.027	1.392	1.332	3.177	2.736	89.48	18.62	7.828	8.914	6.060	13.87
QDFZRBE LD	2.024	1.381	1.587	3.128	2.703	139.8	20.04	7.858	8.938	6.556	13.92
QDFZRBHLD	2.024	1.381	1.588	3.128	3.753	282.2	24.68	7.846	8.920	6.550	13.91
QDFZRBKLD	2.024	1.380	2.785	3.128	3.749	562.9	32.07	7.866	8.945	8.771	13.91

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

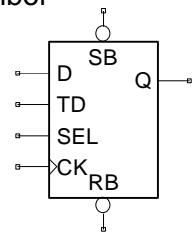
Version	Cell Unit	Output Load												
QDFZRBCLD	28	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		RB-Q	-	144.4	-	155.5	-	175.9	-	214.0	-	290.0	-	454.2
		CK-Q	320.0	317.6	338.0	328.7	374.3	348.8	451.7	386.7	619.7	462.8	986.1	624.9
QDFZRBELD	28	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		RB-Q	-	150.9	-	160.9	-	180.0	-	217.3	-	296.3	-	483.8
		CK-Q	315.4	306.7	331.0	316.6	364.7	335.4	440.8	372.5	627.2	451.4	1083	636.3
QDFZRBHLD	30	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		RB-Q	-	135.9	-	142.7	-	156.5	-	183.3	-	240.2	-	377.2
		CK-Q	328.5	305.5	338.8	312.5	360.9	326.3	411.1	353.0	538.7	409.8	873.0	546.1
QDFZRBKLD	33	Path	1.500 ff		4.457 ff		13.24 ff		39.34 ff		116.9 ff		347.3 ff	
			tplh	tphl										
		RB-Q	-	172.3	-	178.0	-	191.1	-	217.9	-	273.9	-	409.5
		CK-Q	339.3	304.4	347.3	310.5	365.8	323.2	408.0	350.0	517.6	406.0	835.6	540.7

### Timing Constraint (ps)

Item \ Version	QDFZRBCLD	QDFZRBELD	QDFZRBHLD	QDFZRBKLD
Setup Timing D / CK /	196.2	211.0	213.5	223.4
Setup Timing D \ CK /	244.3	254.2	269.0	310.9
Setup Timing TD / CK /	280.1	294.9	297.3	307.2
Setup Timing TD \ CK /	737.5	747.3	764.6	818.9
Setup Timing SEL / CK /	735.0	744.9	762.1	813.9
Setup Timing SEL \ CK /	294.9	307.2	309.7	320.8
Hold Timing D / CK /	-94.84	-92.37	-84.97	-70.18
Hold Timing D \ CK /	-39.36	-34.43	-34.43	-44.29
Hold Timing TD / CK /	-156.5	-151.5	-141.7	-117.0
Hold Timing TD \ CK /	-162.6	-147.9	-147.9	-152.8
Hold Timing SEL / CK /	-149.1	-144.2	-134.3	-109.6
Hold Timing SEL \ CK /	-43.06	-39.36	-39.36	-44.29
Minimum H-pulse Width CK	246.0	247.2	283.0	297.8
Minimum L-pulse Width CK	679.6	641.4	652.5	558.9
Minimum L-pulse Width RB	356.9	322.4	247.2	322.4
Recovery Timing RB / CK /	-55.28	-35.55	-35.55	-7.192
Removal Timing RB / CK /	228.2	213.4	206.0	176.4

Group Name : QDFZRSB

Symbol

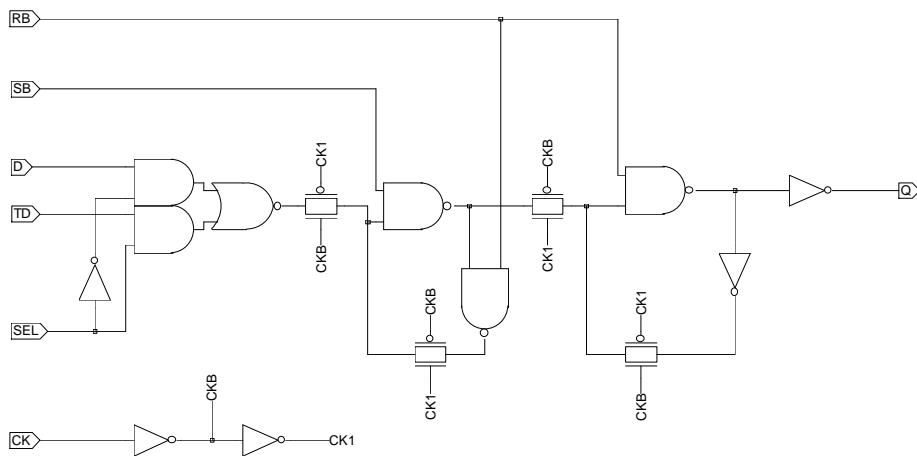


Function : D Flip-Flop with Clear/Set and Scan,  
Single Output

Truth Table

CK	D	RB	SB	TD	SEL	Q
/	0	1	1	X	0	0
/	1	1	1	X	0	1
/	X	1	1	0	1	0
/	X	1	1	1	1	1
/	X	1	1	X	X	Q
X	X	0	1	X	X	0
X	X	1	0	X	X	1
X	X	0	0	X	X	0

Schematic



Pin Order Q D TD CK SEL RB SB

#### Input Capacitance (ff) & Maximum Loading (ff)

Version	Input Capacitance (ff)						Maximum Loading
	D	TD	CK	SEL	RB	SB	
QDFZRSBELD	2.068	1.194	1.551	3.204	2.221	2.889	139.2
QDFZRSBHL	2.068	1.194	1.554	3.204	3.302	3.069	282.0

## Power Consumption (nW/MHz)

Version	Power Consumption				
	Q	D	TD	CK	SEL
QDFZRSBELD	21.00	6.288	7.283	6.362	11.82
QDFZRSBHLD	26.20	6.358	7.354	6.364	11.90

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
QDFZRSBELD	30		tplh	tphl										
	RB-Q	-	205.7	-	217.7	-	240.7	-	283.7	-	369.5	-	559.0	
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl			
	SB-Q	486.4	-	500.7	-	528.1	-	580.7	-	689.1	-	924.9	-	
	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl			
	CK-Q	418.3	408.4	435.8	420.8	472.0	443.8	550.8	487.3	736.9	573.1	1194	761.9	
QDFZRSBHLD	32	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		RB-Q	-	179.2	-	187.8	-	204.4	-	235.4	-	297.1	-	437.9
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		SB-Q	497.0	-	507.0	-	526.9	-	567.5	-	660.9	-	889.6	-
		Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		CK-Q	426.4	398.5	437.7	407.3	461.2	424.4	512.1	456.1	639.8	518.3	974.4	659.0

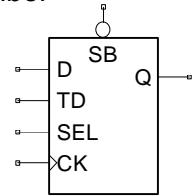
**Timing Constraint (ps)**

Item	Version	QDFZRSBELD	QDFZRSBHLD
Setup Timing D / CK /		299.8	309.7
Setup Timing D \ CK /		296.1	301.0
Setup Timing TD / CK /		378.7	386.1
Setup Timing TD \ CK /		762.1	762.1
Setup Timing SEL / CK /		757.2	754.8
Setup Timing SEL \ CK /		393.5	403.4
Hold Timing D / CK /		-33.19	-15.93
Hold Timing D \ CK /		-25.79	-23.33
Hold Timing TD / CK /		-55.38	-47.99
Hold Timing TD \ CK /		-104.7	-94.84
Hold Timing SEL / CK /		-52.92	-23.33
Hold Timing SEL \ CK /		-28.26	-25.79
Minimum H-pulse Width CK		376.6	420.9
Minimum L-pulse Width CK		640.2	652.5
Minimum L-pulse Width RB		480.0	365.5
Minimum L-pulse Width SB		553.9	602.0
Recovery Timing RB / CK /		-40.48	-25.69
Recovery Timing SB / CK /		69.25	64.32
Removal Timing RB / CK /		178.9	171.5
Removal Timing SB / CK /		21.05	21.05

Group Name : QDFZSB

Symbol

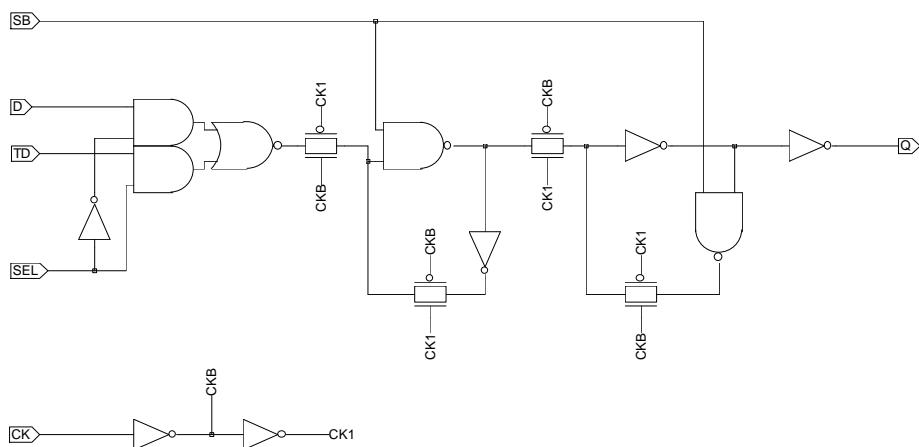
Function : D Flip-Flop with Set and Scan, Single Output Q



Truth Table

CK	D	SB	TD	SEL	Q
/	0	1	X	0	0
/	1	1	X	0	1
/	X	1	0	1	0
/	X	1	1	1	1
\	X	1	X	X	Q
X	X	0	X	X	1

Schematic



Pin Order Q D TD CK SEL SB

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance					Maximum Loading	Power Consumption				
	D	TD	CK	SEL	SB		Q	D	TD	CK	SEL
QDFZSBELD	2.024	1.325	1.552	3.249	2.348	139.8	20.47	6.651	7.680	6.381	12.37
QDFZSBHLD	2.023	1.364	1.614	3.249	2.714	282.4	25.65	6.761	7.798	6.385	12.51

AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load												
QDFZSBEVD	27	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
			tplh	tphl										
		SB-Q	438.0	-	449.8	-	473.7	-	523.1	-	630.3	-	866.4	-
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		CK-Q	360.8	319.0	375.3	328.4	407.8	347.1	484.2	384.1	670.3	463.2	1127	648.3
QDFZSBHLD	29	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		SB-Q	408.9	-	417.3	-	434.7	-	473.3	-	566.0	-	794.5	-
		Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		CK-Q	368.5	322.2	378.1	329.1	398.8	342.9	447.9	369.7	574.9	426.5	909.1	563.3

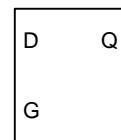
### Timing Constraint (ps)

Item \ Version	QDFZSBEVD	QDFZSBHLD
Setup Timing D / CK /	289.9	257.9
Setup Timing D \ CK /	239.4	244.3
Setup Timing TD / CK /	373.8	341.7
Setup Timing TD \ CK /	693.1	710.4
Setup Timing SEL / CK /	693.1	707.9
Setup Timing SEL \ CK /	388.6	360.2
Hold Timing D / CK /	-72.65	-75.11
Hold Timing D \ CK /	-34.43	-36.89
Hold Timing TD / CK /	-126.9	-119.5
Hold Timing TD \ CK /	-123.2	-147.9
Hold Timing SEL / CK /	-119.5	-112.1
Hold Timing SEL \ CK /	-34.43	-40.59
Minimum H-pulse Width CK	326.1	356.9
Minimum L-pulse Width CK	593.4	600.8
Minimum L-pulse Width SB	480.0	435.7
Recovery Timing SB / CK /	5.137	0.205
Removal Timing SB / CK /	67.91	72.84

Group Name : QDLAH

Symbol

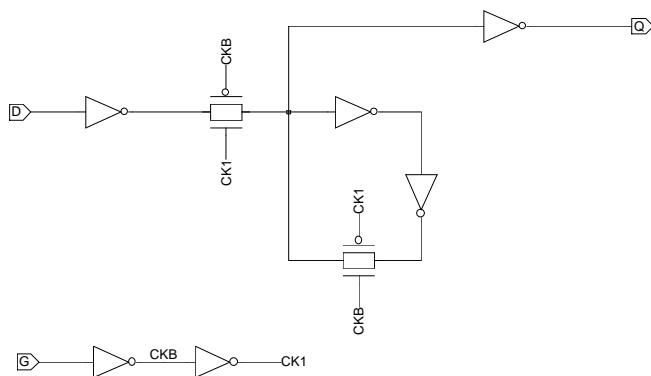
Function : D Latch, Single Output



Truth Table

G	D	Q
1	0	0
1	1	1
0	X	Q

Schematic



Pin Order Q D G

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption			
	D	G	Q		Q	D	G	
QDLAHCLD	1.506	1.341		80.73		11.48	1.616	5.147
QDLAHELD	1.824	1.341		138.9		13.32	1.900	5.217
QDLAHHLD	2.783	1.627		280.6		18.08	2.710	6.157

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff
QDLAHCLD	16		tplh	tphl									
	D-Q	174.8	239.7	195.9	258.0	237.2	289.4	323.8	340.7	508.5	429.8	915.1	600.1
	G-Q	263.7	278.5	284.8	296.8	325.9	328.0	412.0	379.5	597.6	468.5	1004	639.2

QDLAHELD	16	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
		D-Q	171.5	226.5	188.5	241.0	223.9	268.6	302.7	317.6	489.3	408.9	945.5	601.8
		G-Q	259.1	263.5	276.1	277.7	311.4	305.5	389.6	354.6	576.0	446.0	1032	638.9
QDLAHHLD	17	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		D-Q	165.4	228.6	177.3	239.8	202.5	262.3	256.8	303.3	385.6	377.1	720.0	527.6
		G-Q	240.1	268.1	252.0	279.2	277.2	301.6	331.3	342.8	459.9	416.6	794.3	567.1

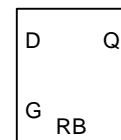
**Timing Constraint (ps)**

Item	Version	QDLAHCLD	QDLAHELD	QDLAHHLD
Setup Timing D / G \		106.5	101.5	104.0
Setup Timing D \ G \		233.5	198.9	198.9
Hold Timing D / G \		-0.136	2.330	-0.136
Hold Timing D \ G \		-118.5	-108.6	-108.6
Minimum H-pulse Width G		282.8	273.5	293.2

Group Name : QDLAHRB

Symbol

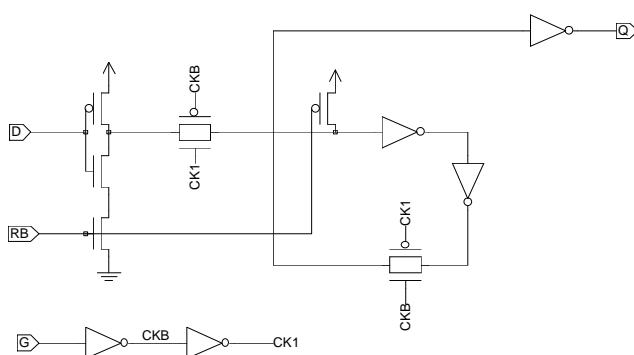
Function : D Latch with Clear, Single Output



Truth Table

G	D	RB	Q
1	0	1	0
1	1	1	1
X	X	0	0
0	X	1	Q

Schematic



Pin Order Q D G RB

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading			Power Consumption		
	D	G	RB	Q			Q	D	G
QDLAHRBCLD	1.923	1.293	2.428		80.89		12.85	2.394	5.366
QDLAHRBELED	2.048	1.339	2.428		138.8		15.03	2.578	5.574
QDLAHRBHLD	2.198	1.627	2.486		280.0		19.54	2.875	6.485

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff
QDLAHRBCLD	18		tplh	tphl									
	RB-Q	194.6	170.5	216.8	183.3	259.1	207.2	346.3	251.3	531.3	334.5	937.5	500.1
	D-Q	188.9	273.2	211.1	293.5	253.4	327.7	340.5	383.2	525.5	477.3	931.7	652.5
	G-Q	293.1	318.3	315.2	338.5	357.3	372.8	443.7	428.2	630.4	522.6	1037	697.7

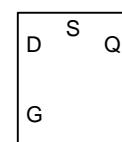
	18	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
			tplh	tphl										
QDLAHRBELD	RB-Q		199.6	180.9	218.3	192.2	256.2	215.2	337.0	260.0	524.4	347.9	980.6	537.7
	D-Q		194.9	263.7	213.7	279.8	251.5	310.6	332.3	364.3	519.6	461.3	975.8	659.0
	G-Q		288.4	302.4	307.1	319.3	344.7	350.0	425.2	403.7	612.6	500.8	1069	698.4
QDLAHRBHLD	RB-Q	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
	D-Q		tplh	tphl										
	215.8	206.8	229.6	216.1	258.5	235.1	317.8	272.4	449.8	344.2	784.7	492.2		
	G-Q		212.8	281.8	226.7	294.7	255.6	320.3	314.8	366.9	446.8	448.3	781.7	607.4
			273.2	311.8	287.0	324.8	315.9	350.4	375.0	397.0	506.9	478.4	841.8	637.5

**Timing Constraint (ps)**

Item \ Version	QDLAHRBCLD	QDLAHRBELD	QDLAHRBHLD
Setup Timing D / G \	117.6	117.6	148.4
Setup Timing D \ G \	275.4	245.8	258.1
Hold Timing D / G \	-7.534	-10.000	-34.66
Hold Timing D \ G \	-148.1	-138.2	-153.0
Minimum H-pulse Width G	332.7	320.4	352.4
Minimum L-pulse Width RB	416.4	396.7	431.2
Recovery Timing RB / G \	125.8	125.8	153.0
Removal Timing RB / G \	-14.59	-17.05	-39.25

Group Name : QDLAHS Symbol

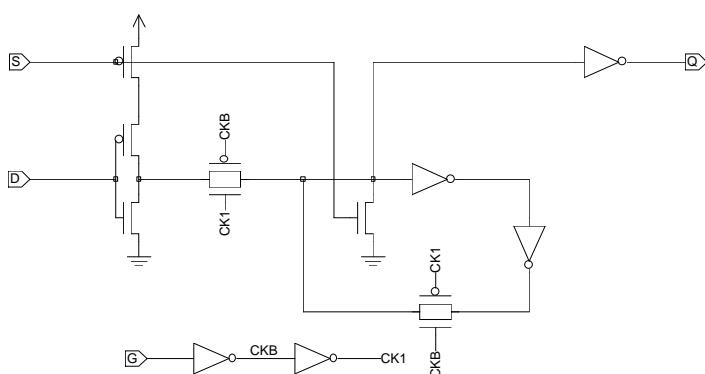
Function : D Latch with Set ( Active High ), Single Output



