NEC

User's Manual

CMOS-8L Family

CMOS Gate Array

Block Library Ver.5.0

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- · Availability of related technical literature
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本版で改訂された主な箇所

Major Revisions in this Edition

箇 所 Page	内 容	Description
CHAPTER 4	・ファンクション名から GTL+の記述	Deletion of the description of GTL+ from
INTERFACE BLOCK	を削除	function names.
(HIGH SPEED SIGNAL	・次のブロックを削除	Deletion of the following blocks.
TRANSMISSION)	FIR2, FIP2, ELTL, BL0W	FIR2, FIP2, ELTL and BL0W.

巻末にアンケート・コーナを設けております。このドキュメントに対するご意見を お気軽にお寄せください。

はじめに

1. 構成

このマニュアルはCMOS-8Lファミリ用ブロック・ライブラリについて記載しています。回路設計を行う際は必ず先にCMOS-8Lファミリ ユーザーズ・マニュアル設計編(A12158J)を読んでください。またマニュアルに記載された事項(一般事項,注意事項,制限事項)は必ずお守りください。お守りいただけない場合,LSI製品の品質や性能の低下,および動作の異常が生じることがあります。

このマニュアルは次のような構成になっています。

(1) はじめに.

このマニュアルを活用されるにあたっての注意事項,用語,定義などを説明しています。

(2) CONTENTS

目次としてブロックを機能別にまとめてあります。

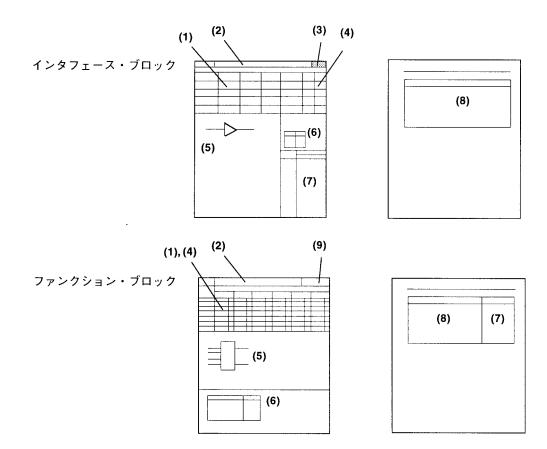
- (3) CHAPTER 1 INTERFACE BLOCK (3.3V)
- (4) CHAPTER 2 INTERFACE BLOCK (5V)
- (5) CHAPTER 3 INTERFACE BLOCK (OSCILLATOR)
- (6) CHAPTER 4 INTERFACE BLOCK (HIGH SPEED SIGNAL TRANSMISSION)
- (7) CHAPTER 5 INTERFACE BLOCK (DIGITAL PLL)
- (8) CHAPTER 6 FUNCTION BLOCK

CHAPTER 1~6は、それぞれのブロックを機能別に並べてあります。各ページには、論理シンボル、真理値表、入出力データ、スイッチング・スピード(伝達遅延時間)などを2.ブロック・ライブラリ記載内容の説明に添って記載してあります。

(9) INDEX

索引としてブロックをアルファベット順にまとめてあります。

2. ブロック・ライブラリ記載内容の説明



(1) Block Type : そのブロックの名称(2) Function : そのブロックの機能名

(3) Interface Level : そのブロックのインタフェース・レベル

(4) No. of cells : 使用セル数

(5) Logic Diagram : そのブロックの論理シンボル (論理図)

(6) Truth Table : そのブロックの真理値表

(7) Input, Output : Input (入力端子名, Fan-in), Output (出力端子名, Fan-out)

(8) Switching Speed : そのブロックの伝達遅延時間など (9) SSI FAMILY : 同じ機能を持つ74 (LS)シリーズ名

なお、スイッチング・スピードの記号は以下のとおりです。

$$\begin{array}{ccc} A & \rightarrow & Y & (H L) \\ \hline \uparrow & \uparrow \uparrow \\ \hline (10) & (11)(12) \end{array}$$

(10) 信号のパス名(入力→出力)

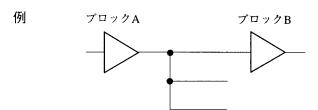
- (11) 入力信号の状態 (H:ハイ・レベル, L:ロウ・レベル, Z:ハイ・インピーダンス)
- (12) 出力信号の状態 (H:ハイ・レベル, L:ロウ・レベル, Z:ハイ・インピーダンス)

Setup time, Hold time, Release time, Removal time, Minimum pulse widthはMIN条件での最小値をMINの欄に記載しています。またMAX条件での最小値をMAXの欄に記載しています。

3. 伝達遅延時間(tpb)

ここで示す計算式は計算を簡易的に行うための概略計算式です。この計算式では特に負荷が次の条件を満足する範囲での算出結果が比較的精度よく求められるようになっています。負荷容量が大きいほど誤差が大きくなり、シミュレータの結果より小さい値を算出します。あらかじめ、ご承知のうえ目安としてご利用ください。

条件 遅延計算対象のブロックの前段のF/Iの合計が前段の駆動ブロックのF/O制限の15%以内である。



ブロックBが遅延計算対象のブロックとするとブロックAの出力に接続されるF/Iの合計がブロックAのF/O制限の15%以内のとき、簡易計算式の精度が高い。

3.1 伝達遅延時間の概算式

3.1.1 内部ファンクション・ブロックの遅延時間

内部ファンクション・ブロックの遅延時間は、メモリ・ブロックを含み、そのブロックに接続されている 負荷(ファンアウト数)とその配線長(配線容量)から概算できます。

 $t_{PD} = t_{LD0} + (F/O + \ell) \times t_1$ (ns)

 $\mathsf{tLD0}: \mathsf{F/O} = 0, \ell = 0$ におけるブロック自身の遅延時間

F/O: 該当出力端子のファンアウト数

ℓ : 該当出力端子の配線容量(3.1.3 予測配線容量参照)

ti: 該当出力端子の遅延係数

3.1.2 出力バッファの遅延時間

出力バッファの遅延時間は、その出力端子に接続されている負荷容量によって大きく変わります。また、 遅延時間の負荷容量依存性はそのバッファの駆動能力によっても変わります。

出力バッファの遅延時間(tpp)は、負荷容量(CL)に対して次の式で概算できます。

 $t_{PD} = t_{LD0} + T \times C_L$ (ns)

tLD0: 基準遅延時間(ns)

T: 遅延係数

C_L: 負荷容量(pF) (ただし, C_L≥15 pF)