Truth Table

G	D	S	Q
1	0	0	0
1	1	0	1
X	X	1	1
0	X	0	Q

Schematic



Pin Order Q D G S

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance			Maximum Loading			Power Consumption		
	D	G	S	Q	Q	D	G		
QDLAHSELD	1.697	1.341	1.970		138.8		14.94	2.732	5.570
QDLAHSHLD	1.820	1.635	1.969		279.1		20.02	2.871	6.457

#### AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version	Cell Unit	Output Load											
		Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
QDLAHSELD	17		tplh	tphl									
	S-Q	179.0	318.9	199.3	336.4	240.4	369.3	321.9	426.0	509.3	527.8	965.6	730.3
	D-Q	212.5	307.2	231.2	324.2	269.1	357.5	350.0	414.8	537.0	516.7	993.3	719.2
	G-Q	288.0	314.6	306.8	331.9	344.6	364.8	425.3	421.6	612.6	523.1	1069	725.9

QDLAHSHLD	19	Path	1.500 ff		3.971 ff		10.51 ff		27.82 ff		73.64 ff		194.9 ff	
			tplh	tphl										
		S-Q	205.0	375.9	218.6	389.1	249.0	417.0	308.9	468.1	439.8	557.3	774.5	726.9
		D-Q	219.3	364.5	231.7	378.0	259.0	405.8	316.4	457.0	447.2	546.0	782.0	715.7
		G-Q	273.1	354.1	285.6	367.3	312.7	395.3	370.1	446.4	500.8	535.5	835.5	705.0

**Timing Constraint (ps)**

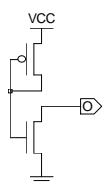
Item	Version	QDLAHSELD	QDLAHS
Setup Timing D / G \		129.9	145.9
Setup Timing D \ G \		300.0	354.3
Hold Timing D / G \		-22.33	-32.19
Hold Timing D \ G \		-185.1	-229.5
Minimum H-pulse Width G		337.6	391.8
Minimum H-pulse Width S		420.7	400.4
Recovery Timing S \ G \		312.0	366.3
Removal Timing S \ G \		-199.5	-241.4

Cell Name : TIE0 Symbol

Function : Tie to Low Through Diffusion for ESD Issue



Schematic



Pin Order O

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

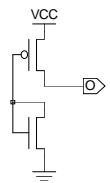
Version	Input Capacitance	Maximum Loading	Power Consumption
	O		
TIE0DLD		1720.0	
TIE0HLD		1720.0	
TIE0KLD		1720.0	

Cell Name : TIE1 Symbol

Function : Tie to High Through Diffusion for ESD Issue



Schematic



Pin Order O

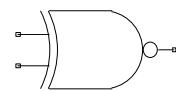
**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance	Maximum Loading	Power Consumption
	O	1720.0	
TIE1DLD		1720.0	
TIE1HLD		1720.0	
TIE1KLD		1720.0	

Group Name : XNR2

Symbol

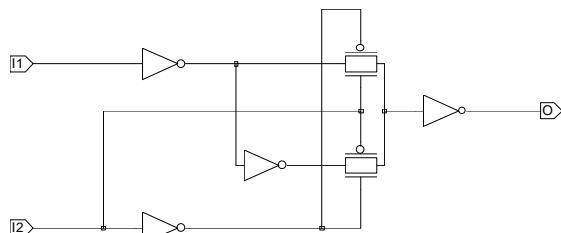
Function : Exclusive NR2



Truth Table

Schematic

I1	I2	O
0	0	1
0	1	0
1	0	0
1	1	1



Pin Order O I1 I2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I1	I2	O		O	
XNR2CLD	1.266	2.494	80.57		8.238	
XNR2ELD	1.271	2.562	138.9		9.887	
XNR2HLD	1.529	3.091	279.7		14.98	
XNR2KLD	2.451	4.476	559.0		24.42	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version : XNR2CLD

Cell Unit = 11

State		Output Load													
		I1	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
				tplh	tphl	tplh	tphl								
0	I2-O	217.1	207.8	238.0	223.8	279.8	251.5	365.3	299.3	550.0	384.8	957.1	551.0		
1	I2-O	156.5	210.5	177.8	226.4	219.6	253.6	305.7	300.9	491.5	385.5	897.4	550.7		
I2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff			
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0	I1-O	274.7	277.5	295.7	293.3	337.1	320.9	422.7	368.1	608.6	452.7	1014	618.0		
1	I1-O	204.0	273.5	225.4	289.7	267.3	317.9	353.0	366.2	537.7	452.0	945.1	618.3		

Version : XNR2ELD

Cell Unit = 11

State		Output Load											
I1	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I2-O	217.4	222.9	231.8	234.8	258.8	255.9	311.0	291.6	419.6	352.4	655.4	462.0
1	I2-O	163.6	222.3	178.2	234.0	205.8	254.4	259.1	289.0	368.0	348.2	603.5	455.7
I2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I1-O	277.4	287.7	291.4	299.5	318.3	319.9	370.9	354.4	478.7	413.7	714.7	521.1
1	I1-O	211.0	293.3	225.7	305.6	253.3	327.0	306.5	362.9	416.0	424.1	651.6	534.0

Version : XNR2HLD

Cell Unit = 13

State		Output Load											
I1	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I2-O	205.0	242.9	214.9	252.9	235.3	272.3	277.4	306.7	371.7	368.3	600.4	483.5
1	I2-O	180.2	219.7	191.5	228.6	214.4	245.8	260.1	276.7	357.2	332.2	586.8	439.7
I2	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I1-O	266.4	275.4	276.3	284.2	296.9	301.4	339.0	331.9	433.5	387.6	662.3	495.0
1	I1-O	233.6	317.9	245.1	328.0	268.1	347.2	313.7	382.1	410.8	443.9	640.3	559.4

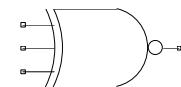
Version : XNR2KLD

Cell Unit = 16

State		Output Load											
I1	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I2-O	218.2	250.2	225.6	257.0	242.3	271.8	277.8	301.3	355.4	356.0	549.7	461.8
1	I2-O	188.8	256.9	196.1	263.7	212.9	278.4	248.5	307.9	326.3	362.2	520.8	467.4
I2	Path	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I1-O	277.9	311.1	285.4	318.0	302.1	332.6	337.5	362.0	415.2	416.4	609.7	521.6
1	I1-O	217.3	304.4	224.7	311.3	241.4	326.1	277.0	355.6	354.8	410.6	549.3	516.5

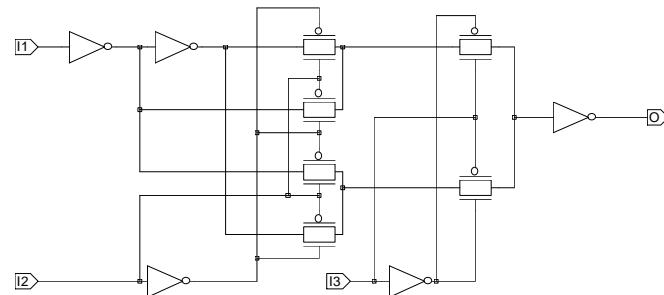
Group Name : XNR3

Symbol



Function : Exclusive NR3

Schematic



Truth Table

I1	I2	I3	O
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	0

Pin Order O I1 I2 I3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading	Power Consumption
	I1	I2	I3	O	O
XNR3CLD	1.460	3.905	2.608	80.53	13.40
XNR3ELD	1.650	4.412	3.081	139.4	15.52
XNR3HLD	1.718	4.552	3.270	278.0	19.09
XNR3KLD	1.718	4.557	3.285	546.8	27.28

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : XNR3CLD

Cell Unit = 22

State	Path	Output Load											
		1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
I1 I2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I3-O	211.5	210.8	230.8	226.2	266.2	251.8	329.9	292.9	450.5	359.9	690.8	472.4
0 1	I3-O	161.3	199.2	181.2	214.5	216.9	239.2	280.9	279.5	401.7	345.8	640.0	457.8
1 0	I3-O	162.9	193.4	183.2	207.7	219.5	231.1	284.3	269.0	405.8	331.6	644.4	438.6
1 1	I3-O	213.3	202.2	233.3	216.8	269.3	240.8	333.9	278.9	455.1	341.8	695.5	449.0
I1 I3	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I2-O	315.5	335.7	335.9	352.1	371.7	378.8	436.1	421.1	556.4	489.1	796.5	602.4
0 1	I2-O	246.4	344.7	267.2	361.3	303.8	387.8	368.4	430.2	488.8	498.3	729.0	611.5
1 0	I2-O	245.8	312.1	266.6	327.1	303.2	351.7	368.5	390.9	488.9	454.5	729.4	562.2
1 1	I2-O	314.9	307.0	335.6	322.1	372.0	346.4	437.0	385.4	558.2	448.8	798.4	556.5
I2 I3	Path	1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I1-O	450.9	415.9	471.3	431.1	506.9	455.4	570.9	494.5	692.1	558.0	932.0	665.6
0 1	I1-O	308.9	417.6	329.8	434.3	366.0	461.4	430.9	504.1	552.9	572.6	792.6	686.1
1 0	I1-O	309.8	417.5	330.8	434.1	367.1	461.2	432.0	504.0	554.0	572.4	793.3	686.0
1 1	I1-O	446.5	419.6	467.1	434.6	502.8	458.9	566.5	498.0	688.1	561.5	926.7	669.1

Version : XNR3ELD

Cell Unit = 22

State	Path	Output Load											
		1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
I1 I2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I3-O	203.1	221.8	219.5	235.5	250.8	260.2	310.8	302.7	434.4	376.3	706.9	509.5
0 1	I3-O	168.7	212.8	185.2	226.5	216.4	251.0	276.6	292.9	400.3	366.2	672.8	499.2
1 0	I3-O	171.2	207.7	188.1	220.6	220.2	243.9	281.6	283.9	406.3	354.0	679.0	482.5
1 1	I3-O	206.1	214.3	223.0	227.4	255.1	250.9	316.4	291.1	440.9	361.3	713.6	490.0
I1 I3	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I2-O	294.4	336.2	311.1	350.8	342.5	375.9	402.7	419.1	526.3	493.6	798.8	627.3
0 1	I2-O	246.3	343.4	263.2	357.5	294.9	382.9	355.5	426.2	479.3	500.6	751.9	634.2
1 0	I2-O	249.4	321.9	266.5	335.1	298.8	358.9	360.3	399.9	484.9	470.8	757.8	599.7
1 1	I2-O	296.4	314.4	313.4	328.1	345.6	351.8	406.9	392.5	531.4	463.1	804.2	592.0
I2 I3	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I1-O	423.6	425.0	440.1	438.5	471.5	462.1	531.7	503.0	655.3	573.6	927.9	702.6
0 1	I1-O	303.8	410.4	320.8	424.8	353.2	450.5	414.6	493.9	539.2	568.5	812.0	702.4
1 0	I1-O	304.9	410.4	321.9	424.8	354.3	450.5	415.8	493.9	540.5	568.6	813.2	702.5
1 1	I1-O	420.2	427.5	436.8	441.1	468.2	464.7	528.3	505.4	651.9	576.1	924.4	705.0

Version : XNR3HLD

Cell Unit = 23

State	Output Load												
	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
I1 I2		tplh	tphl										
0 0	I3-O	236.1	291.1	249.1	303.0	274.3	325.5	322.3	365.1	416.4	433.0	621.4	552.8
0 1	I3-O	206.9	287.2	219.6	299.0	244.9	321.6	292.8	361.2	386.9	429.1	592.0	548.9
1 0	I3-O	211.1	275.3	224.3	286.8	250.2	308.1	299.5	345.5	395.4	410.0	601.6	524.7
1 1	I3-O	241.0	276.9	254.2	287.9	280.3	309.4	329.6	346.8	425.5	411.2	631.5	526.0
I1 I3	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl										
0 0	I2-O	328.2	398.5	341.1	410.9	366.5	433.5	414.6	473.2	508.7	541.3	713.6	661.4
0 1	I2-O	283.1	411.8	296.0	423.7	321.5	446.4	369.8	486.2	464.1	554.3	669.1	674.4
1 0	I2-O	287.1	383.6	300.4	395.1	326.6	416.4	375.8	454.0	471.7	518.6	677.9	633.6
1 1	I2-O	331.4	369.8	344.7	381.1	370.8	402.4	419.9	439.9	515.7	504.5	721.7	619.4
I2 I3	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl										
0 0	I1-O	458.5	479.7	471.5	491.2	496.8	512.5	544.8	550.0	638.9	614.6	843.9	729.5
0 1	I1-O	339.7	471.5	353.0	483.5	379.0	506.3	428.4	546.2	524.2	614.6	730.2	734.8
1 0	I1-O	341.3	471.8	354.5	483.8	380.6	506.6	430.1	546.6	526.0	614.9	732.1	735.2
1 1	I1-O	455.1	482.1	467.9	493.6	493.2	514.9	541.2	552.4	635.2	617.0	840.1	731.9

Version : XNR3KLD

Cell Unit = 26

State	Output Load												
	1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff		
Path		tplh	tphl										
0 0	I3-O	313.2	432.4	323.8	442.6	347.9	465.4	396.8	509.8	493.2	589.3	701.9	731.9
0 1	I3-O	288.8	435.4	299.4	445.6	323.4	468.5	372.3	512.9	468.5	592.5	677.2	735.2
1 0	I3-O	297.1	408.6	308.3	418.3	333.1	439.9	383.1	481.9	481.9	557.4	693.1	693.6
1 1	I3-O	322.2	403.5	333.7	413.3	358.2	434.9	408.4	476.8	507.2	552.3	718.4	688.4
I1 I3		1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl										
0 0	I2-O	406.1	528.2	416.8	538.4	440.9	561.2	490.0	605.5	586.3	685.0	794.8	827.8
0 1	I2-O	365.0	547.1	375.7	557.4	399.8	580.1	448.8	624.5	545.1	704.1	753.6	846.9
1 0	I2-O	371.9	506.1	383.0	515.8	407.9	537.4	458.1	579.3	556.8	654.8	768.0	791.1
1 1	I2-O	413.0	486.5	424.1	496.2	448.9	517.7	499.0	559.7	597.6	635.2	808.7	771.4
I2 I3		1.500 ff		4.072 ff		11.05 ff		30.00 ff		81.43 ff		221.0 ff	
		tplh	tphl										
0 0	I1-O	537.7	595.7	548.4	605.5	572.5	627.1	621.4	669.0	717.8	744.5	926.4	880.6
0 1	I1-O	422.2	598.4	433.5	608.7	458.1	631.5	508.3	675.9	607.0	755.5	818.0	898.2
1 0	I1-O	424.3	598.5	435.4	608.7	460.0	631.5	510.3	676.0	609.1	755.5	820.2	898.3
1 1	I1-O	534.2	598.3	544.9	608.1	568.9	629.6	617.8	671.5	714.0	747.0	922.5	883.2

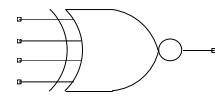
Group Name : XNR4

Symbol

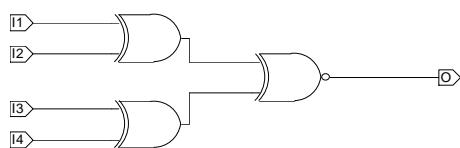
Function : Exclusive NR4

Truth Table

I1	I2	I3	I4	O
EVEN PARITY				1
ODD PARITY				0



Schematic



Pin Order O I1 I2 I3 I4

#### Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)

Version	Input Capacitance				Maximum Loading	Power Consumption
	I1	I2	I3	I4		
XNR4CLD	1.443	2.723	1.347	2.789	80.04	16.94
XNR4ELD	1.407	2.648	1.329	2.712	138.6	18.49
XNR4HLD	1.443	2.724	1.347	2.789	276.3	21.81
XNR4KLD	1.453	2.737	1.347	2.793	541.5	29.84

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : XNR4CLD

Cell Unit = 30

State	Path	Output Load											
		1.500 ff		3.020 ff		6.082 ff		12.25 ff		24.66 ff		49.66 ff	
I1 I2 I3	I1 I2 I4	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	I4-O	372.5	395.0	393.9	406.9	431.7	426.7	498.3	459.1	621.4	514.0	861.7	612.4
0 0 1	I4-O	322.7	360.6	344.1	372.5	381.8	392.4	448.5	424.9	570.9	479.8	812.0	578.3
0 1 0	I4-O	386.9	371.4	405.6	387.8	439.4	414.5	501.2	458.2	621.0	529.8	861.3	649.4
0 1 1	I4-O	350.8	325.1	369.6	341.3	403.2	368.0	464.9	411.7	585.1	483.3	824.1	602.8
1 0 0	I4-O	386.8	363.6	405.6	378.7	439.5	403.5	501.3	443.8	621.0	509.9	861.3	621.6
1 0 1	I4-O	350.9	317.2	369.7	331.9	403.2	356.6	465.0	396.9	585.2	463.1	824.2	574.8
1 1 0	I4-O	375.6	395.0	397.7	406.9	436.6	426.7	504.7	459.1	629.1	514.0	869.9	612.4
1 1 1	I4-O	325.8	360.6	347.9	372.6	386.8	392.4	454.9	424.9	578.6	479.9	820.2	578.3
0 0 0	I3-O	441.2	415.6	462.6	427.6	500.3	447.3	567.1	479.9	689.5	534.8	930.6	633.3
0 0 1	I3-O	372.3	477.9	393.7	489.9	431.4	509.6	498.1	542.2	620.5	597.0	861.6	695.5
0 1 0	I3-O	402.8	440.3	421.2	456.5	454.7	483.4	516.4	527.1	635.6	598.8	875.8	718.4
0 1 1	I3-O	470.3	372.3	489.1	388.2	523.0	415.1	584.7	458.8	704.5	530.3	944.7	649.8
1 0 0	I3-O	402.8	432.3	421.3	447.5	454.7	472.3	516.5	512.6	635.7	578.7	875.9	690.5
1 0 1	I3-O	470.2	364.1	489.0	379.1	522.9	404.0	584.6	444.1	704.4	510.2	944.7	622.0
1 1 0	I3-O	444.3	415.6	466.4	427.6	505.3	447.3	573.4	479.9	697.2	534.8	938.8	633.3
1 1 1	I3-O	375.4	477.9	397.5	489.9	436.3	509.6	504.5	542.2	628.2	597.0	869.8	695.5
0 0 0	I2-O	353.1	442.7	375.3	461.8	413.7	492.3	481.1	540.1	604.1	615.4	844.8	737.6
0 0 1	I2-O	428.5	366.7	447.4	378.7	481.0	398.8	542.6	431.5	662.9	486.6	901.8	585.2
0 1 0	I2-O	428.4	366.7	447.4	378.8	481.0	398.8	542.5	431.5	662.8	486.6	901.8	585.2
0 1 1	I2-O	353.0	442.8	375.2	461.9	413.7	492.4	481.1	540.2	604.1	615.5	844.8	737.7
1 0 0	I2-O	321.3	388.1	344.6	404.7	384.3	431.9	453.2	474.6	578.2	542.7	817.8	655.9
1 0 1	I2-O	388.4	322.1	406.9	334.3	440.2	354.4	501.9	387.2	621.5	442.3	859.7	540.9
1 1 0	I2-O	388.4	322.1	406.9	334.3	440.2	354.5	501.8	387.2	621.5	442.3	859.6	540.9
1 1 1	I2-O	321.3	388.2	344.5	404.8	384.2	432.0	453.2	474.7	578.1	542.8	817.8	656.0
0 0 0	I1-O	426.9	426.5	449.2	443.1	487.7	470.2	555.0	512.8	677.9	581.0	918.2	694.2
0 0 1	I1-O	434.9	435.9	453.5	448.0	486.5	468.1	547.7	500.7	668.1	555.9	908.0	654.4
0 1 0	I1-O	434.9	435.9	453.5	448.0	486.5	468.1	547.7	500.7	668.0	555.9	907.9	654.4
0 1 1	I1-O	426.9	426.6	449.2	443.2	487.7	470.3	555.0	512.9	677.9	581.1	918.1	694.3
1 0 0	I1-O	369.6	517.3	392.7	536.4	432.2	566.9	500.9	614.8	626.5	690.1	866.3	812.3
1 0 1	I1-O	505.1	373.1	524.1	385.3	557.6	405.2	619.1	438.1	739.5	493.3	979.1	591.9
1 1 0	I1-O	505.1	373.1	524.0	385.3	557.5	405.3	619.0	438.1	739.5	493.3	979.0	591.9
1 1 1	I1-O	369.6	517.4	392.6	536.5	432.2	566.9	500.8	614.8	626.4	690.1	866.2	812.4

Version : XNR4ELD

Cell Unit = 30

State	Output Load														
	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff				
I1 I2 I3		Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl				
0 0 0	I4-O	376.7	408.3	394.5	419.3	428.6	438.8	492.9	473.1	620.1	534.5	893.6	652.5		
0 0 1	I4-O	326.8	373.6	344.7	384.5	378.6	404.2	442.9	438.4	570.1	499.8	843.6	617.9		
0 1 0	I4-O	396.8	397.6	412.4	412.9	442.1	440.3	500.0	487.7	622.2	569.4	894.5	714.5		
0 1 1	I4-O	359.1	351.4	374.3	366.5	403.7	393.8	461.3	441.2	583.4	522.9	855.6	667.8		
1 0 0	I4-O	396.8	386.5	412.5	400.4	442.1	425.4	500.1	468.5	622.2	543.5	894.5	678.5		
1 0 1	I4-O	359.2	339.8	374.4	353.6	403.8	378.5	461.4	421.8	583.5	496.7	855.7	631.7		
1 1 0	I4-O	380.2	408.3	398.6	419.3	433.8	438.8	499.8	473.2	628.8	534.5	903.1	652.5		
1 1 1	I4-O	330.2	373.6	348.7	384.5	383.8	404.2	449.8	438.4	578.8	499.8	853.0	617.9		
I1 I2 I4		Path		1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
I1 I2 I4		Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0 0 0	I3-O	444.5	428.5	462.3	439.3	496.4	459.2	560.6	493.4	687.9	554.7	961.4	672.8		
0 0 1	I3-O	375.4	491.5	393.1	502.3	427.2	521.9	491.5	556.2	618.6	617.6	892.2	735.6		
0 1 0	I3-O	411.8	466.7	427.0	482.0	456.4	509.3	514.0	556.6	636.1	638.5	908.3	783.5		
0 1 1	I3-O	479.8	398.4	495.4	413.4	525.1	441.0	583.0	488.1	705.2	569.8	977.5	714.8		
1 0 0	I3-O	411.8	455.2	427.1	469.3	456.5	494.2	514.1	537.3	636.2	612.3	908.4	747.4		
1 0 1	I3-O	479.7	386.9	495.3	400.8	525.1	425.8	582.9	468.8	705.1	543.8	977.4	678.9		
1 1 0	I3-O	448.0	428.5	466.4	439.3	501.6	459.2	567.6	493.4	696.6	554.7	970.8	672.8		
1 1 1	I3-O	378.9	491.5	397.2	502.3	432.4	521.9	498.4	556.2	627.4	617.6	901.6	735.6		
I1 I3 I4		Path		1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
I1 I3 I4		Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0 0 0	I2-O	357.2	469.8	375.5	486.7	410.3	516.8	475.1	566.9	602.5	651.4	876.1	798.4		
0 0 1	I2-O	435.1	379.6	450.5	390.6	480.1	410.3	537.8	444.9	659.9	506.4	932.1	624.5		
0 1 0	I2-O	435.0	379.6	450.5	390.6	480.0	410.4	537.7	444.9	659.8	506.4	932.0	624.6		
0 1 1	I2-O	357.1	469.8	375.5	486.8	410.3	516.9	475.1	566.9	602.5	651.5	876.1	798.5		
1 0 0	I2-O	327.2	409.9	346.3	424.7	382.4	451.2	449.1	496.3	578.5	572.7	852.9	708.9		
1 0 1	I2-O	393.9	335.4	409.0	346.6	438.3	366.1	495.8	400.7	617.8	462.3	890.0	580.4		
1 1 0	I2-O	393.8	335.5	409.0	346.6	438.3	366.2	495.8	400.7	617.7	462.3	889.9	580.5		
1 1 1	I2-O	327.1	410.0	346.3	424.8	382.4	451.3	449.1	496.4	578.4	572.8	852.9	709.0		
I2 I3 I4		Path		1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
I2 I3 I4		Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl		
0 0 0	I1-O	431.7	448.0	450.1	462.6	484.8	489.3	549.6	534.1	677.1	610.6	950.7	746.7		
0 0 1	I1-O	441.3	448.9	456.5	459.9	485.8	479.6	543.3	514.2	665.2	575.7	937.4	693.8		
0 1 0	I1-O	441.3	448.9	456.4	459.9	485.7	479.7	543.2	514.2	665.1	575.7	937.3	693.8		
0 1 1	I1-O	431.7	448.1	450.1	462.7	484.8	489.4	549.6	534.2	677.0	610.7	950.7	746.8		
1 0 0	I1-O	374.0	543.9	393.1	561.0	429.2	590.8	495.9	641.1	625.2	725.6	899.6	872.7		
1 0 1	I1-O	510.9	386.3	526.5	397.2	556.0	417.3	613.8	451.8	735.8	513.3	1008	631.5		
1 1 0	I1-O	510.9	386.4	526.4	397.3	556.0	417.3	613.7	451.8	735.7	513.3	1008	631.5		
1 1 1	I1-O	373.9	544.0	393.1	561.0	429.2	590.9	495.9	641.2	625.2	725.7	899.6	872.8		

Version : XNR4HLD

Cell Unit = 30

State	Output Load													
	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff			
I1	I2	I3	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
0 0 0	I4-O		405.9	445.9	420.3	455.3	449.4	473.8	505.1	507.2	614.0	566.1	849.7	677.8
0 0 1	I4-O		356.0	409.2	370.4	418.9	399.5	437.3	455.2	470.7	564.1	529.8	799.8	641.5
0 1 0	I4-O		429.5	469.7	442.3	483.7	467.5	510.3	515.8	557.6	615.1	639.3	845.3	783.9
0 1 1	I4-O		389.1	423.0	401.6	436.8	426.4	463.6	474.3	510.9	573.3	592.5	803.4	737.0
1 0 0	I4-O		429.6	446.4	442.4	459.0	467.6	483.0	515.9	525.7	615.2	599.5	845.3	732.5
1 0 1	I4-O		389.2	399.5	401.7	412.0	426.5	436.0	474.5	478.6	573.5	552.6	803.6	685.5
1 1 0	I4-O		411.2	445.9	426.4	455.3	456.3	473.7	513.9	507.2	625.4	566.1	863.1	677.8
1 1 1	I4-O		361.5	409.2	376.3	418.9	406.5	437.3	464.1	470.7	575.5	529.8	813.2	641.5
I1 I2 I4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I3-O	473.6	464.2	488.0	473.9	517.2	492.4	572.9	525.6	681.7	584.8	917.4	696.5	
0 0 1	I3-O	404.5	529.0	419.1	538.9	448.1	557.2	503.8	590.3	612.7	649.5	848.4	761.1	
0 1 0	I3-O	441.7	538.7	454.3	552.8	479.0	579.4	527.0	626.8	626.0	708.5	856.1	853.1	
0 1 1	I3-O	512.8	469.8	525.4	483.8	550.6	510.4	599.0	557.8	698.3	639.4	928.4	783.9	
1 0 0	I3-O	441.9	515.3	454.4	527.9	479.2	552.0	527.1	594.6	626.1	668.5	856.2	801.5	
1 0 1	I3-O	512.8	446.6	525.4	459.4	550.6	483.2	599.0	525.8	698.3	599.8	928.4	732.7	
1 1 0	I3-O	478.9	464.2	494.1	473.9	524.1	492.4	581.7	525.6	693.1	584.8	930.9	696.5	
1 1 1	I3-O	409.9	529.0	425.0	538.9	455.0	557.2	512.6	590.3	624.1	649.4	861.8	761.1	
I1 I3 I4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I2-O	387.2	533.5	402.1	548.0	431.4	575.4	487.4	623.7	596.4	706.4	832.0	851.8	
0 0 1	I2-O	461.9	413.8	474.6	423.5	499.7	442.2	547.9	475.4	647.0	534.6	877.1	646.4	
0 1 0	I2-O	461.8	413.8	474.5	423.5	499.5	442.2	547.7	475.4	646.8	534.7	876.9	646.5	
0 1 1	I2-O	387.1	533.5	402.0	548.1	431.3	575.5	487.4	623.8	596.3	706.5	832.0	851.9	
1 0 0	I2-O	360.8	462.4	376.2	475.2	406.7	499.7	464.6	542.8	576.2	617.4	813.9	750.9	
1 0 1	I2-O	419.3	370.1	431.6	379.6	456.3	398.3	504.3	431.6	603.2	490.8	833.4	602.6	
1 1 0	I2-O	419.2	370.2	431.5	379.6	456.2	398.4	504.2	431.6	603.1	490.9	833.2	602.6	
1 1 1	I2-O	360.7	462.5	376.2	475.3	406.6	499.8	464.6	542.9	576.2	617.6	813.9	751.0	
I2 I3 I4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I1-O	462.7	499.5	477.5	512.5	506.9	536.9	562.9	580.0	671.8	654.7	907.5	788.1	
0 0 1	I1-O	466.8	483.1	479.1	492.8	503.8	511.4	551.8	544.7	650.7	603.9	880.8	715.7	
0 1 0	I1-O	466.7	483.1	479.0	492.8	503.7	511.5	551.6	544.7	650.5	604.0	880.6	715.8	
0 1 1	I1-O	462.6	499.6	477.4	512.6	506.8	537.0	562.8	580.1	671.8	654.8	907.5	788.2	
1 0 0	I1-O	406.9	606.4	422.4	620.9	452.8	648.4	510.7	696.8	622.3	779.4	860.0	924.9	
1 0 1	I1-O	537.9	420.7	550.5	430.5	575.5	448.9	623.8	482.4	723.0	541.8	953.1	653.5	
1 1 0	I1-O	537.8	420.8	550.4	430.6	575.4	449.0	623.6	482.5	722.8	541.8	952.8	653.6	
1 1 1	I1-O	406.8	606.5	422.3	621.0	452.7	648.5	510.7	696.9	622.3	779.5	860.0	925.0	

Version : XNR4KLD

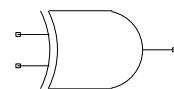
Cell Unit = 32

State		Output Load											
I1 I2 I3	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	I4-O	485.1	528.4	496.9	536.6	524.2	555.4	580.1	592.0	691.5	659.3	932.2	787.0
0 0 1	I4-O	434.9	488.6	447.0	496.9	474.4	515.7	530.3	552.3	641.7	619.7	882.3	747.4
0 1 0	I4-O	497.3	630.4	508.1	642.2	531.7	668.8	579.7	721.1	677.5	815.3	904.5	985.0
0 1 1	I4-O	454.2	583.1	464.7	594.8	488.0	621.5	535.7	673.7	633.1	767.9	860.0	937.7
1 0 0	I4-O	497.5	577.2	508.2	588.0	531.8	611.9	579.9	659.0	677.7	744.1	904.6	899.3
1 0 1	I4-O	454.4	529.7	464.9	540.5	488.3	564.5	535.9	611.4	633.4	696.5	860.2	851.8
1 1 0	I4-O	495.3	528.4	507.9	536.6	536.0	555.4	594.1	592.0	708.6	659.3	953.1	787.0
1 1 1	I4-O	445.5	488.6	457.9	496.9	486.3	515.7	544.1	552.3	658.7	619.7	903.2	747.4
I1 I2 I4	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	I3-O	553.1	544.5	565.2	552.8	592.5	571.7	648.4	608.3	759.8	675.8	1000	803.4
0 0 1	I3-O	483.6	611.7	495.6	620.2	523.0	638.9	579.1	675.4	690.3	742.9	931.0	870.5
0 1 0	I3-O	507.8	700.1	518.3	711.9	541.6	738.5	589.3	790.9	686.7	885.0	913.5	1055
0 1 1	I3-O	580.8	630.0	591.2	641.8	614.9	668.4	663.1	720.8	760.9	814.9	987.8	984.6
1 0 0	I3-O	508.0	646.7	518.5	657.4	541.8	681.4	589.5	728.4	686.9	813.5	913.8	968.7
1 0 1	I3-O	580.8	577.0	591.2	587.7	614.9	611.6	663.2	658.8	760.9	743.8	987.9	899.0
1 1 0	I3-O	563.6	544.4	576.1	552.8	604.3	571.7	662.3	608.3	776.8	675.7	1021	803.4
1 1 1	I3-O	494.1	611.7	506.6	620.2	534.8	638.9	592.9	675.4	707.4	742.9	951.9	870.5
I1 I3 I4	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	I2-O	470.3	680.6	482.4	692.4	509.8	719.1	565.9	771.3	677.1	865.5	917.6	1035
0 0 1	I2-O	536.1	495.5	546.4	503.9	569.9	522.8	618.1	559.4	715.8	627.0	942.8	754.6
0 1 0	I2-O	535.8	495.6	546.1	504.1	569.6	522.9	617.7	559.5	715.4	627.1	942.3	754.7
0 1 1	I2-O	470.3	680.7	482.4	692.4	509.7	719.1	565.8	771.4	677.0	865.6	917.5	1036
1 0 0	I2-O	452.5	584.1	464.9	594.8	493.3	618.8	551.2	665.8	665.8	750.9	910.1	906.3
1 0 1	I2-O	490.9	453.9	501.3	462.4	524.7	481.2	572.4	518.0	669.9	585.4	896.7	713.1
1 1 0	I2-O	490.6	454.0	501.1	462.5	524.4	481.4	572.1	518.1	669.5	585.5	896.3	713.2
1 1 1	I2-O	452.4	584.2	464.9	594.9	493.2	618.9	551.2	665.9	665.7	751.0	910.0	906.4
I2 I3 I4	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	I1-O	547.9	621.6	560.1	632.2	587.3	656.2	643.4	703.2	754.7	788.3	995.3	943.7
0 0 1	I1-O	537.6	566.0	548.0	574.5	571.4	593.3	619.1	630.0	716.6	697.5	943.4	825.1
0 1 0	I1-O	537.3	566.1	547.8	574.6	571.1	593.4	618.8	630.1	716.2	697.6	943.0	825.2
0 1 1	I1-O	547.8	621.7	560.0	632.3	587.3	656.4	643.4	703.3	754.7	788.4	995.2	943.8
1 0 0	I1-O	497.0	750.9	509.6	762.8	537.7	789.4	595.7	841.8	710.3	935.9	954.5	1106
1 0 1	I1-O	611.0	503.8	621.3	512.1	644.9	531.0	693.1	567.7	790.8	635.1	1018	762.9
1 1 0	I1-O	610.7	503.9	621.0	512.2	644.5	531.1	692.7	567.8	790.4	635.3	1017	763.0
1 1 1	I1-O	496.9	751.0	509.5	762.9	537.7	789.5	595.7	841.9	710.2	936.0	954.5	1106

Group Name : XOR2

Symbol

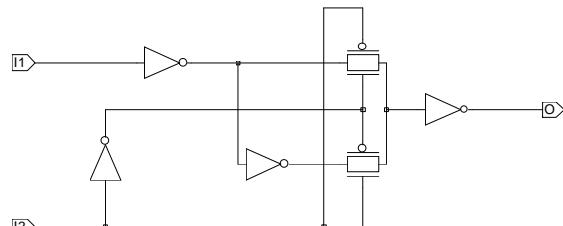
Function : Exclusive OR2



Truth Table

Schematic

I1	I2	O
0	0	0
0	1	1
1	0	1
1	1	0



Pin Order O I1 I2

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance		Maximum Loading		Power Consumption	
	I1	I2	O		O	
XOR2CLD	1.215 2.911		80.56		8.028	
XOR2ELD	1.413 2.905		139.0		9.687	
XOR2HLD	2.395 3.610		280.1		15.15	
XOR2KLD	2.581 3.450		558.3		22.99	

**AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)**

Version : XOR2CLD

Cell Unit = 11

State	Path	Output Load							
		1.500 ff		3.306 ff		7.287 ff		16.06 ff	
I1	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I2-O	157.6	209.4	178.9	225.7	220.5	253.8	305.4	302.4
1	I2-O	217.3	218.9	238.1	235.6	279.6	264.6	365.6	314.1
I2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I1-O	203.9	281.2	225.2	297.8	267.0	326.6	352.8	375.4
1	I1-O	275.6	306.0	296.5	323.2	337.8	352.2	423.5	401.9

## Version : XOR2ELD

Cell Unit = 11

State		Output Load											
I1	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I2-O	159.2	218.8	173.3	230.4	200.0	250.7	252.4	285.4	361.3	344.7	597.5	452.5
1	I2-O	216.2	211.0	230.1	222.5	257.0	242.6	309.2	276.8	418.2	335.5	654.8	442.4
I2	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I1-O	204.2	271.6	218.4	283.3	245.7	304.0	298.5	338.8	406.4	398.4	642.8	506.2
1	I1-O	264.6	280.3	278.5	292.0	305.2	312.1	357.5	346.5	465.3	405.2	701.5	512.1

## Version : XOR2HLD

Cell Unit = 13

State		Output Load											
I1	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I2-O	167.5	213.9	177.4	222.6	197.5	238.9	237.3	267.9	323.0	319.5	524.3	416.6
1	I2-O	202.9	210.4	212.7	218.7	232.8	234.8	272.7	263.6	358.4	314.8	559.6	411.3
I2	Path	1.500 ff		3.627 ff		8.772 ff		21.21 ff		51.30 ff		124.1 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I1-O	192.5	251.3	202.5	259.8	222.6	276.3	262.6	305.4	348.4	357.0	549.7	454.1
1	I1-O	242.0	257.1	251.8	265.4	271.8	281.6	311.5	310.6	397.2	361.6	598.5	458.1