なお,入出力バッファの遅延時間は,次の条件下で求められています。

3.3Vインタフェース:スレッシュホールド電圧=1.5V スイング・レベル= $0\sim V_{DD}$

5Vインタフェース: スレッシュホールド電圧=1.5V スイング・レベル=0~VDD

ただし、5 Vインタフェースもハイ・レベルはゲートアレイの電源電圧とします。

3.1.3 予測配線容量

CMOS-8Lファミリの予測配線容量は次のようになります。

表3-1 予測配線容量(配線長をFan-in値に換算)

品名	لا						ピン・ペア数					
四位	1	2	3	4	5	6	7	8	9	10	11~15	16~20
μ PD65837												
μ PD65839	-											
μ PD65840/60	1.67	3.19	4.72	6.25	7.78	9.30	10.83	12.36	13.89	15.42	16.94	18.47
μ PD65841/61	1.69	3.49	5.28	7.08	8.87	10.67	12.46	14.26	16.06	17.85	19.65	21.44
μ PD65842/62	1.71	3.68	5.65	7.62	9.59	11.57	13.54	15.51	17.48	19.45	21.42	23.39
μ PD65843/63	1.74	3.86	5.98	8.10	10.23	12.35	14.47	16.59	18.71	20.83	22.96	25.08
μ PD65845/65	1.77	4.03	6.30	8.56	10.82	13.08	15.35	17.61	19.87	22.14	24.40	26.66
μ PD65846/66	1.79	4.15	6.51	8.87	11.23	13.58	15.94	18.30	20.66	23.01	25.37	27.73
μ PD65848/68	1.85	4.38	6.91	9.44	11.97	14.49	17.02	19.55	22.08	24.61	27.14	29.67
μ PD65849/69	1.90	4.58	7.25	9.92	12.60	15.27	17.94	20.61	23.29	25.96	28.63	31.31
μ PD65850/70	1.96	4.74	7.53	10.32	13.10	15.89	18.67	21.46	24.25	27.03	29.82	32.61
μ PD65851/71	2.04	4.97	7.90	10.84	13.77	16.70	19.63	22.57	25.50	28.43	31.37	34.30
μ PD65852/72	2.21	5.38	8.55	11.72	14.89	18.06	21.24	24.41	27.58	30.75	33.92	37.09
μ PD65853/73	2.38	5.74	9.11	12.47	15.83	19.19	22.55	25.91	29.27	32.63	36.00	39.36
μ PD65855/75	2.70	6.32	9.93	13.55	17.16	20.78	24.39	28.01	31.62	35.23	35.85	42.46

備考 空白:検討中

4. 入力インタフェース・レベル

次の5種類の入力インタフェース・レベルを用意してあります。用途にあわせて最適なものを選択してください。

- (1) 3.3V入力
- (2) 5V入力
- (3) 3.3Vシュミット入力
- (4) 5Vシュミット入力
- (5) Failsafe機能付き3.3V入力

5. 出力駆動能力

次のような出力駆動能力が異なるバッファを多数用意していますので,用途にあわせて最適なものを選択してください。

- (1) 3.3V出力(6種類): 3.0mA, 6.0mA, 9.0mA, 12.0mA, 18.0mA, 24.0mA
- (2) 5V出力(8種類) : 1.0mA, 2.0mA, 3.0mA, 6.0mA, 9.0mA, 12.0mA, 18.0mA, 24.0mA

6. 高性能バッファ

6.1 プルアップ/プルダウン抵抗付きバッファ

入力/出力/双方向バッファに次のようなプルアップ抵抗付き, プルダウン抵抗付きのものを用意しています。用途にあわせて最適なものを選択してください。

- (1) プルアップ抵抗:50kΩ (TYP)
- (2) プルダウン抵抗:50kΩ (TYP)
- (3) プルアップ抵抗: 5kΩ (TYP)

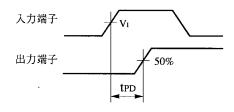
6.2 ロウ・スルーレート・バッファ

スルーレートを低くし、ロウ・ノイズ化を図った出力/双方向バッファを用意しており、ロウ・スルーレート・バッファと呼びます。なお、このマニュアルではLOW NOISEまたはLow slew-rateと表示します。

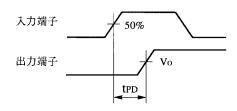
7. 伝達遅延時間の定義

入力/出力バッファの伝達遅延時間は,次の定義による値を記載しています。

(1) 入力バッファ

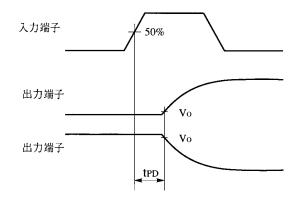


(2) 出力バッファ(L→H, H→L, Z→H(初期Vo="L"レベル), Z→L(初期Vo="H"レベル))



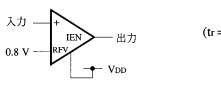
(3) 出力バッファ(L→Z, H→Z)

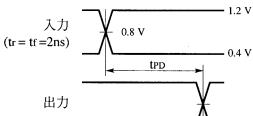
(内部電圧振幅)
$$\times 50\%$$
 \rightarrow $Vo = 0.1 \times V_{DD} (L \rightarrow Z)$ $Vo = 0.9 \times V_{DD} (H \rightarrow Z)$



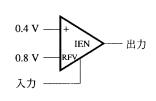
(4) GTL入力

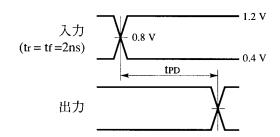




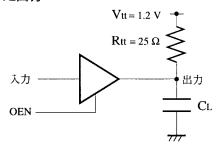


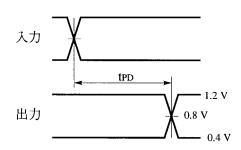
(b)





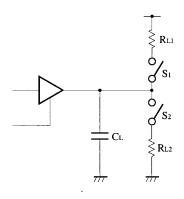
(5) GTL出力





8. 測定負荷条件

(1) CMOSレベル出力バッファ



① 通常出力バッファ

RL1, RL2 = ∞ , CL = 15pF

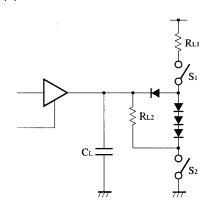
 $(S_1,\,S_2:\;OFF)$

② 3ステート出力バッファ

 $R_{L1}=2k\Omega$, $R_{L2}=2k\Omega$, $C_{L}=15pF$

 $\begin{array}{ll} \text{tP(HH), tP(LL)} & : S1=OFF, S2=OFF \\ \text{tP(ZL), tP(LZ)} & : S1=ON, S2=OFF \\ \text{tP(ZH), tP(HZ)} & : S1=OFF, S2=ON \end{array}$