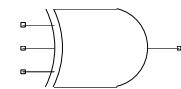
## Version : XOR2KLD

Cell Unit = 16

State		Output Load											
I1	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I2-O	198.4	303.3	206.2	311.2	224.2	329.3	262.5	364.6	348.3	430.0	568.7	554.9
1	I2-O	230.7	291.5	238.6	299.7	256.6	317.7	295.2	352.8	381.0	418.0	601.4	542.5
I2	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I1-O	217.2	333.0	225.1	341.2	243.0	359.3	281.5	394.6	367.4	460.0	587.9	584.9
1	I1-O	273.1	336.1	281.0	344.3	298.8	362.3	337.1	397.4	422.8	462.7	643.3	587.2

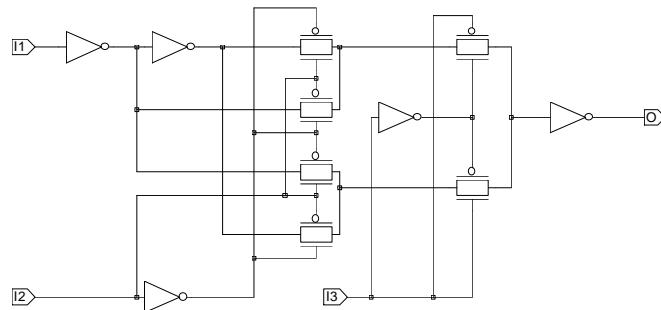
Group Name : XOR3

Symbol



Function : Exclusive OR3

Schematic



Truth Table

I1	I2	I3	O
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

Pin Order O I1 I2 I3

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance			Maximum Loading	Power Consumption
	I1	I2	I3	O	O
XOR3CLD	1.386	3.721	2.693	80.48	12.54
XOR3ELD	1.639	4.230	2.991	139.4	15.42
XOR3HLD	1.685	4.364	3.039	277.7	19.05
XOR3KLD	1.685	4.364	3.028	545.9	27.31

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : XOR3CLD

Cell Unit = 22

State	Path	Output Load											
		1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
I1 I2	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I3-O	157.0	219.0	180.4	238.2	224.8	271.0	312.5	327.1	498.9	425.5	904.1	607.2
0 1	I3-O	206.0	226.3	228.5	245.9	272.6	279.6	361.0	336.6	546.9	435.5	953.0	617.5
1 0	I3-O	208.1	220.2	231.6	238.8	276.8	270.7	366.3	325.1	552.6	420.2	958.9	597.6
1 1	I3-O	159.6	214.8	183.6	233.2	229.1	264.6	317.9	318.6	505.4	413.4	909.7	590.6
I1 I3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I2-O	237.2	372.1	261.2	392.5	306.9	427.3	395.2	485.6	582.4	585.5	987.0	768.0
0 1	I2-O	301.5	353.1	325.2	373.4	370.3	408.0	458.3	466.3	645.1	566.2	1050	748.7
1 0	I2-O	305.0	329.0	329.5	348.4	375.4	381.2	464.1	436.4	651.4	532.1	1056	709.8
1 1	I2-O	237.5	352.6	261.9	371.8	308.1	404.6	397.3	459.9	584.7	555.7	989.5	733.4
I2 I3	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I1-O	303.3	433.1	328.0	453.8	373.8	488.8	463.0	547.4	649.4	647.6	1057	830.2
0 1	I1-O	434.5	450.6	458.1	470.0	502.7	502.7	591.1	557.9	777.6	653.6	1182	831.4
1 0	I1-O	433.6	450.7	457.3	470.2	501.8	503.0	590.2	558.2	776.7	654.0	1181	831.7
1 1	I1-O	301.9	434.2	326.5	455.0	372.6	490.0	461.5	548.7	649.1	649.0	1055	831.7

Version : XOR3ELD

Cell Unit = 22

State	Path	Output Load											
		1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
I1 I2	Path	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl		
0 0	I3-O	171.2	216.9	187.9	230.6	219.5	255.2	280.3	297.2	404.5	370.8	677.1	504.2
0 1	I3-O	213.8	224.8	230.3	238.7	262.0	263.6	322.6	306.1	446.6	380.2	719.1	513.9
1 0	I3-O	214.7	216.9	231.5	230.0	263.6	253.5	324.8	293.7	449.4	363.9	722.0	492.6
1 1	I3-O	172.3	210.8	189.2	223.6	221.3	246.9	282.7	286.8	407.4	357.0	680.1	485.6
I1 I3	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl		
0 0	I2-O	254.7	347.3	271.9	361.6	304.1	387.0	365.3	430.6	489.6	505.3	762.3	639.5
0 1	I2-O	305.2	342.1	322.0	356.7	354.0	381.9	414.7	425.3	538.8	500.0	811.3	634.3
1 0	I2-O	304.7	315.7	321.6	329.3	353.8	352.9	415.1	393.6	539.6	464.3	812.3	593.2
1 1	I2-O	249.7	324.4	266.7	337.6	299.0	361.4	360.4	402.4	485.1	473.3	757.9	602.3
I2 I3	Path	1.500 ff		3.390 ff		7.663 ff		17.32 ff		39.15 ff		88.49 ff	
		tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl	tplh tphl		
0 0	I1-O	304.8	415.0	321.7	429.4	354.0	455.1	415.4	498.8	540.0	573.8	812.8	708.1
0 1	I1-O	438.6	425.3	455.4	438.8	487.3	462.4	548.0	503.2	672.1	573.9	944.7	702.8
1 0	I1-O	437.8	425.2	454.6	438.7	486.4	462.3	547.2	503.2	671.2	573.8	943.8	702.8
1 1	I1-O	303.8	416.1	320.8	430.5	353.2	456.4	414.6	500.1	539.3	575.2	812.1	709.6

Version : XOR3HLD

Cell Unit = 23

State	Output Load														
	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff				
I1 I2		Path		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl				
0 0	I3-O	210.8	294.4	224.1	306.7	251.1	330.5	303.2	372.8	407.5	446.3	640.3	578.8		
0 1	I3-O	248.3	294.7	261.8	307.2	288.8	331.0	340.9	373.3	444.9	447.0	677.5	579.8		
1 0	I3-O	250.1	279.4	263.7	290.8	291.1	313.4	343.8	353.1	448.8	422.8	682.0	549.5		
1 1	I3-O	212.8	280.9	226.2	292.7	253.7	315.1	306.4	354.9	411.6	424.4	645.0	550.9		
I1 I3		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
0 0	I2-O	293.0	417.2	306.8	429.6	334.1	453.7	386.4	496.1	490.8	570.0	723.5	702.8		
0 1	I2-O	340.5	406.7	354.1	419.4	381.1	443.3	433.4	485.8	537.5	559.8	770.1	692.8		
1 0	I2-O	339.2	370.8	353.0	382.4	380.3	404.7	433.1	444.6	538.0	514.4	771.1	641.1		
1 1	I2-O	288.8	389.5	302.4	401.1	330.0	423.5	382.7	463.5	487.8	533.5	721.1	660.4		
I2 I3		Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
0 0	I1-O	340.1	476.1	353.8	488.5	381.1	512.6	434.0	555.3	538.9	629.2	772.1	762.2		
0 1	I1-O	475.2	481.7	488.6	493.5	515.8	515.8	567.9	555.8	672.1	625.7	904.7	752.6		
1 0	I1-O	474.0	480.0	487.4	491.9	514.5	514.2	566.6	554.0	670.7	623.9	903.3	750.6		
1 1	I1-O	341.0	479.5	354.7	491.9	382.2	516.2	435.1	558.9	540.2	633.0	773.4	766.1		

Version : XOR3KLD

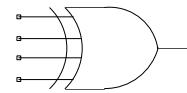
Cell Unit = 26

State	Output Load														
	Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
I1 I2			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
0 0	I3-O	295.5 445.2		306.6 455.9	332.1 479.8	384.9 527.0	490.6 612.7	725.7 769.0							
0 1	I3-O	326.9 437.8		338.2 448.4	363.9 472.3	416.4 519.6	522.1 605.2	756.9 761.7							
1 0	I3-O	330.5 406.3		342.0 416.4	368.0 438.9	421.3 483.3	528.3 564.2	764.3 713.1							
1 1	I3-O	299.5 415.3		310.8 425.3	336.8 447.8	390.1 492.3	497.0 573.2	733.3 721.9							
I1 I3		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
				tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I2-O	378.0 555.1		389.5 565.7	415.2 589.6	467.9 636.8	573.7 722.5	808.5 878.8							
0 1	I2-O	420.7 537.9		432.1 548.5	457.7 572.5	510.3 619.6	616.1 705.3	850.9 861.9							
1 0	I2-O	421.1 487.5		432.6 497.6	458.6 520.0	511.8 564.4	618.8 645.3	854.7 794.0							
1 1	I2-O	374.0 513.4		385.3 523.4	411.3 546.0	464.7 590.5	571.5 671.5	807.6 820.4							
I2 I3		Path		1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff	
				tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0	I1-O	422.7 604.7		434.4 615.4	460.1 639.3	513.5 686.5	620.5 772.1	856.5 928.5							
0 1	I1-O	557.0 598.3		568.0 608.4	593.6 630.9	646.4 675.3	752.1 756.2	986.9 905.2							
1 0	I1-O	555.8 596.5		567.0 606.5	592.6 629.0	645.4 673.4	751.0 754.2	985.8 903.0							
1 1	I1-O	424.6 608.0		436.0 618.6	461.8 642.6	515.1 689.8	622.1 775.6	858.2 932.2							

Group Name : XOR4

Symbol

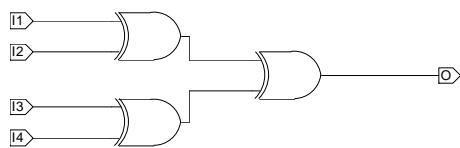
Function : Exclusive OR4



Truth Table

I1	I2	I3	I4	O
EVEN PARITY				0
ODD PARITY				1

Schematic



Pin Order O I1 I2 I3 I4

**Input Capacitance (ff) & Maximum Loading (ff) & Power Consumption (nW/MHz)**

Version	Input Capacitance				Maximum Loading	Power Consumption
	I1	I2	I3	I4		
XOR4CLD	1.362	2.614	1.353	2.629	80.22	15.70
XOR4ELD	1.344	2.542	1.335	2.557	137.7	17.29
XOR4HLD	1.362	2.614	1.353	2.629	276.8	20.77
XOR4KLD	1.378	2.618	1.356	2.706	543.2	29.47

## AC Characteristics ( Temp=25.0°C Core Voltage=1.2V Process=Nominal Delay Unit=ps)

Version : XOR4CLD

Cell Unit = 30

State	Output Load												
	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
I1 I2 I3		tplh	tphl										
0 0 0	I4-O	410.8	373.6	436.0	389.3	483.2	416.5	575.3	463.5	762.7	547.7	1170	712.6
0 0 1	I4-O	430.5	318.7	455.0	334.5	502.2	361.9	593.3	408.5	781.6	492.8	1187	657.7
0 1 0	I4-O	344.6	483.3	364.1	504.5	404.1	541.3	489.0	604.0	674.7	711.6	1081	903.6
0 1 1	I4-O	287.6	498.8	307.5	520.2	347.7	557.1	432.4	619.8	617.0	727.4	1024	919.4
1 0 0	I4-O	344.6	485.2	364.1	506.3	404.1	543.2	489.0	605.9	674.7	713.2	1081	904.8
1 0 1	I4-O	287.6	500.7	307.5	522.1	347.7	559.0	432.4	621.7	617.0	729.1	1024	920.7
1 1 0	I4-O	410.4	373.6	435.6	389.3	482.9	416.5	575.1	463.5	762.7	547.7	1170	712.6
1 1 1	I4-O	430.1	318.7	454.6	334.5	501.9	361.8	593.1	408.5	781.5	492.8	1187	657.7
I1 I2 I4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0	I3-O	476.9	429.9	502.1	445.8	549.4	473.0	641.0	519.7	828.3	603.9	1235	768.8
0 0 1	I3-O	480.2	360.5	505.0	376.1	552.3	403.3	644.3	450.2	831.9	534.5	1238	699.4
0 1 0	I3-O	400.1	548.2	419.9	569.4	460.1	606.2	544.8	668.9	729.2	776.4	1137	968.5
0 1 1	I3-O	330.9	550.6	350.4	571.8	390.5	608.7	475.3	671.3	661.0	778.8	1067	970.8
1 0 0	I3-O	400.1	550.0	419.9	571.2	460.0	608.2	544.8	670.8	729.2	778.1	1137	969.7
1 0 1	I3-O	330.8	552.4	350.4	573.6	390.5	610.6	475.2	673.1	660.9	780.5	1067	972.0
1 1 0	I3-O	476.4	429.8	501.7	445.8	549.1	472.9	640.8	519.7	828.3	603.9	1235	768.8
1 1 1	I3-O	479.7	360.5	504.6	376.0	552.0	403.3	644.2	450.2	831.8	534.5	1238	699.3
I1 I3 I4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0	I2-O	395.0	398.1	415.5	413.8	456.2	441.3	541.1	488.2	725.7	572.5	1133	737.4
0 0 1	I2-O	354.2	484.6	380.1	508.7	428.5	549.3	520.9	615.7	708.7	726.4	1115	920.5
0 1 0	I2-O	354.2	484.7	380.1	508.7	428.5	549.3	520.9	615.7	708.7	726.4	1115	920.5
0 1 1	I2-O	395.0	398.1	415.5	413.8	456.2	441.3	541.1	488.2	725.7	572.5	1133	737.4
1 0 0	I2-O	416.3	344.2	436.5	359.9	477.3	387.2	562.6	434.3	748.5	518.6	1154	683.5
1 0 1	I2-O	304.8	508.5	330.8	532.8	379.4	573.2	472.0	639.2	660.0	749.5	1067	943.0
1 1 0	I2-O	304.8	508.5	330.8	532.9	379.4	573.2	472.0	639.2	660.0	749.5	1067	943.0
1 1 1	I2-O	416.3	344.2	436.6	359.9	477.3	387.2	562.6	434.3	748.5	518.6	1154	683.5
I2 I3 I4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff	
		tplh	tphl										
0 0 0	I1-O	463.6	455.8	484.1	471.6	524.8	498.9	609.6	545.9	794.5	630.2	1202	795.1
0 0 1	I1-O	415.5	553.3	441.3	577.3	489.7	617.7	582.1	683.9	770.4	794.2	1175	987.6
0 1 0	I1-O	415.5	553.3	441.4	577.3	489.8	617.7	582.2	683.9	770.4	794.2	1175	987.7
0 1 1	I1-O	463.6	455.8	484.1	471.6	524.8	498.9	609.6	545.9	794.5	630.2	1202	795.1
1 0 0	I1-O	465.2	385.2	485.7	400.9	526.4	428.3	611.3	475.2	796.5	559.5	1202	724.5
1 0 1	I1-O	344.3	551.4	370.3	575.8	418.7	616.4	511.1	682.7	698.7	793.5	1105	987.6
1 1 0	I1-O	344.3	551.4	370.3	575.8	418.7	616.4	511.1	682.7	698.7	793.5	1106	987.6
1 1 1	I1-O	465.2	385.2	485.7	400.9	526.4	428.3	611.3	475.2	796.4	559.5	1202	724.4

Version : XOR4ELD

Cell Unit = 30

State	Output Load													
	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff			
I1	I2	I3	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
0 0 0	I4-O		423.4	393.3	440.2	405.1	472.1	426.1	531.7	461.4	647.3	521.5	884.9	630.0
0 0 1	I4-O		442.6	338.5	459.6	350.5	491.3	371.2	550.8	406.7	666.6	466.8	904.7	575.3
0 1 0	I4-O		346.3	521.3	359.3	537.5	384.7	566.3	435.6	614.3	543.6	694.3	779.7	830.5
0 1 1	I4-O		289.5	537.0	302.6	553.4	328.3	581.9	379.3	630.2	487.4	710.2	723.1	846.3
1 0 0	I4-O		346.3	523.3	359.3	539.5	384.7	568.3	435.6	616.3	543.6	696.2	779.7	832.1
1 0 1	I4-O		289.5	539.0	302.6	555.3	328.2	584.0	379.3	632.2	487.4	712.1	723.1	847.9
1 1 0	I4-O		423.0	393.3	439.7	405.1	471.7	426.1	531.4	461.4	647.2	521.5	884.9	630.0
1 1 1	I4-O		442.2	338.5	459.2	350.4	490.9	371.2	550.5	406.5	666.4	466.8	904.6	575.3
I1 I2 I4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I3-O	488.6	449.7	505.5	461.6	537.4	482.5	596.7	517.7	711.5	577.9	950.5	686.4	
0 0 1	I3-O	492.2	380.1	509.2	392.1	540.8	413.1	600.6	448.1	715.2	508.4	953.1	616.9	
0 1 0	I3-O	402.2	586.1	415.1	602.3	440.7	631.0	491.7	679.1	599.9	759.2	835.7	895.3	
0 1 1	I3-O	332.7	588.8	345.6	605.0	371.1	633.6	422.3	681.7	529.4	761.7	765.1	897.9	
1 0 0	I3-O	402.2	588.2	415.1	604.4	440.7	633.0	491.7	681.1	599.8	761.1	835.6	896.9	
1 0 1	I3-O	332.6	590.8	345.6	607.1	371.0	635.6	422.3	683.7	529.4	763.6	765.0	899.4	
1 1 0	I3-O	488.2	449.7	505.1	461.6	537.0	482.4	596.3	517.7	711.4	577.9	949.7	686.4	
1 1 1	I3-O	491.8	380.1	508.8	392.0	540.4	413.1	600.3	448.1	715.1	508.4	953.1	616.9	
I1 I3 I4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I2-O	399.8	416.5	413.2	428.2	439.4	449.2	491.1	484.7	599.6	544.9	836.0	653.4	
0 0 1	I2-O	360.7	518.8	378.3	536.6	411.5	567.6	472.1	618.1	588.0	700.5	826.1	838.4	
0 1 0	I2-O	360.7	518.8	378.4	536.7	411.5	567.6	472.2	618.1	588.0	700.5	826.1	838.4	
0 1 1	I2-O	399.8	416.5	413.2	428.2	439.4	449.2	491.1	484.7	599.6	544.9	836.0	653.4	
1 0 0	I2-O	421.1	362.6	434.5	374.6	460.6	395.6	512.2	430.9	620.7	491.1	857.1	599.7	
1 0 1	I2-O	311.6	543.2	329.4	561.1	362.8	591.9	423.5	642.2	538.8	724.3	778.2	861.8	
1 1 0	I2-O	311.6	543.2	329.4	561.1	362.8	591.9	423.5	642.2	538.9	724.3	778.2	861.8	
1 1 1	I2-O	421.1	362.6	434.5	374.6	460.6	395.6	512.2	430.9	620.7	491.1	857.1	599.7	
I2 I3 I4	Path	1.500 ff		3.306 ff		7.287 ff		16.06 ff		35.40 ff		78.03 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I1-O	468.2	474.2	481.8	486.1	508.1	507.0	559.7	542.4	668.0	602.5	904.3	711.1	
0 0 1	I1-O	422.1	587.5	439.9	605.3	473.0	636.1	533.7	686.4	649.3	768.6	887.9	906.1	
0 1 0	I1-O	422.1	587.6	439.9	605.3	473.0	636.1	533.7	686.5	649.4	768.6	887.9	906.1	
0 1 1	I1-O	468.2	474.2	481.8	486.1	508.1	507.0	559.7	542.4	668.0	602.6	904.3	711.1	
1 0 0	I1-O	469.9	403.5	483.5	415.4	509.8	436.2	561.4	471.7	669.8	531.9	906.1	640.4	
1 0 1	I1-O	351.0	585.6	368.6	603.5	401.6	634.2	462.3	684.9	578.5	767.2	816.6	905.3	
1 1 0	I1-O	351.0	585.6	368.6	603.5	401.6	634.3	462.4	684.9	578.5	767.3	816.6	905.3	
1 1 1	I1-O	469.9	403.5	483.5	415.4	509.8	436.2	561.4	471.7	669.8	531.9	906.1	640.4	

Version : XOR4HLD

Cell Unit = 30

State	Output Load												
	Path		1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff
			tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh
0 0 0	I4-O	467.6 440.7		481.9 452.5	510.9 473.8	566.3 511.9	675.3 577.8	911.3 698.2					
0 0 1	I4-O	483.7 385.8		498.1 397.5	527.0 418.9	582.5 456.9	691.5 522.9	927.5 643.2					
0 1 0	I4-O	364.1 617.0		374.9 632.6	396.6 662.4	440.5 715.0	536.1 804.2	765.1 959.3					
0 1 1	I4-O	308.0 632.3		318.6 647.9	340.5 677.7	384.3 730.4	479.8 819.7	708.9 974.8					
1 0 0	I4-O	364.1 619.0		374.9 634.5	396.6 664.4	440.4 716.9	536.0 806.0	765.1 960.9					
1 0 1	I4-O	308.0 634.3		318.6 649.9	340.5 679.7	384.3 732.3	479.8 821.4	708.9 976.3					
1 1 0	I4-O	467.1 440.7		481.4 452.5	510.4 473.8	565.9 511.9	675.1 577.8	911.3 698.2					
1 1 1	I4-O	483.3 385.8		497.7 397.5	526.6 418.9	582.1 456.9	691.3 522.9	927.5 643.2					
I1 I2 I4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	I3-O	531.8 497.0		546.3 508.6	575.2 530.0	630.7 568.0	739.6 634.1	975.6 754.5					
0 0 1	I3-O	534.5 427.7		549.1 438.9	577.8 460.5	633.4 498.6	742.3 564.5	978.3 684.9					
0 1 0	I3-O	419.8 681.3		430.5 696.9	452.4 726.9	496.2 779.4	591.7 868.7	820.8 1024					
0 1 1	I3-O	350.1 684.6		360.8 700.1	382.5 730.0	426.4 782.5	522.0 871.8	751.0 1027					
1 0 0	I3-O	419.8 683.3		430.5 698.9	452.4 728.9	496.2 781.3	591.7 870.5	820.8 1025					
1 0 1	I3-O	350.1 686.6		360.8 702.1	382.5 731.9	426.4 784.4	522.0 873.5	751.0 1028					
1 1 0	I3-O	531.4 497.0		545.9 508.6	574.7 530.0	630.3 568.0	739.4 634.1	975.6 754.5					
1 1 1	I3-O	534.1 427.7		548.6 438.8	577.4 460.5	633.0 498.6	742.1 564.5	978.3 684.9					
I1 I3 I4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	I2-O	427.2 463.5		438.3 474.5	460.8 496.2	505.4 534.3	601.3 600.5	830.5 720.9					
0 0 1	I2-O	394.9 597.9		409.7 614.1	439.1 645.2	495.4 698.8	604.7 789.2	840.6 945.4					
0 1 0	I2-O	394.9 598.0		409.7 614.1	439.2 645.2	495.4 698.8	604.7 789.3	840.6 945.4					
0 1 1	I2-O	427.2 463.5		438.3 474.6	460.8 496.2	505.4 534.3	601.3 600.5	830.5 720.9					
1 0 0	I2-O	445.4 409.8		456.5 421.3	479.0 442.8	523.6 480.9	619.5 546.9	848.6 667.4					
1 0 1	I2-O	347.7 623.4		362.6 639.6	392.0 670.3	448.4 723.9	557.9 814.2	794.1 969.9					
1 1 0	I2-O	347.7 623.4		362.6 639.6	392.1 670.3	448.4 723.9	557.9 814.2	794.1 969.9					
1 1 1	I2-O	445.4 409.8		456.5 421.3	479.0 442.8	523.6 481.0	619.5 546.9	848.6 667.4					
I2 I3 I4	Path	1.500 ff		3.711 ff		9.182 ff		22.72 ff		56.20 ff		139.0 ff	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0 0 0	I1-O	494.7 521.2		505.7 532.9	528.3 554.3	572.8 592.4	668.8 658.5	897.9 778.9					
0 0 1	I1-O	457.6 667.1		472.3 683.2	501.8 714.1	558.1 767.7	667.3 857.9	903.3 1014					
0 1 0	I1-O	457.6 667.1		472.3 683.2	501.8 714.2	558.1 767.7	667.3 857.9	903.3 1014					
0 1 1	I1-O	494.7 521.3		505.8 532.9	528.3 554.3	572.8 592.4	668.8 658.5	897.9 778.9					
1 0 0	I1-O	494.4 450.8		505.5 461.8	528.1 483.5	572.7 521.6	668.7 587.8	897.8 708.2					
1 0 1	I1-O	385.6 664.2		400.3 680.3	429.9 711.2	486.3 765.0	595.7 855.4	831.9 1012					
1 1 0	I1-O	385.6 664.2		400.4 680.3	429.9 711.2	486.3 765.0	595.8 855.4	831.9 1012					
1 1 1	I1-O	494.4 450.8		505.5 461.8	528.1 483.5	572.7 521.6	668.7 587.8	897.8 708.2					

Version : XOR4KLD

Cell Unit = 31

State	Output Load													
	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff			
I1	I2	I3	Path	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	
0 0 0	I4-O		559.0	541.4	571.1	551.2	598.2	573.0	654.4	615.8	765.9	693.2	1007	835.0
0 0 1	I4-O		574.2	489.4	586.2	499.2	613.3	521.0	669.3	563.8	781.0	641.2	1022	783.0
0 1 0	I4-O		412.1	812.7	421.1	825.7	441.2	855.5	483.5	914.4	573.9	1020	796.3	1206
0 1 1	I4-O		358.9	827.0	367.8	840.0	388.0	869.8	430.3	928.8	520.7	1034	743.2	1221
1 0 0	I4-O		412.0	814.2	421.1	827.3	441.2	857.0	483.5	915.9	573.9	1021	796.3	1207
1 0 1	I4-O		358.9	828.5	367.8	841.5	388.0	871.3	430.3	930.2	520.7	1035	743.2	1222
1 1 0	I4-O		558.6	541.4	570.7	551.2	597.8	573.0	654.0	615.8	765.7	693.2	1007	835.0
1 1 1	I4-O		573.8	489.4	585.8	499.1	612.9	521.0	669.0	563.8	780.7	641.2	1022	783.0
I1 I2 I4	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I3-O	624.6	598.0	636.5	607.8	664.0	629.7	719.8	672.4	831.5	749.8	1073	891.7	
0 0 1	I3-O	622.5	528.5	634.5	538.3	661.6	560.1	717.8	603.0	829.3	680.3	1071	822.1	
0 1 0	I3-O	468.2	878.4	477.0	891.4	497.3	921.1	539.6	980.1	629.9	1086	852.4	1272	
0 1 1	I3-O	398.7	876.7	407.5	889.7	427.8	919.5	470.0	978.4	560.4	1084	782.8	1270	
1 0 0	I3-O	468.2	879.9	477.0	892.9	497.3	922.7	539.6	981.6	629.9	1087	852.4	1273	
1 0 1	I3-O	398.6	878.2	407.5	891.3	427.7	921.0	470.0	979.9	560.4	1085	782.8	1271	
1 1 0	I3-O	624.2	598.0	636.1	607.8	663.6	629.7	719.4	672.4	831.2	749.8	1073	891.6	
1 1 1	I3-O	622.1	528.5	634.2	538.2	661.3	560.1	717.5	602.9	829.1	680.3	1071	822.1	
I1 I3 I4	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I2-O	497.6	575.4	506.7	585.2	527.4	607.1	570.4	649.9	661.4	727.3	884.0	869.4	
0 0 1	I2-O	487.1	778.1	499.0	791.2	526.5	821.0	582.7	880.2	694.6	985.8	935.8	1173	
0 1 0	I2-O	487.1	778.1	499.0	791.2	526.5	821.1	582.7	880.2	694.6	985.8	935.8	1173	
0 1 1	I2-O	497.6	575.4	506.7	585.2	527.4	607.1	570.4	649.9	661.4	727.3	884.0	869.4	
1 0 0	I2-O	516.6	522.8	525.8	532.5	546.4	554.3	589.5	597.2	680.5	674.6	903.0	816.6	
1 0 1	I2-O	441.4	805.1	453.2	818.2	480.7	848.0	537.0	907.1	649.0	1013	890.5	1199	
1 1 0	I2-O	441.4	805.2	453.2	818.2	480.7	848.1	537.0	907.2	649.0	1013	890.5	1199	
1 1 1	I2-O	516.6	522.8	525.8	532.5	546.4	554.4	589.5	597.2	680.5	674.6	903.0	816.6	
I2 I3 I4	Path	1.500 ff		4.166 ff		11.57 ff		32.12 ff		89.21 ff		247.7 ff		
		tplh	tphl	tplh	tphl									
0 0 0	I1-O	564.4	632.5	573.6	642.1	594.2	664.0	637.3	706.8	728.3	784.3	950.9	926.2	
0 0 1	I1-O	549.3	847.7	561.3	860.7	588.7	890.5	645.0	949.6	756.9	1055	998.1	1242	
0 1 0	I1-O	549.3	847.7	561.3	860.8	588.7	890.6	645.0	949.7	756.9	1055	998.1	1242	
0 1 1	I1-O	564.4	632.5	573.6	642.2	594.2	664.0	637.3	706.8	728.3	784.3	950.9	926.3	
1 0 0	I1-O	563.5	562.3	572.6	572.1	593.3	593.9	636.4	636.7	727.4	714.2	950.0	856.1	
1 0 1	I1-O	477.9	842.6	489.8	855.7	517.3	885.5	573.6	944.7	685.5	1050	927.0	1237	
1 1 0	I1-O	477.9	842.6	489.8	855.7	517.3	885.5	573.6	944.7	685.5	1050	927.0	1237	
1 1 1	I1-O	563.5	562.3	572.6	572.1	593.3	593.9	636.4	636.7	727.4	714.2	950.0	856.1	

# *Chapter 3*

## *3.3VI/O Cells*

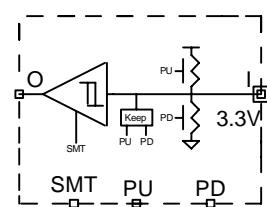
Group Name : XM

Symbol

Function : Programmable LVTTL Input Buffer, 3.3V

Cell List

Pad Limited	Core Limited
XMLA	XMLB



Truth Table

I	O
0	0
1	1

Programmable Features

SMT	Input
0	Normal
1	Schmitt Trigger

PU	PD	Pull Up / Pull Down
0	0	None
1	0	75K Pull Up
0	1	75K Pull Down
1	1	75K Keeper

Pin Order O I PU PD SMT

**Input Capacitance (SL) & Maximum Loading (SL)**

Version	Input Capacitance			Maximum Loading
	PU	PD	SMT	
XMLA	2.0	0.9	2.5	220.0
XMLB	1.8	0.8	1.8	219.7

**AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns )**

Version : XMLA

Cell Unit = 87 (I/O UNIT)

SMT	Path	Load (SL)							
		6		15		30		60	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I-O	0.79	0.35	0.81	0.36	0.83	0.38	0.88	0.41
1	I-O	0.90	0.89	0.92	0.91	0.94	0.92	0.99	0.94

Version : XMLB

Cell Unit = 150 (I/O UNIT)

State Dependent	Path	Load (SL)											
		6		15		30		60		120		240	
SMT		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I-O	0.78	0.35	0.80	0.36	0.82	0.38	0.87	0.40	0.98	0.46	1.22	0.56
1	I-O	0.90	0.89	0.91	0.90	0.93	0.92	0.98	0.94	1.09	0.99	1.33	1.07

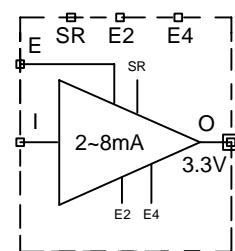
## Power Consumption (uW/MHz)

Item	Version	XMLA	XMLB
I-O (SMT=0)		0.967	1.000
I-O (SMT=1)		2.158	2.145

Group Name : YA28S

Symbol

Function : 2~8mA Programmable LVTTL Output Buffer, 3.3V



Cell List :

Pad Limited	Core Limited
YA28SLA	YA28SLB

Truth Table

I	E	O
0	1	0
1	1	1
X	0	Z

Programmable Features

Output Driving Capability

E4	E2	Driving
0	0	2mA
0	1	4mA
1	0	6mA
1	1	8mA

Output Slew Rate

SR	Slew Rate
0	Fsat
1	Slow

Pin Order O I E E2 E4 SR

#### Input Capacitance (SL) & Maximum Loading (SL)

Version	Input Capacitance					Maximum Loading
	I	E	E2	E4	SR	
YA28SLA	6.0	5.9	1.8	1.8	1.9	
YA28SLB	5.8	5.5	1.9	1.8	1.8	

## AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns)

Version : YA28SLA

Cell Unit = 87 (I/O UNIT)

State Dependent	Path	Load (SL)									
		5.0pf		10.0pf		20.0pf		40.0pf		70.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-O	1.96	1.80	2.18	2.06	2.55	2.53	3.24	3.44	4.26	4.81
1 1 0	I-O	2.04	1.92	2.32	2.25	2.80	2.87	3.71	4.08	5.06	5.91
1 0 0	I-O	2.26	2.38	2.94	3.29	4.30	5.11	7.01	8.75	11.08	14.21
1 0 1	I-O	2.02	1.95	2.37	2.40	3.05	3.31	4.40	5.13	6.43	7.87
0 0 1	I-O	1.81	1.79	2.15	2.24	2.82	3.15	4.18	4.97	6.21	7.70
0 1 1	I-O	1.68	1.62	1.86	1.86	2.20	2.32	2.88	3.23	3.89	4.59
0 1 0	I-O	1.76	1.73	1.99	2.04	2.45	2.65	3.35	3.86	4.70	5.68
0 0 0	I-O	2.15	2.26	2.83	3.17	4.19	4.99	6.90	8.63	10.97	14.10
1 1 1	E-O	1.92	1.92	2.14	2.18	2.52	2.65	3.21	3.57	4.23	4.93
1 1 0	E-O	2.01	2.04	2.29	2.37	2.78	2.99	3.69	4.21	5.04	6.03
1 0 0	E-O	2.24	2.52	2.92	3.43	4.27	5.26	6.99	8.90	11.05	14.37
1 0 1	E-O	1.99	2.06	2.34	2.52	3.02	3.43	4.38	5.25	6.41	7.97
0 0 1	E-O	1.78	1.89	2.12	2.34	2.80	3.26	4.15	5.08	6.19	7.81
0 1 1	E-O	1.63	1.71	1.82	1.95	2.17	2.41	2.85	3.32	3.86	4.69
0 1 0	E-O	1.72	1.83	1.96	2.14	2.42	2.76	3.32	3.97	4.67	5.79
0 0 0	E-O	2.13	2.38	2.81	3.30	4.16	5.13	6.87	8.77	10.94	14.23
	E-O	L>>Z 0.97								H>>Z 1.18	

Version : YA28SLB

Cell Unit = 150 (I/O UNIT)

State Dependent	Path	Load (SL)							
		5.0pf		10.0pf		20.0pf		40.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-O	1.94	1.78	2.16	2.03	2.53	2.50	3.22	3.42
1 1 0	I-O	2.02	1.90	2.30	2.22	2.78	2.84	3.69	4.06
1 0 0	I-O	2.26	2.37	2.94	3.28	4.30	5.10	7.01	8.74
1 0 1	I-O	2.01	1.93	2.36	2.39	3.04	3.30	4.39	5.12
0 0 1	I-O	1.80	1.78	2.14	2.23	2.81	3.14	4.17	4.96
0 1 1	I-O	1.66	1.60	1.84	1.84	2.18	2.29	2.86	3.20
0 1 0	I-O	1.74	1.71	1.98	2.02	2.43	2.63	3.33	3.84
0 0 0	I-O	2.15	2.25	2.83	3.16	4.18	4.98	6.90	8.62
1 1 1	E-O	1.93	1.91	2.15	2.17	2.53	2.64	3.22	3.56
1 1 0	E-O	2.02	2.03	2.30	2.36	2.79	2.98	3.70	4.20
1 0 0	E-O	2.27	2.53	2.94	3.44	4.30	5.27	7.01	8.91
1 0 1	E-O	2.01	2.06	2.36	2.52	3.04	3.43	4.40	5.25
0 0 1	E-O	1.78	1.89	2.12	2.35	2.80	3.26	4.16	5.08
0 1 1	E-O	1.64	1.70	1.82	1.94	2.17	2.40	2.85	3.31
0 1 0	E-O	1.72	1.82	1.96	2.14	2.42	2.75	3.32	3.96
0 0 0	E-O	2.14	2.39	2.82	3.31	4.18	5.13	6.89	8.78
	E-O	L>>Z 0.93						H>>Z 1.15	

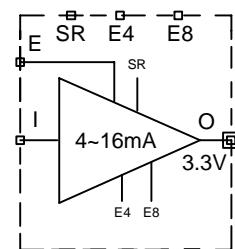
## Power Consumption (uW/MHz)

Item	Version	YA28SLA	YA28SLB
I-O		16.198	16.305
E-O		14.680	14.810

Group Name : YA4GS

Symbol

Function : 4~16mA Programmable LVTTL Output Buffer, 3.3V



Cell List :

Pad Limited	Core Limited
YA4GSLA	YA4GSLB

Truth Table

I	E	O
0	1	0
1	1	1
X	0	Z

Programmable Features

Output Driving Capability

E8	E4	Driving
0	0	4mA
0	1	8mA
1	0	12mA
1	1	16mA

Output Slew Rate

SR	Slew Rate
0	Fsat
1	Slow

Pin Order O I E E4 E8 SR

#### Input Capacitance (SL) & Maximum Loading (SL)

Version	Input Capacitance					Maximum Loading
	I	E	E4	E8	SR	
YA4GSLA	6.0	5.9	1.8	1.8	1.9	
YA4GSLB	5.8	5.5	1.9	1.8	1.8	

## AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns)

Version : YA4GSLA

Cell Unit = 87 (I/O UNIT)

State Dependent	Path	Load (SL)									
		5.0pf		10.0pf		20.0pf		40.0pf		70.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-O	1.94	1.85	2.14	2.03	2.43	2.32	2.87	2.83	3.43	3.53
1 1 0	I-O	1.96	1.91	2.21	2.13	2.58	2.51	3.15	3.16	3.87	4.08
1 0 0	I-O	1.94	1.94	2.29	2.40	2.97	3.32	4.32	5.14	6.34	7.87
1 0 1	I-O	1.92	1.85	2.16	2.12	2.54	2.60	3.23	3.51	4.24	4.88
0 0 1	I-O	1.69	1.66	1.87	1.90	2.21	2.36	2.89	3.26	3.90	4.63
0 1 1	I-O	1.66	1.65	1.78	1.79	1.98	2.04	2.35	2.51	2.87	3.19
0 1 0	I-O	1.71	1.71	1.86	1.89	2.12	2.21	2.60	2.83	3.29	3.74
0 0 0	I-O	1.79	1.77	2.13	2.23	2.81	3.14	4.15	4.96	6.18	7.69
1 1 1	E-O	1.89	1.91	2.10	2.12	2.40	2.43	2.84	2.94	3.41	3.64
1 1 0	E-O	1.92	1.97	2.18	2.22	2.56	2.61	3.13	3.27	3.86	4.20
1 0 0	E-O	1.93	2.06	2.27	2.53	2.95	3.45	4.30	5.28	6.32	8.02
1 0 1	E-O	1.89	1.95	2.13	2.22	2.52	2.70	3.21	3.62	4.22	4.99
0 0 1	E-O	1.64	1.73	1.83	1.98	2.18	2.45	2.86	3.36	3.87	4.73
0 1 1	E-O	1.59	1.67	1.72	1.83	1.94	2.11	2.31	2.59	2.84	3.28
0 1 0	E-O	1.64	1.73	1.81	1.94	2.08	2.29	2.57	2.92	3.26	3.83
0 0 0	E-O	1.76	1.87	2.10	2.34	2.78	3.26	4.12	5.08	6.15	7.82
	E-O	L>>Z 1.16								H>>Z 1.52	

Version : YA4GSLB

Cell Unit = 150 (I/O UNIT)

State Dependent	Path	Load (SL)							
		5.0pf		10.0pf		20.0pf		40.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-O	1.93	1.82	2.12	1.99	2.41	2.28	2.85	2.78
1 1 0	I-O	1.95	1.88	2.20	2.10	2.57	2.47	3.13	3.12
1 0 0	I-O	1.94	1.91	2.29	2.38	2.96	3.29	4.31	5.11
1 0 1	I-O	1.91	1.82	2.14	2.08	2.52	2.56	3.22	3.47
0 0 1	I-O	1.68	1.63	1.86	1.87	2.20	2.32	2.87	3.23
0 1 1	I-O	1.64	1.62	1.76	1.76	1.96	2.01	2.33	2.47
0 1 0	I-O	1.69	1.68	1.84	1.86	2.11	2.18	2.59	2.80
0 0 0	I-O	1.79	1.75	2.12	2.21	2.80	3.12	4.15	4.94
1 1 1	E-O	1.90	1.90	2.10	2.10	2.40	2.40	2.84	2.91
1 1 0	E-O	1.93	1.95	2.19	2.20	2.56	2.59	3.13	3.25
1 0 0	E-O	1.94	2.06	2.29	2.53	2.96	3.44	4.31	5.27
1 0 1	E-O	1.90	1.93	2.14	2.20	2.52	2.68	3.22	3.60
0 0 1	E-O	1.64	1.71	1.83	1.96	2.18	2.43	2.86	3.34
0 1 1	E-O	1.60	1.66	1.73	1.82	1.94	2.09	2.32	2.57
0 1 0	E-O	1.64	1.72	1.81	1.92	2.09	2.27	2.57	2.90
0 0 0	E-O	1.77	1.87	2.11	2.33	2.79	3.25	4.14	5.08
	E-O	L>>Z 1.11						H>>Z 1.48	

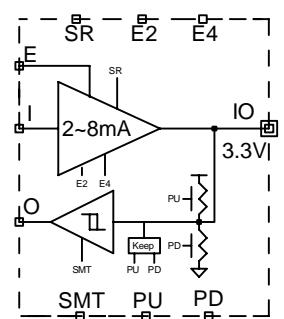
## Power Consumption (uW/MHz)

Item	Version	YA4GSLA	YA4GSLB
I-O		20.840	20.923
E-O		17.287	17.381

Group Name : ZMA28S

Symbol

Function : Programmable 2~8mA LVTTL Bidirect Buffer, 3.3V



Cell List

Pad Limited	Core Limited
ZMA28SLA	ZMA28SLB

Truth Table

I	E	IO	O
0	1	0	0
1	1	1	1
X	0	Z	X
X	0	Pu1	1 ( If Pull Up )
X	0	Pu0	0 ( If Pull Down )
X	0	Keep	IO ( If Keeper )

→ Keep Previous State

### Programmable Features

#### Output Driving Capability

E4	E2	Driving
0	0	2mA
0	1	4mA
1	0	6mA
1	1	8mA

#### Input Characteristics

SMT	Input
0	Normal
1	Schmitt Trigger

#### Output Slew Rate

SR	Slew Rate
0	Fast
1	Slow

PU PD	Pull Up / Pull Down
0 0	None
1 0	75K Pull Up
0 1	75K Pull Down
1 1	75K Keeper

Pin Order O I IO E E2 E4 SR PU PD SMT

#### Input Capacitance (SL) & Maximum Loading (SL)

Version	Input Capacitance								Maximum Loading
	I	E	E2	E4	SR	PU	PD	SMT	
ZMA28SLA	6.1	6.7	2.1	1.8	1.9	2.0	0.9	1.8	219.4
ZMA28SLB	5.8	6.3	2.3	1.8	1.8	2.0	0.9	1.9	219.0

## AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns)

Version : ZMA28SLA

Cell Unit = 87 (I/O UNIT)

State Dependent		Load (SL)									
SMT	Path	6		15		30		60		120	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	IO-O	0.79	0.35	0.81	0.36	0.83	0.38	0.88	0.41	0.99	0.46
1	IO-O	0.90	0.89	0.92	0.90	0.94	0.92	0.99	0.94	1.10	0.99
SR E4 E2	Path	5.0pf		10.0pf		20.0pf		40.0pf		70.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-IO	1.96	1.81	2.18	2.07	2.56	2.54	3.25	3.45	4.26	4.82
1 1 0	I-IO	2.05	1.93	2.33	2.26	2.81	2.88	3.72	4.09	5.07	5.91
1 0 0	I-IO	2.28	2.40	2.96	3.31	4.31	5.13	7.03	8.77	11.10	14.23
1 0 1	I-IO	2.03	1.96	2.38	2.42	3.06	3.33	4.41	5.15	6.44	7.88
0 0 1	I-IO	1.82	1.80	2.16	2.26	2.83	3.16	4.19	4.98	6.22	7.71
0 1 1	I-IO	1.68	1.63	1.86	1.87	2.21	2.32	2.88	3.23	3.89	4.60
0 1 0	I-IO	1.76	1.74	2.00	2.05	2.45	2.66	3.35	3.87	4.70	5.69
0 0 0	I-IO	2.17	2.27	2.84	3.18	4.20	5.00	6.91	8.65	10.98	14.11
1 1 1	E-IO	1.94	1.93	2.17	2.19	2.54	2.66	3.23	3.58	4.25	4.95
1 1 0	E-IO	2.03	2.05	2.32	2.39	2.80	3.01	3.71	4.22	5.06	6.05
1 0 0	E-IO	2.27	2.54	2.95	3.46	4.31	5.28	7.02	8.93	11.08	14.39
1 0 1	E-IO	2.02	2.08	2.37	2.53	3.05	3.44	4.41	5.27	6.44	7.99
0 0 1	E-IO	1.79	1.90	2.13	2.36	2.81	3.27	4.17	5.09	6.20	7.82
0 1 1	E-IO	1.65	1.72	1.83	1.96	2.18	2.42	2.86	3.33	3.88	4.70
0 1 0	E-IO	1.73	1.84	1.97	2.16	2.43	2.77	3.33	3.99	4.68	5.81
0 0 0	E-IO	2.15	2.41	2.83	3.32	4.18	5.15	6.89	8.79	10.96	14.26
	E-IO	L>>Z 0.98								H>>Z 1.20	

Version : ZMA28SLB

Cell Unit = 150 (I/O UNIT)

State Dependent	Path	Load (SL)											
		6		15		30		60		120		240	
SMT		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	IO-O	0.78	0.34	0.80	0.36	0.82	0.37	0.87	0.40	0.98	0.46	1.22	0.55
1	IO-O	0.89	0.89	0.91	0.90	0.93	0.91	0.98	0.94	1.09	0.98	1.33	1.07
SR E4 E2	Path	5.0pf		10.0pf		20.0pf		40.0pf		70.0pf		100.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-IO	1.94	1.78	2.16	2.04	2.54	2.50	3.23	3.42	4.24	4.78	5.26	6.15
1 1 0	I-IO	2.03	1.90	2.31	2.23	2.79	2.84	3.70	4.06	5.05	5.88	6.40	7.70
1 0 0	I-IO	2.27	2.38	2.95	3.29	4.31	5.11	7.02	8.75	11.09	14.21	15.16	19.54
1 0 1	I-IO	2.02	1.94	2.36	2.39	3.04	3.30	4.40	5.12	6.43	7.85	8.39	10.59
0 0 1	I-IO	1.81	1.78	2.14	2.23	2.82	3.14	4.17	4.96	6.21	7.69	8.24	10.42
0 1 1	I-IO	1.66	1.60	1.84	1.84	2.19	2.29	2.86	3.20	3.88	4.57	4.89	5.93
0 1 0	I-IO	1.74	1.71	1.98	2.02	2.44	2.63	3.34	3.84	4.69	5.66	6.04	7.48
0 0 0	I-IO	2.16	2.26	2.84	3.17	4.19	4.99	6.91	8.63	10.98	14.10	15.05	19.56
1 1 1	E-IO	1.94	1.93	2.16	2.18	2.54	2.65	3.23	3.57	4.25	4.94	5.26	6.30
1 1 0	E-IO	2.04	2.04	2.32	2.38	2.80	2.99	3.71	4.21	5.06	6.03	6.41	7.85
1 0 0	E-IO	2.28	2.55	2.96	3.46	4.32	5.29	7.03	8.93	11.09	14.40	15.01	19.86
1 0 1	E-IO	2.02	2.08	2.37	2.53	3.06	3.44	4.41	5.27	6.45	7.99	8.48	10.60
0 0 1	E-IO	1.80	1.91	2.14	2.36	2.82	3.27	4.17	5.09	6.21	7.83	8.24	10.56
0 1 1	E-IO	1.65	1.71	1.84	1.96	2.18	2.42	2.86	3.33	3.88	4.69	4.89	6.06
0 1 0	E-IO	1.73	1.83	1.98	2.15	2.43	2.76	3.34	3.98	4.69	5.80	6.04	7.62
0 0 0	E-IO	2.16	2.41	2.84	3.33	4.19	5.15	6.91	8.80	10.97	14.26	15.04	19.73
	E-IO	L>>Z 0.94								H>>Z 1.16			

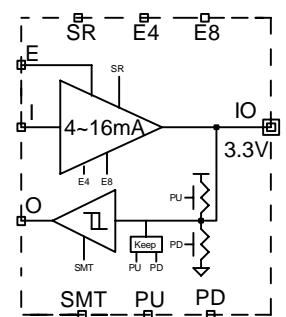
## Power Consumption (uW/MHz)

Item	Version	ZMA28SLA	ZMA28SLB
IO-O (SMT=0)		0.900	0.879
IO-O (SMT=1)		2.075	2.081
I-IO		17.383	17.451
E-IO		15.866	15.957

Group Name : ZMA4GS

Symbol

Function : Programmable 4~16mA LVTTL Bidirect Buffer, 3.3V



Cell List

Pad Limited	Core Limited
ZMA4GSLA	ZMA4GSLB

Truth Table

I	E	IO	O
0	1	0	0
1	1	1	1
X	0	Z	X
X	0	Pu1	1
X	0	Pu0	0
X	0	Keep	IO

( If Pull Up )

( If Pull Down )

( If Keeper )

→ Keep Previous State

## Programmable Features

## Output Driving Capability

E8	E4	Driving
0	0	4mA
0	1	8mA
1	0	12mA
1	1	16mA

## Input Characteristics

SMT	Input
0	Normal
1	Schmitt Trigger

## Output Slew Rate

SR	Slew Rate
0	Fast
1	Slow

PU	PD	Pull Up / Pull Down
0	0	None
1	0	75K Pull Up
0	1	75K Pull Down
1	1	75K Keeper

Pin Order O I IO E E4 E8 SR PU PD SMT

## Input Capacitance (SL) &amp; Maximum Loading (SL)

Version	Input Capacitance								Maximum Loading
	I	E	E4	E8	SR	PU	PD	SMT	
ZMA4GSLA	6.1	6.7	2.1	1.8	1.9	2.0	0.9	1.8	219.4
ZMA4GSLB	5.8	6.3	2.3	1.8	1.8	2.0	0.9	1.9	219.0

## AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns)

Version : ZMA4GSLA

Cell Unit = 87 (I/O UNIT)

State Dependent		Load (SL)											
SMT	Path	6		15		30		60		120		240	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	IO-O	0.79	0.35	0.81	0.36	0.83	0.38	0.88	0.41	0.99	0.46	1.23	0.56
1	IO-O	0.90	0.89	0.92	0.90	0.94	0.92	0.99	0.94	1.10	0.99	1.34	1.07
SR E8 E4	Path	5.0pf		10.0pf		20.0pf		40.0pf		70.0pf		100.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-IO	1.95	1.86	2.14	2.03	2.43	2.33	2.87	2.83	3.44	3.54	3.96	4.22
1 1 0	I-IO	1.97	1.92	2.22	2.14	2.59	2.51	3.15	3.16	3.88	4.08	4.57	5.00
1 0 0	I-IO	1.95	1.95	2.30	2.42	2.98	3.33	4.33	5.15	6.35	7.88	8.37	10.61
1 0 1	I-IO	1.93	1.86	2.16	2.13	2.54	2.61	3.23	3.52	4.25	4.89	5.26	6.25
0 0 1	I-IO	1.70	1.67	1.88	1.91	2.22	2.36	2.89	3.27	3.90	4.63	4.91	6.00
0 1 1	I-IO	1.67	1.65	1.78	1.79	1.99	2.05	2.35	2.52	2.87	3.20	3.38	3.88
0 1 0	I-IO	1.71	1.71	1.86	1.89	2.13	2.22	2.61	2.84	3.29	3.74	3.97	4.65
0 0 0	I-IO	1.80	1.78	2.14	2.24	2.81	3.15	4.16	4.97	6.18	7.70	8.20	10.43
1 1 1	E-IO	1.91	1.93	2.11	2.13	2.41	2.44	2.85	2.95	3.42	3.66	3.95	4.35
1 1 0	E-IO	1.93	1.98	2.20	2.23	2.58	2.62	3.14	3.28	3.87	4.21	4.56	5.12
1 0 0	E-IO	1.94	2.08	2.29	2.55	2.97	3.47	4.32	5.30	6.34	8.03	8.36	10.77
1 0 1	E-IO	1.91	1.96	2.15	2.24	2.53	2.72	3.22	3.64	4.24	5.00	5.25	6.37
0 0 1	E-IO	1.65	1.74	1.84	1.99	2.19	2.46	2.87	3.37	3.88	4.74	4.89	6.11
0 1 1	E-IO	1.60	1.68	1.73	1.85	1.95	2.12	2.32	2.60	2.85	3.29	3.36	3.98
0 1 0	E-IO	1.65	1.74	1.82	1.95	2.10	2.30	2.58	2.93	3.27	3.85	3.94	4.76
0 0 0	E-IO	1.77	1.89	2.12	2.36	2.79	3.27	4.14	5.10	6.16	7.84	8.18	10.57
	E-IO	L>>Z 1.17								H>>Z 1.54			

Version : ZMA4GSLB

Cell Unit = 150 (I/O UNIT)

State Dependent	Path	Load (SL)											
		6		15		30		60		120		240	
SMT		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	IO-O	0.78	0.34	0.80	0.36	0.82	0.37	0.87	0.40	0.98	0.46	1.22	0.55
1	IO-O	0.89	0.89	0.91	0.90	0.93	0.91	0.98	0.94	1.09	0.98	1.33	1.07
SR E8 E4	Path	5.0pf		10.0pf		20.0pf		40.0pf		70.0pf		100.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-IO	1.93	1.82	2.13	1.99	2.41	2.28	2.85	2.78	3.42	3.48	3.94	4.17
1 1 0	I-IO	1.96	1.88	2.20	2.10	2.57	2.47	3.13	3.12	3.86	4.04	4.55	4.95
1 0 0	I-IO	1.94	1.92	2.29	2.38	2.97	3.29	4.32	5.12	6.34	7.85	8.36	10.58
1 0 1	I-IO	1.92	1.82	2.15	2.08	2.53	2.56	3.22	3.47	4.23	4.84	5.24	6.20
0 0 1	I-IO	1.68	1.63	1.86	1.87	2.20	2.32	2.88	3.23	3.89	4.59	4.90	5.96
0 1 1	I-IO	1.65	1.62	1.76	1.76	1.97	2.01	2.33	2.47	2.85	3.16	3.36	3.84
0 1 0	I-IO	1.70	1.68	1.85	1.86	2.11	2.18	2.59	2.80	3.27	3.70	3.95	4.61
0 0 0	I-IO	1.79	1.76	2.13	2.21	2.81	3.12	4.15	4.94	6.17	7.67	8.20	10.40
1 1 1	E-IO	1.91	1.91	2.12	2.11	2.41	2.42	2.85	2.93	3.42	3.63	3.94	4.32
1 1 0	E-IO	1.94	1.97	2.20	2.22	2.58	2.60	3.14	3.26	3.87	4.18	4.56	5.10
1 0 0	E-IO	1.95	2.07	2.30	2.54	2.98	3.46	4.33	5.29	6.35	8.02	8.37	10.76
1 0 1	E-IO	1.92	1.94	2.15	2.21	2.54	2.69	3.23	3.61	4.24	4.98	5.25	6.34
0 0 1	E-IO	1.65	1.73	1.85	1.98	2.19	2.44	2.87	3.35	3.88	4.72	4.90	6.09
0 1 1	E-IO	1.61	1.67	1.74	1.83	1.95	2.10	2.33	2.58	2.85	3.27	3.36	3.96
0 1 0	E-IO	1.66	1.73	1.82	1.94	2.10	2.28	2.58	2.91	3.27	3.83	3.95	4.74
0 0 0	E-IO	1.78	1.89	2.13	2.35	2.80	3.27	4.15	5.10	6.17	7.83	8.19	10.56
	E-IO	L>>Z 1.12								H>>Z 1.49			