(2) TTLレベル出力バッファ



① 通常出力バッファ

 $Rl1 = 500 \Omega$, $Rl2 = \infty$, Cl = 15pF

 $(S_1,\,S_2:\;OFF)$

② 3ステート出力バッファ

 $RL1 = 500 \Omega$, $RL2 = 1k\Omega$, CL = 15pF

tP(HH), tP(LL) : $S_1 = OFF$, $S_2 = OFF$

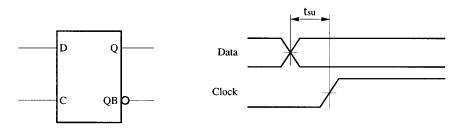
tP(ZL), tP(LZ) : $S_1 = ON$, $S_2 = OFF$

tP(ZH), tP(HZ) : $S_1 = OFF$, $S_2 = ON$

9. タイミング

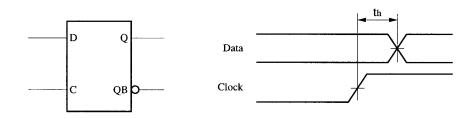
(1) セットアップ・タイム (tsu)

D-F/Fなどで、クロックが変化する前にデータ信号が確定していなければならない時間。



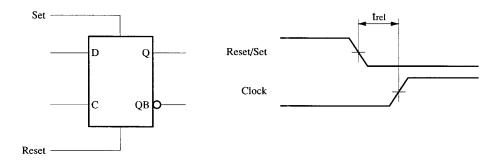
(2) ホールド・タイム (th)

D-F/Fなどで、クロックが変化したあとにデータ信号を保持していなければならない時間。



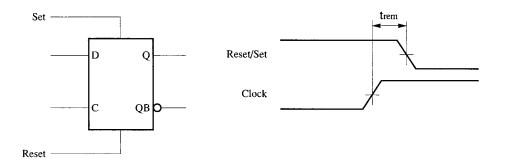
(3) リリース・タイム (trel)

D-F/Fなどで、リセットかセットが解除になってからクロックが有効になるまでの時間。



(4) リムーバル・タイム (trem)

D-F/Fなどで、クロックを無効にするまでのセットまたはリセットの保持時間。



(5) 最小パルス幅(tw)

D-F/Fなどで、データを正常に読み込むために必要となるクロック、リセット、セットのパルス幅の最小時間。



関連資料

関連資料は暫定版の場合がありますが、この資料では「暫定」の表示をしておりません。あらかじめご了承ください。

・CMOS-8Lファミリ ユーザーズ・マニュアル 設計編	(A12158J)
· CMOS-8L Family Block Library User's Manual	(このマニュアル)
· CMOS-8L Family Memory Block Library User's Manual	(A11700X)
·CMOSゲートアレイ, CMOSエンベデッドアレイ	
スキャンパス設計マニュアル ユーザーズ・マニュアル	(A12212J)
· CMOSゲートアレイ, CMOSエンベデッドアレイ	
バウンダリ・スキャン設計マニュアル ユーザーズ・マニュアル	(A11850J)
· CMOS-8L Family Scan Path Block Library User's Manual	(A11886X)
· CMOS-8L Family Boundary Scan Block Library User's Manual	(A11544X)

[MEMO]

PREFACE

This library contains the interface blocks and the internal function blocks of the CMOS-8L gate array family.

When carrying out circuit design, it is requested that the CMOS-8L gate array design manual(A12158E) should also be read. Furthermore, as there are occasions when this block library is changed without advance notice, please contact your local NEC ASIC design center.

Please observe all items listed in this manual(general matters, cautions, limitations).

If you don't observe these things, degradation in the quality and performance of LSI's or abnormal operation may occur.

1. Introduction

This library is composed of preface, contents, six chapters, and index as explained below.

(1) PREFACE

The usage of this library, meanings of terminologies and some information are described.

(2) CONTENTS

This CONTENTS is useful when searching a block from its function.

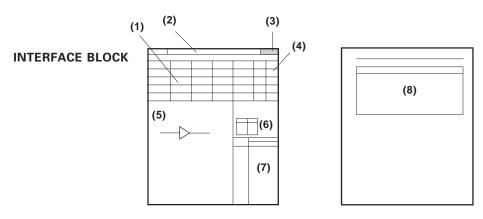
- (3) CHAPTER 1 INTERFACE BLOCK (3.3V)
- (4) CHAPTER 2 INTERFACE BLOCK (5V)
- (5) CHAPTER 3 INTERFACE BLOCK (OSCILLATOR)
- (6) CHAPTER 4 INTERFACE BLOCK (HIGH SPEED SIGNAL TRANSMISSION)
- (7) CHAPTER 5 INTERFACE BLOCK (DIGITAL PLL)
- (8) CHAPTER 6 FUNCTION BLOCK

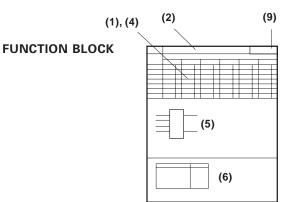
CHAPTER 1 to 6 list each block by function. Each page describes a logic symbol, a truth table, I/O data and delay time with an integrated format as explained in **2. Data Entered in the Block Library** of this PREFACE.

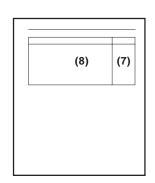
(9) INDEX

This list is useful when searching a block from its name.

2. Data Entered in the Block Library







(1) Block Type : Name of function block
(2) Function : Function of that block
(3) Interface Level : Interface level of that block

(4) No. of INT cells : No. of cells used (internal cell number)

(5) Logic Diagram : Symbol of that block(6) Truth Table : Truth table of that block

(7) Input, Output : Input(Name of input pin, Fan-in)

Output(Name of Output pin, Fan-out)

(8) Switching Speed: Delay time of that block

(9) SSI FAMILY : 74(LS) series name which has the same function

Furthermore, the symbols of switching speed are as follows

$$\frac{A \rightarrow Y}{\uparrow} \stackrel{\text{(H L)}}{\uparrow}$$

$$(10) \quad (11)(12)$$

(10) Signal path (input to output)

(11) Input signal change (H: rise L: fall Z: High impedance)

(12) Output signal change (H: rise L: fall Z: High impedance)

Setup time, Hold time, Release time, Removal time, Minimum pulse width;

MIN : The minimum result at the minimum conditionMAX : The minimum result at the maximum condition

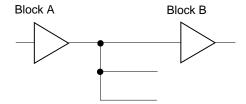
3. Propagation Delay Time (tpd)

The method shown here is a simplified calculation formula. This calculation method will give comparatively accurate results when the load matches the following conditions. The error becomes greater as the load capacitance increases, and the results yielded from the calculation are smaller than values obtained from the simulator. Therefore note beforehand that these values should be used mainly as a general guide.

Conditions

The total F/I of the front stage of the block for delay calculation shall be within 15% of the F/O limit of the front stage drive block.