## Power Consumption (uW/MHz)

Item	Version	ZMA4GSLA	ZMA4GSLB
IO-O (SMT=0)		0.900	0.879
IO-O (SMT=1)		2.076	2.082
I-IO		21.934	21.998
E-IO		18.382	18.461

# *Chapter 4*

*3.3V With 5V Tolerance*

*I/O Cells*



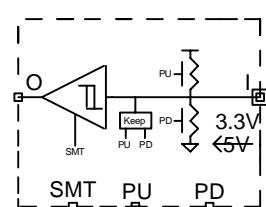
Group Name : XFM

Symbol

Function : Programmable LVTTL Input Buffer, 5V Tolerant, 3.3V

Cell List

Pad Limited	Core Limited
XFMLA	XFMLB



Truth Table

I	O
0	0
1	1

Programmable Features

SMT	Input
0	Normal
1	Schmitt Trigger

PU	PD	Pull Up / Pull Down
0	0	None
1	0	75K Pull Up
0	1	75K Pull Down
1	1	75K Keeper

Pin Order O I PU PD SMT

**Input Capacitance (SL) & Maximum Loading (SL)**

Version	Input Capacitance			Maximum Loading
	PU	PD	SMT	
XFMLA	2.0	0.9	2.5	220.1
XFMLB	1.8	0.8	1.8	220.0

**AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns )**

Version : XFMLA

Cell Unit = 110 (I/O UNIT)

SMT	Path	Load (SL)							
		6		15		30		60	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I-O	0.84	0.45	0.86	0.46	0.88	0.48	0.93	0.51
1	I-O	0.96	0.92	0.98	0.93	1.00	0.95	1.05	0.97

Version : XFMLB

Cell Unit = 198 (I/O UNIT)

State Dependent	Path	Load (SL)								60		120		240	
		6		15		30		60		120		240		tphl	
SMT		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	I-O	0.83	0.44	0.84	0.46	0.87	0.47	0.92	0.50	1.02	0.55	1.26	0.65		
1	I-O	0.95	0.92	0.97	0.93	0.99	0.94	1.04	0.97	1.15	1.01	1.39	1.10		

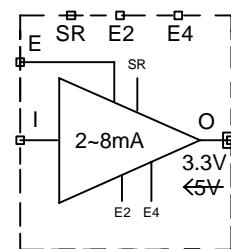
## Power Consumption (uW/MHz)

Item	Version	
	XFMLA	XFMLB
I-O (SMT=0)	8.130	8.992
I-O (SMT=1)	9.654	10.708

Group Name : YFA28S

Symbol

Function : 2~8mA Programmable LVTTL Output Buffer,  
5V Tolerant, 3.3V



Cell List :

Pad Limited	Core Limited
YFA28SLA	YFA28SLB

Truth Table

I	E	O
0	1	0
1	1	1
X	0	Z

### Programmable Features

#### Output Driving Capability

E4	E2	Driving
0	0	2mA
0	1	4mA
1	0	6mA
1	1	8mA

#### Output Slew Rate

SR	Slew Rate
0	Fsat
1	Slow

Pin Order O I E E2 E4 SR

### Input Capacitance (SL) & Maximum Loading (SL)

Version	Input Capacitance					Maximum Loading
	I	E	E2	E4	SR	
YFA28SLA	6.0	5.9	1.8	1.8	1.9	
YFA28SLB	5.8	5.5	1.9	1.8	1.8	

## AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns)

Version : YFA28SLA

Cell Unit = 110 (I/O UNIT)

State Dependent	Path	Load (SL)									
		5.0pf		10.0pf		20.0pf		40.0pf		70.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-O	2.25	2.02	2.48	2.25	2.88	2.65	3.61	3.42	4.66	4.54
1 1 0	I-O	2.35	2.12	2.65	2.40	3.17	2.93	4.12	3.94	5.51	5.43
1 0 0	I-O	2.60	2.37	3.33	3.12	4.75	4.62	7.51	7.60	11.61	12.04
1 0 1	I-O	2.32	2.08	2.70	2.47	3.42	3.23	4.82	4.72	6.89	6.95
0 0 1	I-O	2.07	1.91	2.44	2.29	3.15	3.03	4.56	4.52	6.63	6.75
0 1 1	I-O	1.93	1.82	2.13	2.02	2.50	2.40	3.21	3.14	4.25	4.25
0 1 0	I-O	2.03	1.91	2.29	2.17	2.78	2.67	3.72	3.66	5.11	5.14
0 0 0	I-O	2.48	2.25	3.21	3.00	4.62	4.49	7.39	7.47	11.49	11.92
1 1 1	E-O	2.42	2.10	2.66	2.36	3.06	2.79	3.79	3.57	4.84	4.70
1 1 0	E-O	2.52	2.20	2.83	2.51	3.35	3.06	4.30	4.08	5.69	5.57
1 0 0	E-O	2.78	2.53	3.51	3.29	4.92	4.79	7.69	7.78	11.78	12.23
1 0 1	E-O	2.50	2.20	2.88	2.61	3.60	3.37	5.00	4.86	7.07	7.09
0 0 1	E-O	2.23	2.00	2.60	2.40	3.32	3.16	4.72	4.65	6.80	6.88
0 1 1	E-O	2.08	1.85	2.29	2.08	2.66	2.49	3.37	3.25	4.42	4.37
0 1 0	E-O	2.19	1.95	2.45	2.24	2.94	2.77	3.89	3.78	5.27	5.27
0 0 0	E-O	2.65	2.39	3.38	3.14	4.79	4.64	7.55	7.63	11.65	12.08
	E-O	L>>Z 1.14								H>>Z 1.65	

Version : YFA28SLB

Cell Unit = 198 (I/O UNIT)

State Dependent	Path	Load (SL)							
		5.0pf		10.0pf		20.0pf		40.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-O	2.23	1.98	2.47	2.20	2.87	2.60	3.60	3.36
1 1 0	I-O	2.34	2.08	2.64	2.36	3.16	2.88	4.11	3.89
1 0 0	I-O	2.60	2.35	3.33	3.10	4.74	4.59	7.51	7.57
1 0 1	I-O	2.32	2.05	2.69	2.44	3.41	3.19	4.82	4.68
0 0 1	I-O	2.06	1.88	2.43	2.26	3.15	3.00	4.55	4.48
0 1 1	I-O	1.92	1.78	2.12	1.98	2.49	2.36	3.20	3.10
0 1 0	I-O	2.02	1.87	2.28	2.13	2.77	2.63	3.71	3.61
0 0 0	I-O	2.48	2.23	3.20	2.97	4.62	4.46	7.38	7.45
1 1 1	E-O	2.65	2.09	2.89	2.34	3.30	2.77	4.02	3.54
1 1 0	E-O	2.76	2.18	3.06	2.49	3.58	3.04	4.53	4.05
1 0 0	E-O	3.03	2.54	3.75	3.29	5.17	4.78	7.93	7.77
1 0 1	E-O	2.74	2.19	3.12	2.59	3.84	3.35	5.24	4.84
0 0 1	E-O	2.46	1.99	2.83	2.39	3.55	3.14	4.96	4.63
0 1 1	E-O	2.31	1.84	2.52	2.06	2.89	2.47	3.60	3.23
0 1 0	E-O	2.42	1.93	2.68	2.22	3.17	2.75	4.12	3.75
0 0 0	E-O	2.88	2.40	3.61	3.14	5.03	4.64	7.79	7.63
	E-O	L>>Z 1.09						H>>Z 1.89	

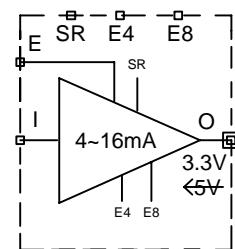
## Power Consumption (uW/MHz)

Item	Version	YFA28SLA	YFA28SLB
I-O		27.856	28.678
E-O		24.842	25.645

Group Name : YFA4GS

Symbol

Function : 4~16mA Programmable LVTTL Output Buffer,  
5V Tolerant, 3.3V



Cell List :

Pad Limited	Core Limited
YFA4GSLA	YFA4GSLB

Truth Table

I	E	O
0	1	0
1	1	1
X	0	Z

### Programmable Features

#### Output Driving Capability

E8	E4	Driving
0	0	4mA
0	1	8mA
1	0	12mA
1	1	16mA

#### Output Slew Rate

SR	Slew Rate
0	Fsat
1	Slow

Pin Order O I E E4 E8 SR

### Input Capacitance (SL) & Maximum Loading (SL)

Version	Input Capacitance					Maximum Loading
	I	E	E4	E8	SR	
YFA4GSLA	6.0	5.9	1.8	1.8	1.9	
YFA4GSLB	5.8	5.5	1.9	1.8	1.8	

## AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns)

Version : YFA4GSLA

Cell Unit = 110 (I/O UNIT)

State Dependent SR E8 E4	Path	Load (SL)									
		5.0pf		10.0pf		20.0pf		40.0pf		70.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-O	2.25	2.24	2.46	2.39	2.76	2.65	3.24	3.09	3.83	3.70
1 1 0	I-O	2.28	2.30	2.55	2.49	2.95	2.82	3.55	3.40	4.32	4.22
1 0 0	I-O	2.23	2.02	2.61	2.42	3.33	3.18	4.72	4.68	6.78	6.91
1 0 1	I-O	2.22	2.08	2.47	2.31	2.88	2.71	3.61	3.48	4.66	4.60
0 0 1	I-O	1.98	1.87	2.18	2.07	2.55	2.44	3.26	3.18	4.30	4.28
0 1 1	I-O	1.96	1.97	2.10	2.10	2.33	2.32	2.73	2.73	3.28	3.32
0 1 0	I-O	2.03	2.03	2.21	2.19	2.51	2.49	3.03	3.03	3.75	3.82
0 0 0	I-O	2.08	1.86	2.45	2.24	3.17	2.98	4.56	4.48	6.62	6.70
1 1 1	E-O	2.36	2.09	2.59	2.34	2.91	2.67	3.39	3.17	3.99	3.81
1 1 0	E-O	2.39	2.12	2.69	2.41	3.10	2.82	3.71	3.46	4.48	4.31
1 0 0	E-O	2.39	2.14	2.77	2.55	3.49	3.33	4.88	4.84	6.94	7.08
1 0 1	E-O	2.36	2.09	2.62	2.37	3.04	2.81	3.77	3.60	4.82	4.73
0 0 1	E-O	2.08	1.84	2.32	2.08	2.67	2.50	3.41	3.26	4.43	4.39
0 1 1	E-O	2.05	1.81	2.20	2.00	2.45	2.27	2.86	2.73	3.41	3.35
0 1 0	E-O	2.11	1.86	2.31	2.08	2.63	2.43	3.16	3.02	3.88	3.86
0 0 0	E-O	2.23	1.93	2.61	2.33	3.30	3.10	4.70	4.61	6.78	6.84
	E-O	L>>Z 1.39								H>>Z 2.39	

Version : YFA4GSLB

Cell Unit = 198 (I/O UNIT)

State Dependent	Path	Load (SL)							
		5.0pf		10.0pf		20.0pf		40.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-O	2.24	2.20	2.45	2.35	2.75	2.60	3.23	3.04
1 1 0	I-O	2.27	2.26	2.54	2.45	2.94	2.78	3.54	3.35
1 0 0	I-O	2.23	2.00	2.61	2.40	3.33	3.16	4.72	4.66
1 0 1	I-O	2.21	2.06	2.47	2.28	2.88	2.68	3.61	3.44
0 0 1	I-O	1.97	1.85	2.17	2.04	2.54	2.41	3.25	3.14
0 1 1	I-O	1.95	1.93	2.09	2.06	2.32	2.29	2.72	2.69
0 1 0	I-O	2.02	1.99	2.20	2.15	2.50	2.45	3.02	2.99
0 0 0	I-O	2.08	1.84	2.45	2.22	3.16	2.96	4.56	4.45
1 1 1	E-O	2.62	2.09	2.85	2.33	3.17	2.65	3.65	3.15
1 1 0	E-O	2.65	2.11	2.94	2.40	3.35	2.80	3.96	3.43
1 0 0	E-O	2.65	2.14	3.03	2.55	3.75	3.32	5.14	4.83
1 0 1	E-O	2.62	2.09	2.88	2.36	3.30	2.80	4.03	3.58
0 0 1	E-O	2.35	1.84	2.56	2.07	2.94	2.49	3.65	3.25
0 1 1	E-O	2.31	1.81	2.46	1.99	2.71	2.26	3.12	2.71
0 1 0	E-O	2.37	1.85	2.57	2.07	2.89	2.42	3.42	3.00
0 0 0	E-O	2.47	1.93	2.85	2.33	3.56	3.09	4.96	4.60
	E-O	L>>Z 1.34						H>>Z 2.65	

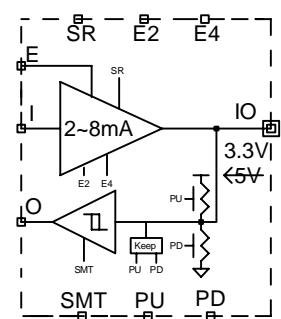
## Power Consumption (uW/MHz)

Item	Version	YFA4GSLA	YFA4GSLB
	I-O	37.482	38.404
	E-O	25.334	26.030

Group Name : ZFMA28S

Symbol

Function : Programmable 2~8mA LVTTL Bidirect Buffer,  
5V Tolerant, 3.3V



Cell List

Pad Limited	Core Limited
ZFMA28SLA	ZFMA28SLB

Truth Table

I	E	IO	O
0	1	0	0
1	1	1	1
X	0	Z	X
X	0	Pu1	1
X	0	Pu0	0
X	0	Keep	IO

( If Pull Up )  
( If Pull Down )  
( If Keeper )

→ Keep Previous State

### Programmable Features

#### Output Driving Capability

E4	E2	Driving
0	0	2mA
0	1	4mA
1	0	6mA
1	1	8mA

#### Input Characteristics

SMT	Input
0	Normal
1	Schmitt Trigger

#### Output Slew Rate

SR	Slew Rate
0	Fast
1	Slow

PU	PD	Pull Up / Pull Down
0	0	None
1	0	75K Pull Up
0	1	75K Pull Down
1	1	75K Keeper

Pin Order O I IO E E2 E4 SR PU PD SMT

### Input Capacitance (SL) & Maximum Loading (SL)

Version	Input Capacitance								Maximum Loading
	I	E	E2	E4	SR	PU	PD	SMT	
ZFMA28SLA	6.0	6.6	2.1	1.8	1.9	2.0	0.9	1.8	219.5
ZFMA28SLB	5.9	6.3	2.3	1.8	1.8	2.0	0.9	1.9	219.1

## AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns)

Version : ZFMA28SLA

Cell Unit = 110 (I/O UNIT)

State Dependent		Load (SL)									
SMT	Path	6		15		30		60		120	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	IO-O	0.84	0.46	0.86	0.48	0.88	0.49	0.93	0.52	1.04	0.57
1	IO-O	0.96	0.92	0.98	0.93	1.00	0.95	1.05	0.97	1.16	1.02
SR E4 E2	Path	5.0pf		10.0pf		20.0pf		40.0pf		70.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-IO	2.25	2.02	2.49	2.25	2.89	2.65	3.61	3.42	4.66	4.54
1 1 0	I-IO	2.35	2.12	2.66	2.40	3.17	2.93	4.12	3.94	5.51	5.43
1 0 0	I-IO	2.61	2.38	3.34	3.13	4.76	4.63	7.52	7.62	11.62	12.06
1 0 1	I-IO	2.33	2.08	2.70	2.47	3.42	3.23	4.82	4.73	6.89	6.96
0 0 1	I-IO	2.08	1.91	2.44	2.29	3.16	3.04	4.56	4.53	6.63	6.75
0 1 1	I-IO	1.93	1.82	2.13	2.02	2.50	2.40	3.21	3.15	4.26	4.26
0 1 0	I-IO	2.04	1.91	2.30	2.17	2.78	2.67	3.72	3.66	5.11	5.14
0 0 0	I-IO	2.49	2.26	3.22	3.01	4.63	4.51	7.40	7.49	11.50	11.94
1 1 1	E-IO	2.43	2.11	2.67	2.37	3.07	2.80	3.80	3.58	4.85	4.71
1 1 0	E-IO	2.54	2.20	2.84	2.52	3.36	3.07	4.31	4.09	5.70	5.59
1 0 0	E-IO	2.81	2.55	3.53	3.31	4.95	4.81	7.71	7.80	11.80	12.25
1 0 1	E-IO	2.52	2.21	2.89	2.62	3.61	3.38	5.02	4.88	7.09	7.11
0 0 1	E-IO	2.25	2.01	2.62	2.41	3.33	3.17	4.74	4.67	6.81	6.90
0 1 1	E-IO	2.09	1.86	2.30	2.09	2.67	2.50	3.39	3.26	4.43	4.38
0 1 0	E-IO	2.20	1.96	2.47	2.25	2.96	2.78	3.90	3.79	5.29	5.28
0 0 0	E-IO	2.67	2.41	3.40	3.16	4.81	4.66	7.57	7.65	11.67	12.10
	E-IO	L>>Z 1.15								H>>Z 1.65	

Version : ZFMA28SLB

Cell Unit = 198 (I/O UNIT)