Example



Let block B be the object of the propagation calculation. The accuracy of the simplified calculation formula is a high when the sum of the F/I connected to the output of Block A is withhin 15% of the block A F/O limit.

3.1 Calculating Propagation Delay Time

3.1.1 Delay time of internal function block

The delay time of an internal function block can be estimated from the load (number of fan-outs) connected to the block including the memory block and its wiring length (wiring capacity).

$$tPD = tLD0 + (F/O + \ell) \times t1$$
 (ns)

 $t \mbox{\scriptsize LD0}$: Delay time of block itself when F/O = 0, $\ell =$ 0

F/O: Number of fan-outs of output pin

ℓ : Wiring capacitance of output pin (see 3.1.3 Estimated Wiring Capacitance)

t₁ : Delay coefficient of output pin

3.1.2 Delay time of output buffer

The delay time of an output buffer greatly depends on the load capacitance connected to the output pin. The dependency of delay time on load capacitance varies with the drive capability of the buffer.

The delay time tPD of an output buffer can be estimated for the given load capacitance using the following formula:

$$tpD = tLD0 + T \times CL$$
 (ns)

tldo: Reference delay time (ns)

T : Delay coefficient

 C_L : Load capacitance (pF) ($C_L \ge 15$ pF)

tpdo and T are listed in each page.

The delay time of an I/O buffer is obtained as follows:

3.3 V interface Threshold voltage = 1.5 V Swing level = 0 to VDD5 V interface Threshold voltage = 1.5 V Swing level = 0 to VDD

The high level of 5 V interface is equal to the power supply of gate array.

3.1.3 Estimated Wiring Capacitance

The table 3-1 shows the values of estimated wiring capacitance of CMOS-8L family.

Table 3-1 Estimated Wiring Capacitance (Converted to Fan-in Mode)

Montor						Pin I	Pairs					
Master	1	2	3	4	5	6	7	8	9	10	11 to 15	16 to 20
μPD65837												
μPD65839												
μPD65840/60	1.67	3.19	4.72	6.25	7.78	9.30	10.83	12.36	13.89	15.42	16.94	18.47
μPD65841/61	1.69	3.49	5.28	7.08	8.87	10.67	12.46	14.26	16.06	17.85	19.65	21.44
μPD65842/62	1.71	3.68	5.65	7.62	9.59	11.57	13.54	15.51	17.48	19.45	21.42	23.39
μPD65843/63	1.74	3.86	5.98	8.10	10.23	12.35	14.47	16.59	18.71	20.83	22.96	25.08
μPD65845/65	1.77	4.03	6.30	8.56	10.82	13.08	15.35	17.61	19.87	22.14	24.40	26.66
μPD65846/66	1.79	4.15	6.51	8.87	11.23	13.58	15.94	18.30	20.66	23.01	25.37	27.73
μPD65848/68	1.85	4.38	6.91	9.44	11.97	14.49	17.02	19.55	22.08	24.61	27.14	29.67
μPD65849/69	1.90	4.58	7.25	9.92	12.60	15.27	17.94	20.61	23.29	25.96	28.63	31.31
μPD65850/70	1.96	4.74	7.53	10.32	13.10	15.89	18.67	21.46	24.25	27.03	29.82	32.61
μPD65851/71	2.04	4.97	7.90	10.84	13.77	16.70	19.63	22.57	25.50	28.43	31.37	34.30
μPD65852/72	2.21	5.38	8.55	11.72	14.89	18.06	21.24	24.41	27.58	30.75	33.92	37.09
μPD65853/73	2.38	5.74	9.11	12.47	15.83	19.19	22.55	25.91	29.27	32.63	36.00	39.36
μPD65855/75	2.70	6.32	9.93	13.55	17.16	20.78	24.39	28.01	31.62	35.23	35.85	42.46

Remark Blank : Under study

4. Input Interface Levels

The CMOS-8L gate array family has the following five types of input interface levels:

- (1) 3.3 V input
- (2) 5 V input
- (3) 3.3 V Schmitt input
- (4) 5 V Schmitt input
- (5) 3.3 V input with failsafe

5. Output Drive Capability

The following levels are available for output drive capability (IoL):

- (1) 3.3 V output : Six types (3.0 mA, 6.0 mA, 9.0 mA, 12.0 mA, 18.0 mA, 24.0 mA)
- (2) 5 V output: Eight types (1.0 mA, 2.0 mA, 3.0 mA, 6.0 mA, 9.0 mA, 12.0 mA, 18.0 mA, 24.0 mA)

6. Multifunction Buffers

6.1 Buffers with Pull-up/Pull-down Resistors

The CMOS-8L family has input/output/bidirectional buffers with following on-chip pull-up/pull-down resistors. Select one suitable for the specific application.

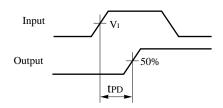
(1) Pull-up resistor : $50 \text{ k}\Omega$ (TYP) (2) Pull-down resistor : $50 \text{ k}\Omega$ (TYP) (3) Pull-up resistor : $5 \text{ k}\Omega$ (TYP)

6.2 Low Slew-Rate Buffers

The CMOS-8L family has special buffer which satisfies low noise requirement by fixing slew-rate low. This is called low slew-rate buffer. In this library, these buffers are described with a word "LOW NOISE" at their function description.

7. Definition of Propagation Delays

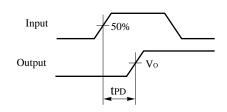
(1) Input Buffer



$$V_I = 1.5 \ V (3.3 \ V input)$$

 $V_I = 1.5 \ V (5 \ V input)$

(2) Output Buffer (L \rightarrow H, H \rightarrow L, Z \rightarrow H, Z \rightarrow L)

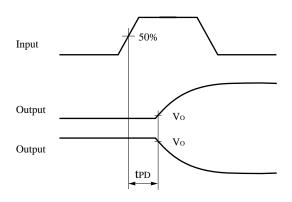


$$Vo = 1.5 \ V \ (3.3 \ V \ output)$$

 $Vo = 1.5 \ V \ (5 \ V \ output)$

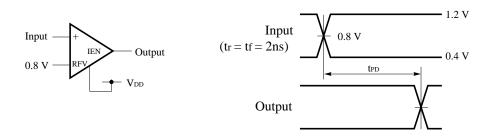
- $Z \to H$ The beginning of Vo = L level
- $Z \rightarrow L$ The beginning of Vo = H level

(3) Output Buffer (L \rightarrow Z, H \rightarrow Z)

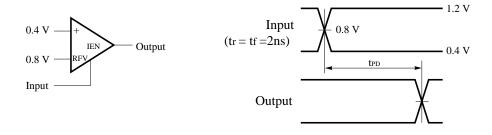


(4) GTL Input

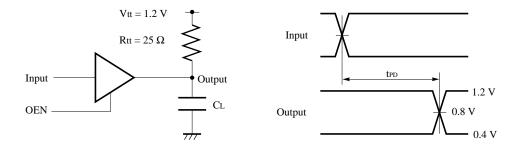
(a)



(b)

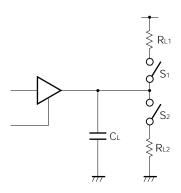


(5) GTL Output



8. Measurement Load Conditions

(1) CMOS level output buffer



Normal Output Voltage

RL1, RL2 = ∞ , CL = 15 pF

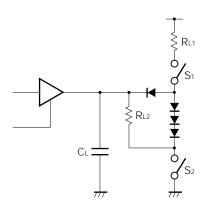
(S₁, S₂ : OFF)

• 3-State Output Buffer

 $R_{L1} = R_{L2} = 2 \text{ k}\Omega$, $C_L = 15 \text{ pF}$

$$\begin{split} & \text{tp (HH), tp(LL)} \ : \ S_1 = \text{OFF, } \ S_2 = \text{OFF} \\ & \text{tp (ZL), tp(LZ)} \ : \ S_1 = \text{ON, } \ S_2 = \text{OFF} \\ & \text{tp (ZH), tp(HZ)} \ : \ S_1 = \text{OFF, } \ S_2 = \text{ON} \end{split}$$

(2) TTL level output buffer



• Normal Output Voltage

 $R_{L1}=500~\Omega,~R_{L2}=\infty,~C_{L}=15~pF$

(S₁, S₂ : OFF)

• 3-State Output Buffer

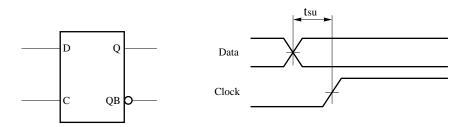
 $R_{L1} = 500 \Omega$, $R_{L2} = 1 k\Omega$, $C_{L} = 15 pF$

 $\begin{array}{l} tP(HH),\; tP(LL)\; : \; S_1 = OFF,\; S_2 = OFF \\ tP(ZL),\; tP(LZ)\; : \; S_1 = ON,\; S_2 = OFF \\ tP(ZH),\; tP(HZ)\; : \; S_1 = OFF,\; S_2 = ON \end{array}$

9. Timing

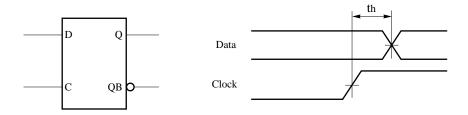
(1) Set up time(tsu)

The data setup time required before arrival of an active edge of a clock to read data correctly.



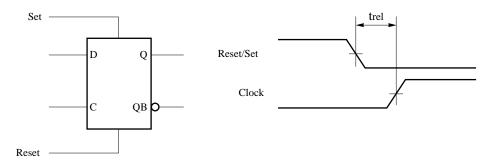
(2) Hold time(th)

The data hold time required after receiving an active edge of the clock to read data correctly.



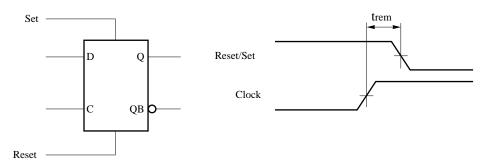
(3) Release time(trel)

The time required from the release of a reset (or set) signal of a latch or flip-flop until the active edge of the next clock pulse becomes valid.



(4) Removal time(trem)

The time required to invalidate an active edge of a clock when a reset (or set) signal of a latch or flip-flop is released.



(5) Minimum Pulse Width(tw)

The minimum pulse width of Clock/Reset/Set required to read data correctly.



CONTENTS

CHAPTER1 INTERFACE BLOCK(3.3V)

INPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FI01	INPUT BUFFER	1	4	1-2
FID1	INPUT BUFFER 50kΩ PULL-DOWN	1	4	1-2
FIU1	INPUT BUFFER 50kΩ PULL-UP	1	4	1-2
FIW1	INPUT BUFFER 5kΩ PULL-UP	1	4	1-2
FIS1	INPUT BUFFER SCHMITT	1	8	1-2
FDS1	INPUT BUFFER SCHMITT 50kΩ PULL-DOWN	1	8	1-2
FUS1	INPUT BUFFER SCHMITT 50kΩ PULL-UP	1	8	1-2
FWS1	INPUT BUFFER SCHMITT 5kΩ PULL-UP	1	8	1-2
FIB1	INPUT BUFFER CLOCK DRIVER	1	24	1-2
FDB1	INPUT BUFFER CLOCK DRIVER 50kΩ PULL-DOWN	1	24	1-2
FUB1	INPUT BUFFER CLOCK DRIVER 50kΩ PULL-UP	1	24	1-2
FWB1	INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP	1	24	1-2

INPUT BUFFER WITH FAILSAFE

Name	Function	I/O cells	int. cells	Page
,	INPUT BUFFER WITH FAILSAFE	1	4	1-4
	INPUT BUFFER WITH FAILSAFE 50kΩ PULL-DOWN	1	4	1-4
FIE1	INPUT BUFFER WITH FAILSAFE SCHMITT	1	8	1-4
FDE1	INPUT BUFFER WITH FAILSAFE SCHMITT 50kΩ PULL-DOWN	1	8	1-4
	INPUT BUFFER WITH FAILSAFE CLOCK DRIVER	1	24	1-4
FDH1	INPUT BUFFER WITH FAILSAFE CLOCK DRIVER 50kΩ PULL-DOWN	1	24	1-4

INPUT BUFFER WITH EN(OR)INPUT BUFFER WITH FAILSAFE

Name	Function	I/O cells	int. cells	Page
FN13	INPUT BUFFER WITH EN(OR)	1	4	1-6
FN23	INPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN	1	4	1-6

OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FO09	OUTPUT BUFFER 3mA	1	4	1-8
FO04	OUTPUT BUFFER 6mA	1	4	1-8
FO01	OUTPUT BUFFER 9mA	1	4	1-8
FO02	OUTPUT BUFFER 12mA	1	4	1-8
	OUTPUT BUFFER 18mA	1	8	1-8
FO06	OUTPUT BUFFER 24mA	1	8	1-8

LOW-NOISE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FE04	LOW-NOISE OUTPUT BUFFER 6mA	1	4	1-10
FE01	LOW-NOISE OUTPUT BUFFER 9mA	1	4	1-10
FE02	LOW-NOISE OUTPUT BUFFER 12mA	1	4	1-10
FE03	LOW-NOISE OUTPUT BUFFER 18mA	1	4	1-10
FE06	LOW-NOISE OUTPUT BUFFER 24mA	1	4	1-10