State Dependent	Path	Load (SL)											
		6		15		30		60		120		240	
SMT		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	IO-O	0.83	0.45	0.84	0.46	0.87	0.48	0.92	0.51	1.03	0.56	1.27	0.65
1	IO-O	0.95	0.91	0.96	0.92	0.99	0.94	1.04	0.96	1.15	1.01	1.39	1.09
SR E4 E2	Path	5.0pf		10.0pf		20.0pf		40.0pf		70.0pf		100.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-IO	2.24	1.98	2.47	2.20	2.87	2.60	3.60	3.37	4.65	4.48	5.69	5.60
1 1 0	I-IO	2.34	2.08	2.64	2.36	3.16	2.89	4.11	3.89	5.50	5.38	6.87	6.86
1 0 0	I-IO	2.61	2.36	3.34	3.11	4.75	4.60	7.52	7.59	11.62	12.03	15.70	16.35
1 0 1	I-IO	2.32	2.05	2.70	2.44	3.42	3.19	4.82	4.68	6.89	6.91	8.91	9.14
0 0 1	I-IO	2.07	1.88	2.43	2.26	3.15	3.00	4.55	4.49	6.63	6.71	8.68	8.94
0 1 1	I-IO	1.92	1.78	2.12	1.98	2.49	2.36	3.20	3.10	4.24	4.21	5.28	5.32
0 1 0	I-IO	2.02	1.88	2.28	2.13	2.77	2.63	3.71	3.62	5.10	5.10	6.47	6.58
0 0 0	I-IO	2.49	2.24	3.21	2.98	4.63	4.48	7.39	7.46	11.49	11.91	15.58	16.35
1 1 1	E-IO	2.43	2.10	2.67	2.35	3.07	2.78	3.80	3.56	4.85	4.68	5.88	5.80
1 1 0	E-IO	2.53	2.19	2.84	2.51	3.36	3.05	4.31	4.07	5.70	5.56	7.07	7.05
1 0 0	E-IO	2.81	2.56	3.53	3.31	4.95	4.81	7.71	7.80	11.81	12.25	15.81	16.69
1 0 1	E-IO	2.52	2.20	2.89	2.61	3.61	3.37	5.02	4.86	7.09	7.09	9.14	9.21
0 0 1	E-IO	2.24	2.00	2.61	2.40	3.33	3.16	4.74	4.65	6.81	6.88	8.86	9.11
0 1 1	E-IO	2.09	1.85	2.29	2.08	2.67	2.48	3.38	3.24	4.43	4.36	5.46	5.48
0 1 0	E-IO	2.19	1.95	2.46	2.24	2.95	2.76	3.89	3.77	5.28	5.26	6.66	6.75
0 0 0	E-IO	2.67	2.41	3.40	3.16	4.81	4.66	7.57	7.65	11.67	12.10	15.76	16.55
	E-IO	L>>Z 1.10								H>>Z 1.61			

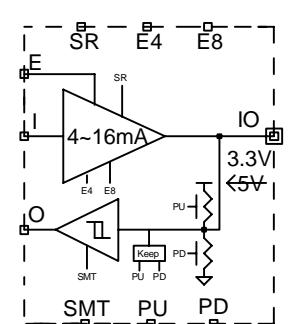
## Power Consumption (uW/MHz)

Item	Version	ZFMA28SLA	ZFMA28SLB
IO-O (SMT=0)		4.443	5.210
IO-O (SMT=1)		5.813	6.648
I-IO		29.334	30.138
E-IO		26.327	27.099

Group Name : ZFMA4GS

Symbol

Function : Programmable 4~16mA LVTTL Bidirect Buffer,  
5V Tolerant, 3.3V



Cell List

Pad Limited	Core Limited
ZFMA4GSLA	ZFMA4GSLB

Truth Table

I	E	IO	O
0	1	0	0
1	1	1	1
X	0	Z	X
X	0	Pu1	1 ( If Pull Up )
X	0	Pu0	0 ( If Pull Down )
X	0	Keep	IO ( If Keeper )

Keep Previous State

### Programmable Features

#### Output Driving Capability

E8	E4	Driving
0	0	4mA
0	1	8mA
1	0	12mA
1	1	16mA

#### Input Characteristics

SMT	Input
0	Normal
1	Schmitt Trigger

#### Output Slew Rate

SR	Slew Rate
0	Fast
1	Slow

PU	PD	Pull Up / Pull Down
0	0	None
1	0	75K Pull Up
0	1	75K Pull Down
1	1	75K Keeper

Pin Order O I IO E E4 E8 SR PU PD SMT

### Input Capacitance (SL) & Maximum Loading (SL)

Version	Input Capacitance								Maximum Loading
	I	E	E4	E8	SR	PU	PD	SMT	
ZFMA4GSLA	6.0	6.6	2.1	1.8	1.9	2.0	0.9	1.8	219.5
ZFMA4GSLB	5.9	6.3	2.3	1.8	1.8	2.0	0.9	1.9	219.1

## AC Characteristics ( Temp=25°C Vcc=1.2V Process=Nominal 1SL=3.0fF Delay Unit=ns)

Version : ZFMA4GSLA

Cell Unit = 110 (I/O UNIT)

State Dependent		Load (SL)											
SMT	Path	6		15		30		60		120		240	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	IO-O	0.84	0.46	0.86	0.47	0.88	0.49	0.93	0.51	1.04	0.56	1.28	0.66
1	IO-O	0.96	0.92	0.98	0.93	1.00	0.95	1.05	0.97	1.16	1.02	1.40	1.10
SR E8 E4	Path	5.0pf		10.0pf		20.0pf		40.0pf		70.0pf		100.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-IO	2.25	2.24	2.46	2.39	2.76	2.65	3.24	3.09	3.83	3.70	4.38	4.30
1 1 0	I-IO	2.28	2.30	2.55	2.49	2.95	2.82	3.56	3.40	4.32	4.22	5.04	5.03
1 0 0	I-IO	2.24	2.02	2.61	2.42	3.33	3.19	4.73	4.69	6.78	6.92	8.83	9.14
1 0 1	I-IO	2.22	2.08	2.48	2.31	2.89	2.72	3.61	3.48	4.66	4.60	5.69	5.71
0 0 1	I-IO	1.98	1.87	2.18	2.07	2.55	2.45	3.26	3.18	4.30	4.29	5.33	5.39
0 1 1	I-IO	1.96	1.97	2.10	2.10	2.33	2.32	2.73	2.73	3.28	3.32	3.81	3.90
0 1 0	I-IO	2.04	2.03	2.21	2.19	2.51	2.49	3.03	3.03	3.75	3.82	4.45	4.61
0 0 0	I-IO	2.09	1.86	2.46	2.24	3.17	2.99	4.56	4.48	6.62	6.71	8.66	8.93
1 1 1	E-IO	2.40	2.11	2.62	2.35	2.94	2.68	3.42	3.18	4.02	3.83	4.57	4.44
1 1 0	E-IO	2.42	2.13	2.72	2.42	3.13	2.83	3.74	3.47	4.51	4.32	5.22	5.15
1 0 0	E-IO	2.42	2.15	2.80	2.56	3.52	3.34	4.91	4.85	6.97	7.09	9.01	9.32
1 0 1	E-IO	2.39	2.10	2.66	2.38	3.07	2.82	3.80	3.61	4.85	4.74	5.88	5.86
0 0 1	E-IO	2.12	1.85	2.34	2.09	2.72	2.50	3.43	3.27	4.47	4.40	5.50	5.52
0 1 1	E-IO	2.09	1.82	2.24	2.00	2.49	2.28	2.90	2.74	3.45	3.36	3.98	3.96
0 1 0	E-IO	2.15	1.86	2.35	2.09	2.67	2.44	3.20	3.03	3.92	3.87	4.62	4.69
0 0 0	E-IO	2.25	1.94	2.63	2.34	3.34	3.11	4.74	4.62	6.79	6.86	8.83	9.08
	E-IO	L>>Z 1.39								H>>Z 2.40			

Version : ZFMA4GSLB

Cell Unit = 198 (I/O UNIT)

State Dependent	Path	Load (SL)									
		6		15		30		60		120	
SMT		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
0	IO-O	0.83	0.44	0.84	0.46	0.87	0.47	0.92	0.50	1.03	0.55
1	IO-O	0.95	0.91	0.96	0.92	0.99	0.94	1.04	0.96	1.15	1.01
SR E8 E4	Path	5.0pf		10.0pf		20.0pf		40.0pf		70.0pf	
		tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl	tplh	tphl
1 1 1	I-IO	2.24	2.20	2.45	2.35	2.76	2.61	3.23	3.05	3.83	3.65
1 1 0	I-IO	2.27	2.26	2.54	2.45	2.94	2.78	3.55	3.36	4.31	4.17
1 0 0	I-IO	2.23	2.01	2.61	2.40	3.33	3.16	4.73	4.66	6.78	6.89
1 0 1	I-IO	2.22	2.06	2.47	2.28	2.88	2.68	3.61	3.44	4.66	4.56
0 0 1	I-IO	1.97	1.85	2.17	2.04	2.54	2.41	3.25	3.15	4.29	4.25
0 1 1	I-IO	1.95	1.93	2.09	2.06	2.32	2.29	2.72	2.70	3.27	3.28
0 1 0	I-IO	2.02	1.99	2.20	2.16	2.50	2.45	3.02	2.99	3.74	3.78
0 0 0	I-IO	2.08	1.84	2.45	2.22	3.17	2.96	4.56	4.45	6.62	6.68
1 1 1	E-IO	2.40	2.10	2.62	2.34	2.94	2.66	3.42	3.16	4.02	3.80
1 1 0	E-IO	2.43	2.13	2.72	2.41	3.13	2.81	3.74	3.44	4.51	4.30
1 0 0	E-IO	2.42	2.15	2.80	2.56	3.52	3.34	4.92	4.85	6.98	7.09
1 0 1	E-IO	2.40	2.10	2.66	2.38	3.08	2.81	3.81	3.60	4.85	4.72
0 0 1	E-IO	2.12	1.85	2.34	2.08	2.71	2.50	3.43	3.26	4.47	4.39
0 1 1	E-IO	2.08	1.81	2.24	1.99	2.48	2.27	2.89	2.72	3.45	3.33
0 1 0	E-IO	2.15	1.86	2.35	2.08	2.67	2.42	3.19	3.01	3.92	3.85
0 0 0	E-IO	2.25	1.95	2.63	2.34	3.34	3.11	4.74	4.62	6.80	6.86
	E-IO	L>>Z 1.35								H>>Z 2.39	

## Power Consumption (uW/MHz)

Item	Version	ZFMA4GSLA	ZFMA4GSLB
IO-O (SMT=0)		1.390	2.089
IO-O (SMT=1)		2.776	3.505
I-IO		38.783	39.697
E-IO		26.645	27.309

**FARADAY TECHNOLOGY CORP. FARADAY TECHNOLOGY CORP. (U.S.A.)**  
**TERMS AND CONDITIONS OF SALE**  
**(Revision: Feb. 2004)**

**0. PARTIES**

Faraday is a company headquartered in the Republic of China, Taiwan, and incorporated under Taiwan law, and ASIC is a separate company incorporated under California law, and headquartered in California. Faraday and ASIC are independent, and, except as to the entity as to which delivers goods to it. Buyer holds no rights against and has no commitments from Faraday and/or ASIC. Subject to the foregoing . "Seller" refers either to Faraday or to ASIC (whichever entity delivers product by buyer). provided however that ASIC and Faraday shall each be entitled to claim protection under paragraphs 4(b)-4(f), 5, 8(b) & (c), 9,10,11,12 and 13 below.

**1. ACCEPTANCE OF TERMS**

BUYER ACCEPTS THESE TERMS (i)BY WRITTEN ACCEPTANCE (BY PURCHASE ORDER OR OTHERWISE), OR (ii)BY FAILURE TO RETURN GOODS DESCRIBED ON THE FACE OF THIS FORM WITHIN FIVE DAYS OF THEIR DELIVERY.

**2. DELIVERY**

- a. Delivery will be made F.O.B. (Incoterms), Seller's plant.
- b. Title to the goods and the entire risk will pass to Buyer upon delivery to carrier.
- c. Shipments are subject to availability. Seller shall make every reasonable effort to meet the date(s) quoted or acknowledged; and if Seller makes such effort, Seller will not be liable for any delays.

**3. TERMS OF PAYMENT**

- a. Terms are as stated on Seller's quotation, or if none are stated, Letter of Credit at sight. Accounts past due will incur a monthly charge at the rate of one and one-half percent (1.5%) per month (or, if less, the maximum allowed by applicable law) to cover servicing costs.
- b. Seller reserves the right to change credit terms at any time in its sole discretion.

**4. LIMITED WARRANTY**

- a. Seller warrants that the goods sold will be free from defects in material and workmanship and comply with Seller's applicable published specifications for a period of sixty (60) days from the date of Seller's shipment.
- b. Goods or parts which have been subject to abuse (including repeated or extended exposure to conditions at or near the limits of applicable absolute ratings), misuse, accident, alteration, neglect, or unauthorized repair or improper application are not covered by any warranty. Except as provided in paragraph 8 below with respect to intellectual property in Seller's standard cells and/or gate arrays, no warranty is made with respect to custom products or goods produced to Buyer's specifications (unless specifically stated in a writing signed by Seller).
- c. No warranty is made with respect to goods used in devices intended for use in applications where failure to perform when properly used can reasonably be expected to result in significant injury (including, without limitation, navigation, aviation or nuclear equipment, or for surgical implant or to support or sustain life) and Buyer agrees to indemnify, defend, and hold harmless Seller from all claims, damages and liabilities arising out of any such uses.
- d. This Paragraph 4 is the only warranty by Seller with respect to goods and may not be modified or amended except in writing signed by an authorized officer of Seller and by Buyer.
- e. Buyer acknowledges and agrees that it is not relying on any applications or circuits contained in Seller's literature, and to test all parts and applications under extended field and laboratory conditions. Notwithstanding any cross-reference or any statements of compatibility, functionality, interchangability, and the like, Seller's goods may differ from similar goods from other vendors in performance, function or operation, and in areas not contained in Seller's written specifications, or as to ranges and conditions outside such specifications; and Buyer agrees that Seller makes no warranties and is not responsible for such things.
- f. EXCEPT AS PROVIDED ABOVE, SELLER MAKES NO WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, OR STATUTORY, AND EXPRESSLY EXCLUDES AND DISCLAIMS ANY WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR APPLICATION.

**5. LIMITATION OF LIABILITY**

- a. Seller will not be liable for any loss, damage or penalty resulting from causes beyond its reasonable control, including but not limited to delay by others, force majeure, act of God, or labor conditions. In any such event, the date(s) for Seller's performance will be deemed extended for a period equal to any delay.
- b. SELLER'S LIABILITY ARISING OUT OF THIS CONTRACT OR ANY GOODS SOLD WILL BE LIMITED TO REFUND OF THE PURCHASE PRICE OR REPAIR (IF AUTHORIZED BY SELLER IN ADVANCE) OR REPLACEMENT OF PURCHASED GOODS (RETURNED TO SELLER FREIGHT PRE-PAID).
- c. Buyer will not return any goods without first obtaining a customer return order number.
- d. AS A SEPARATE LIMITATION, IN NO EVENT WILL SELLER BE LIABLE FOR COSTS OF SUBSTITUTE GOODS; FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL OR INDIRECT DAMAGES; OR LOSS OF USE, OPPORTUNITY, MARKET POTENTIAL, AND/OR PROFIT ON ANY THEORY (CONTRACT, TORT, FROM THIRD PARTY CLAIMS OR OTHERWISE). THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY.
- e. No action against Seller, whether for breach, indemnification, contribution or otherwise, shall be commenced more than one year after the cause of action has accrued, or more than one year after either the Buyer, user or other person knew or with reasonable diligence should have known of the matter or of any claim of dissatisfaction or defect involved; and no such claim may be brought unless Seller has first been given commercially reasonable notice, a full written explanation of all pertinent details, and a good faith opportunity to resolve the matter.
- f. BUYER EXPRESSLY AGREES TO THE LIMITATIONS OF THIS PARAGRAPH 5 AND TO THEIR REASONABleness.

**6. SUBSTITUTIONS AND MODIFICATIONS**

Seller may at any time make substitutions and modifications to products which do not materially and adversely affect overall performance with the then current Seller specifications in the typical and intended use; provided however that Seller shall not modify any design for product approved in writing by Buyer without Buyer's written consent. Seller reserves the right to halt production or alter specifications and prices without notice. Buyer shall verify that the literature and information is current before purchasing.

**7. CANCELLATION**

- a. This contract may not be canceled by Buyer except with written consent by Seller and Buyer's payment of reasonable cancellation charges (including but not be limited to expenses already incurred for labor and material, overhead, commitments made by Seller, and a reasonable profit).
- b. In no event will Buyer have rights in partially completed goods.

**8. INDEMNIFICATION**

- a. Seller will, at its own expense, defend and/or settle all suits against Buyer to the extent based on any valid claim that any standard parts from Seller's standard cell library and/or standard gate array configurations incorporated by Seller into goods purchased by Buyer under this Agreement infringe any valid, enforceable, unexpired R.O.C. patent, copyright and/or trademark, and/or that any processing steps or methods by Seller in making parts under this Agreement infringe any valid, enforceable, unexpired R.O.C. method patent, copyright or trademark; provided, however, that Buyer (i) gives immediate written notice to Seller, (ii) permits Seller to defend, and (iii) gives Seller all needed information, assistance, and authority. Seller is not responsible for infringements resulting from anything not manufactured entirely by Seller, or from any combination with products, equipment or materials not furnished entirely by Seller. Seller shall have no liability under this Paragraph 8 for any infringements resulting from and/or arising out of Buyer's specifications, requirements, code or design nor under any claim arising out of or based upon strict and/or product liability. THIS PARAGRAPH STATES SELLER'S ENTIRE LIABILITY AND OBLIGATION WITH RESPECT TO PRODUCT LIABILITY, INTELLECTUAL OR INDUSTRIAL PROPERTY INFRINGEMENT OR CLAIMS THEREFORE.
- b. Except as to claims Seller agrees to defend, BUYER WILL INDEMNIFY, DEFEND AND HOLD HARMLESS SELLER FROM ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING ATTORNEYS FEES) AGAINST AND/OR ARISING OUT OF GOODS SOLD AND/OR SHIPPED HEREUNDER. Without limiting this indemnification, Buyer guarantees that it has all necessary rights in and to the designs and products involved, and that the manufacture of goods for Buyer will not infringe or violate the rights of any person or entity.

**9. CONFIDENTIAL INFORMATION**

- a. Seller shall have no obligation to hold any information in confidence except as provided in a separate non-disclosure agreement signed by both parties; provided however that Seller shall not disclose to others, without the consent of Buyer, any designs, database tapes or electronic files received from Buyer clearly stamped or marked as "CONFIDENTIAL."
- b. Unless Buyer agrees otherwise, Seller will not use to manufacture products for others, any documents, electronic files or other things which Buyer provides to Seller in a form clearly , marked or stamped as "CONFIDENTIAL."

**10. ENTIRE AGREEMENT**

- a. These terms and conditions are the entire agreement between Seller and Buyer, and no addition, deletion or modification shall be binding on Seller unless expressly agreed to in a writing signed by an officer of Seller.
- b. Buyer is not relying upon any warranty or representation except for those specifically stated here.

**11. APPLICABLE LAW**

This contract and all performance and disputes arising out of or relating to goods involved will be governed by the laws of the country of Seller's headquarters, without reference to conflict of laws principles and excluding the U.N. Convention on Contracts for the International Sale of Goods. Buyer agrees at its sole expense to comply with all applicable laws in connection with the purchase, use or sale of the goods provided hereunder.

**12. JURISDICTION AND VENUE**

The courts located within 100 miles of Seller's headquarters, will have the sole and exclusive jurisdiction and venue over any dispute arising out of or relating to this contract or any sale of goods hereunder, and Buyer hereby consents to the jurisdiction of such courts.

**13. ATTORNEYS' FEES**

Reasonable attorneys' fees and costs will be awarded to the prevailing party in the event of litigation involving the enforcement or interpretation of this contract.



**FARADAY**  
TECHNOLOGY CORPORATION

**Faraday Technology Corp.**

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