HIGH SPEED OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FO29	HIGH SPEED OUTPUT BUFFER 3mA	1	4	1-12
FO24	HIGH SPEED OUTPUT BUFFER 6mA	1	4	1-12
FO21	HIGH SPEED OUTPUT BUFFER 9mA	1	4	1-12
FO22	HIGH SPEED OUTPUT BUFFER 12mA	1	4	1-12
FO23	HIGH SPEED OUTPUT BUFFER 18mA	1	8	1-12
FO26	HIGH SPEED OUTPUT BUFFER 24mA	1	8	1-12

3-STATE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
B00T	3-STATE OUTPUT BUFFER 3mA	1	6	1-14
B0DT	3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-DOWN	1	6	1-14
B0UT	3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-UP	1	6	1-14
B0WT	3-STATE OUTPUT BUFFER 3mA 5kΩ PULL-UP	1	6	1-14
B00E	3-STATE OUTPUT BUFFER 6mA	1	6	1-14
B0DE	3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	6	1-14
B0UE	3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-UP	1	6	1-14
B0WE	3-STATE OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	6	1-14
B008	3-STATE OUTPUT BUFFER 9mA	1	6	1-14
B0D8	3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	6	1-14
B0U8	3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-UP	1	6	1-14
B0W8	3-STATE OUTPUT BUFFER 9mA 5kΩ PULL-UP	1	6	1-14
B007	3-STATE OUTPUT BUFFER 12mA	1	6	1-14
B0D7	3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	6	1-14
B0U7	3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	6	1-14
B0W7	3-STATE OUTPUT BUFFER 12mA 5kΩ PULL-UP	1	6	1-14
B009	3-STATE OUTPUT BUFFER 18mA	1	10	1-14
B0D9	3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	1	10	1-14
B0U9	3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	10	1-14
B0W9	3-STATE OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	10	1-14
B00H	3-STATE OUTPUT BUFFER 24mA	1	10	1-14
B0DH	3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	1	10	1-14
B0UH	3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	10	1-14
B0WH	3-STATE OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	10	1-14

LOW-NOISE 3-STATE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
BE0E	LOW-NOISE 3-STATE OUTPUT BUFFER 6mA	1	6	1-16
BEDE	LOW-NOISE 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	6	1-16
BEUE	LOW-NOISE 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-UP	1	6	1-16
BEWE	LOW-NOISE 3-STATE OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	6	1-16
BE08	LOW-NOISE 3-STATE OUTPUT BUFFER 9mA	1	6	1-16
BED8	LOW-NOISE 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	6	1-16
BEU8	LOW-NOISE 3-STATE OUTPUT BUFFER 9mA 50 k Ω PULL-UP	1	6	1-16
BEW8	LOW-NOISE 3-STATE OUTPUT BUFFER 9mA 5kΩ PULL-UP	1	6	1-16
BE07	LOW-NOISE 3-STATE OUTPUT BUFFER 12mA	1	6	1-16
BED7	LOW-NOISE 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	6	1-16
BEU7	LOW-NOISE 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	6	1-16
BEW7	LOW-NOISE 3-STATE OUTPUT BUFFER 12mA 5kΩ PULL-UP	1	6	1-16
BE09	LOW-NOISE 3-STATE OUTPUT BUFFER 18mA	1	6	1-16
BED9	LOW-NOISE 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	1	6	1-16
BEU9	LOW-NOISE 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	6	1-16
BEW9	LOW-NOISE 3-STATE OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	6	1-16
BE0H	LOW-NOISE 3-STATE OUTPUT BUFFER 24mA	1	6	1-16
BEDH	LOW-NOISE 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	1	6	1-16
BEUH	LOW-NOISE 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	6	1-16
BEWH	LOW-NOISE 3-STATE OUTPUT BUFFER 24mA 5k Ω PULL-UP	1	6	1-16

HIGH SPEED 3-STATE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
B02T	HIGH SPEED 3-STATE OUTPUT BUFFER 3mA	1	12	1-18
B03T	HIGH SPEED 3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-DOWN	1	12	1-18
B04T	HIGH SPEED 3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-UP	1	12	1-18
B05T	HIGH SPEED 3-STATE OUTPUT BUFFER 3mA 5k Ω PULL-UP	1	12	1-18
B02E	HIGH SPEED 3-STATE OUTPUT BUFFER 6mA	1	12	1-18
B03E	HIGH SPEED 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	12	1-18
B04E	HIGH SPEED 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-UP	1	12	1-18
B05E	HIGH SPEED 3-STATE OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	12	1-18
B028	HIGH SPEED 3-STATE OUTPUT BUFFER 9mA	1	12	1-18
B038	HIGH SPEED 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	12	1-18
B048	HIGH SPEED 3-STATE OUTPUT BUFFER 9mA $50 \mathrm{k}\Omega$ PULL-UP	1	12	1-18
B058	HIGH SPEED 3-STATE OUTPUT BUFFER 9mA 5k Ω PULL-UP	1	12	1-18
B027	HIGH SPEED 3-STATE OUTPUT BUFFER 12mA	1	12	1-18
B037	HIGH SPEED 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	12	1-18
B047	HIGH SPEED 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	12	1-18
B057	HIGH SPEED 3-STATE OUTPUT BUFFER 12mA 5kΩ PULL-UP	1	12	1-18
B029	HIGH SPEED 3-STATE OUTPUT BUFFER 18mA	1	16	1-18
B039	HIGH SPEED 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	1	16	1-18
B049	HIGH SPEED 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	16	1-18
B059	HIGH SPEED 3-STATE OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	16	1-18
B02H	HIGH SPEED 3-STATE OUTPUT BUFFER 24mA	1	16	1-18
B03H	HIGH SPEED 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	1	16	1-18
B04H	HIGH SPEED 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	16	1-18
B05H	HIGH SPEED 3-STATE OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	16	1-18

N-CH OPEN DRAIN OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
EXTH	N-CH OPEN DRAIN OUTPUT BUFFER 3mA	1	4	1-20
EXUH	N-CH OPEN DRAIN OUTPUT BUFFER 3mA 50kΩ PULL-UP	1	4	1-20
EXWH	N-CH OPEN DRAIN OUTPUT BUFFER 3mA 5kΩ PULL-UP	1	4	1-20
EXTJ	N-CH OPEN DRAIN OUTPUT BUFFER 6mA	1	4	1-20
EXUJ	N-CH OPEN DRAIN OUTPUT BUFFER 6mA 50kΩ PULL-UP	1	4	1-20
EXWJ	N-CH OPEN DRAIN OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	4	1-20
EXT1	N-CH OPEN DRAIN OUTPUT BUFFER 9mA	1	4	1-20
EXT3	N-CH OPEN DRAIN OUTPUT BUFFER 9mA 50kΩ PULL-UP	1	4	1-20
EXW3	N-CH OPEN DRAIN OUTPUT BUFFER 9mA 5kΩ PULL-UP	1	4	1-20
EXT9	N-CH OPEN DRAIN OUTPUT BUFFER 12mA	1	4	1-20
EXTB	N-CH OPEN DRAIN OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	4	1-20
EXWB	N-CH OPEN DRAIN OUTPUT BUFFER 12mA 5kΩ PULL-UP	1	4	1-20
EXT5	N-CH OPEN DRAIN OUTPUT BUFFER 18mA	1	8	1-20
EXT7	N-CH OPEN DRAIN OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	8	1-20
EXW7	N-CH OPEN DRAIN OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	8	1-20
EXTD	N-CH OPEN DRAIN OUTPUT BUFFER 24mA	1	8	1-20
EXTF	N-CH OPEN DRAIN OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	8	1-20
EXWF	N-CH OPEN DRAIN OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	8	1-20

LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
EETJ	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 6mA	1	2	1-22
EEUJ	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 6mA $50 \mathrm{k}\Omega$ PULL-UP	1	2	1-22
EEWJ	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	2	1-22
EET1	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 9mA	1	2	1-22
EET3	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 9mA $50 \mathrm{k}\Omega$ PULL-UP	1	2	1-22
EEW3	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 9mA 5kΩ PULLUP	1	2	1-22
EET9	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 12mA	1	2	1-22
EETB	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	2	1-22
EEWB	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 12mA $5 \mathrm{k}\Omega$ PULL-UP	1	2	1-22
EET5	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 18mA	1	2	1-22
EET7	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	2	1-22
EEW7	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	2	1-22
EETD	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 24mA	1	2	1-22
EETF	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	2	1-22
EEWF	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	2	1-22

I/O BUFFER

Name	Function	I/O cells	int. cells	Page
B00U	I/O BUFFER 3mA	1	10	1-24
B0DU	I/O BUFFER 3mA 50kΩ PULL-DOWN	1	10	1-24
B0UU	I/O BUFFER 3mA 50kΩ PULL-UP	1	10	1-24
B0WU	I/O BUFFER 3mA 5kΩ PULL-UP	1	10	1-24
B00C	I/O BUFFER 6mA	1	10	1-24
B0DC	I/O BUFFER 6mA 50kΩ PULL-DOWN	1	10	1-24
B0UC	I/O BUFFER 6mA 50kΩ PULL-UP	1	10	1-24
B0WC	I/O BUFFER 6mA 5kΩ PULL-UP	1	10	1-24
B003	I/O BUFFER 9mA	1	10	1-24
B0D3	I/O BUFFER 9mA 50kΩ PULL-DOWN	1	10	1-24
B0U3	I/O BUFFER 9mA 50kΩ PULL-UP	1	10	1-24
B0W3	I/O BUFFER 9mA 5kΩ PULL-UP	1	10	1-24
B001	I/O BUFFER 12mA	1	10	1-24
B0D1	I/O BUFFER 12mA 50kΩ PULL-DOWN	1	10	1-24
B0U1	I/O BUFFER 12mA 50kΩ PULL-UP	1	10	1-24
B0W1	I/O BUFFER 12mA 5kΩ PULL-UP	1	10	1-24
B005	I/O BUFFER 18mA	1	14	1-24
B0D5	I/O BUFFER 18mA 50kΩ PULL-DOWN	1	14	1-24
B0U5	I/O BUFFER 18mA 50kΩ PULL-UP	1	14	1-24
B0W5	I/O BUFFER 18mA 5kΩ PULL-UP	1	14	1-24
B00F	I/O BUFFER 24mA	1	14	1-24
B0DF	I/O BUFFER 24mA 50kΩ PULL-DOWN	1	14	1-24
B0UF	I/O BUFFER 24mA 50kΩ PULL-UP	1	14	1-24
B0WF	I/O BUFFER 24mA 5kΩ PULL-UP	1	14	1-24

LOW-NOISE I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BE0C	LOW-NOISE I/O BUFFER 6mA	1	10	1-26
BEDC	LOW-NOISE I/O BUFFER 6mA 50kΩ PULL-DOWN	1	10	1-26
BEUC	LOW-NOISE I/O BUFFER 6mA 50kΩ PULL-UP	1	10	1-26
BEWC	LOW-NOISE I/O BUFFER 6mA 5kΩ PULL-UP	1	10	1-26
BE03	LOW-NOISE I/O BUFFER 9mA	1	10	1-26
BED3	LOW-NOISE I/O BUFFER 9mA 50kΩ PULL-DOWN	1	10	1-26
BEU3	LOW-NOISE I/O BUFFER 9mA 50kΩ PULL-UP	1	10	1-26
BEW3	LOW-NOISE I/O BUFFER 9mA 5kΩ PULL-UP	1	10	1-26
BE01	LOW-NOISE I/O BUFFER 12mA	1	10	1-26
BED1	LOW-NOISE I/O BUFFER 12mA 50kΩ PULL-DOWN	1	10	1-26
BEU1	LOW-NOISE I/O BUFFER 12mA 50kΩ PULL-UP	1	10	1-26
BEW1	LOW-NOISE I/O BUFFER 12mA 5kΩ PULL-UP	1	10	1-26
BE05	LOW-NOISE I/O BUFFER 18mA	1	10	1-26
BED5	LOW-NOISE I/O BUFFER 18mA 50kΩ PULL-DOWN	1	10	1-26
BEU5	LOW-NOISE I/O BUFFER 18mA 50kΩ PULL-UP	1	10	1-26
BEW5	LOW-NOISE I/O BUFFER 18mA 5kΩ PULL-UP	1	10	1-26
BE0F	LOW-NOISE I/O BUFFER 24mA	1	10	1-26
BEDF	LOW-NOISE I/O BUFFER 24mA 50kΩ PULL-DOWN	1	10	1-26
BEUF	LOW-NOISE I/O BUFFER 24mA 50kΩ PULL-UP	1	10	1-26
BEWF	LOW-NOISE I/O BUFFER 24mA 5kΩ PULL-UP	1	10	1-26

HIGH SPEED I/O BUFFER

Name	Function	I/O cells	int. cells	Page
B02U	HIGH SPEED I/O BUFFER 3mA	1	16	1-28
B03U	HIGH SPEED I/O BUFFER 3mA 50kΩ PULL-DOWN	1	16	1-28
B04U	HIGH SPEED I/O BUFFER 3mA 50kΩ PULL-UP	1	16	1-28
B05U	HIGH SPEED I/O BUFFER 3mA 5kΩ PULL-UP	1	16	1-28
B02C	HIGH SPEED I/O BUFFER 6mA	1	16	1-28
B03C	HIGH SPEED I/O BUFFER 6mA 50kΩ PULL-DOWN	1	16	1-28
B04C	HIGH SPEED I/O BUFFER 6mA 50kΩ PULL-UP	1	16	1-28
B05C	HIGH SPEED I/O BUFFER 6mA 5kΩ PULL-UP	1	16	1-28
B023	HIGH SPEED I/O BUFFER 9mA	1	16	1-28
B033	HIGH SPEED I/O BUFFER 9mA 50kΩ PULL-DOWN	1	16	1-28
B043	HIGH SPEED I/O BUFFER 9mA 50kΩ PULL-UP	1	16	1-28
B053	HIGH SPEED I/O BUFFER 9mA 5kΩ PULL-UP	1	16	1-28
B021	HIGH SPEED I/O BUFFER 12mA	1	16	1-28
B031	HIGH SPEED I/O BUFFER 12mA 50kΩ PULL-DOWN	1	16	1-28
B041	HIGH SPEED I/O BUFFER 12mA 50kΩ PULL-UP	1	16	1-28
B051	HIGH SPEED I/O BUFFER 12mA 5kΩ PULL-UP	1	16	1-28
B025	HIGH SPEED I/O BUFFER 18mA	1	20	1-28
B035	HIGH SPEED I/O BUFFER 18mA 50kΩ PULL-DOWN	1	20	1-28
B045	HIGH SPEED I/O BUFFER 18mA 50kΩ PULL-UP	1	20	1-28
B055	HIGH SPEED I/O BUFFER 18mA 5kΩ PULL-UP	1	20	1-28
B02F	HIGH SPEED I/O BUFFER 24mA	1	20	1-28
B03F	HIGH SPEED I/O BUFFER 24mA 50kΩ PULL-DOWN	1	20	1-28
B04F	HIGH SPEED I/O BUFFER 24mA 50kΩ PULL-UP	1	20	1-28
B05F	HIGH SPEED I/O BUFFER 24mA 5kΩ PULL-UP	1	20	1-28

SCHMITT I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BSIU	SCHMITT I/O BUFFER 3mA	1	14	1-30
BSDU	SCHMITT I/O BUFFER 3mA 50kΩ PULL-DOWN	1	14	1-30
BSUU	SCHMITT I/O BUFFER 3mA 50kΩ PULL-UP	1	14	1-30
BSWU	SCHMITT I/O BUFFER 3mA 5kΩ PULL-UP	1	14	1-30
BSIC	SCHMITT I/O BUFFER 6mA	1	14	1-30
BSDC	SCHMITT I/O BUFFER 6mA 50kΩ PULL-DOWN	1	14	1-30
BSUC	SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP	1	14	1-30
BSWC	SCHMITT I/O BUFFER 6mA 5kΩ PULL-UP	1	14	1-30
BSI3	SCHMITT I/O BUFFER 9mA	1	14	1-30
BSD3	SCHMITT I/O BUFFER 9mA 50kΩ PULL-DOWN	1	14	1-30
BSU3	SCHMITT I/O BUFFER 9mA 50kΩ PULL-UP	1	14	1-30
BSW3	SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP	1	14	1-30
BSI1	SCHMITT I/O BUFFER 12mA	1	14	1-30
BSD1	SCHMITT I/O BUFFER 12mA 50kΩ PULL-DOWN	1	14	1-30
BSU1	SCHMITT I/O BUFFER 12mA 50kΩ PULL-UP	1	14	1-30
BSW1	SCHMITT I/O BUFFER 12mA 5kΩ PULL-UP	1	14	1-30
BSI5	SCHMITT I/O BUFFER 18mA	1	18	1-30
BSD5	SCHMITT I/O BUFFER 18mA 50kΩ PULL-DOWN	1	18	1-30
BSU5	SCHMITT I/O BUFFER 18mA 50kΩ PULL-UP	1	18	1-30
BSW5	SCHMITT I/O BUFFER 18mA 5kΩ PULL-UP	1	18	1-30
BSIF	SCHMITT I/O BUFFER 24mA	1	18	1-30
BSDF	SCHMITT I/O BUFFER 24mA 50kΩ PULL-DOWN	1	18	1-30
BSUF	SCHMITT I/O BUFFER 24mA 50kΩ PULL-UP	1	18	1-30
BSWF	SCHMITT I/O BUFFER 24mA 5kΩ PULL-UP	1	18	1-30

LOW-NOISE SCHMITT I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BFIC	LOW-NOISE SCHMITT I/O BUFFER 6mA	1	14	1-32
BFDC	LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-DOWN	1	14	1-32
BFUC	LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP	1	14	1-32
BFWC	LOW-NOISE SCHMITT I/O BUFFER 6mA 5kΩ PULL-UP	1	14	1-32
BFI3	LOW-NOISE SCHMITT I/O BUFFER 9mA	1	14	1-32
BFD3	LOW-NOISE SCHMITT I/O BUFFER 9mA 50kΩ PULL-DOWN	1	14	1-32
BFU3	LOW-NOISE SCHMITT I/O BUFFER 9mA 50kΩ PULL-UP	1	14	1-32
BFW3	LOW-NOISE SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP	1	14	1-32
BFI1	LOW-NOISE SCHMITT I/O BUFFER 12mA	1	14	1-32
BFD1	LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-DOWN	1	14	1-32
BFU1	LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-UP	1	14	1-32
BFW1	LOW-NOISE SCHMITT I/O BUFFER 12mA 5kΩ PULL-UP	1	14	1-32
BFI5	LOW-NOISE SCHMITT I/O BUFFER 18mA	1	14	1-32
BFD5	LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-DOWN	1	14	1-32
BFU5	LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-UP	1	14	1-32
BFW5	LOW-NOISE SCHMITT I/O BUFFER 18mA 5kΩ PULL-UP	1	14	1-32
BFIF	LOW-NOISE SCHMITT I/O BUFFER 24mA	1	14	1-32
BFDF	LOW-NOISE SCHMITT I/O BUFFER 24mA 50kΩ PULL-DOWN	1	14	1-32
BFUF	LOW-NOISE SCHMITT I/O BUFFER 24mA 50kΩ PULL-UP	1	14	1-32
BFWF	LOW-NOISE SCHMITT I/O BUFFER 24mA 5kΩ PULL-UP	1	14	1-32

I/O BUFFER WITH EN(OR)

Name	Function	I/O cells	int. cells	Page
BN3U33	I/O BUFFER WITH EN(OR) 3mA	1	16	1-34
BN5U33	I/O BUFFER WITH EN(OR) 3mA 50kΩ PULL-DOWN	1	16	1-34
BN3C33	I/O BUFFER WITH EN(OR) 6mA	1	16	1-34
BN5C33	I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN	1	16	1-34
BN3333	I/O BUFFER WITH EN(OR) 9mA	1	16	1-34
BN5333	I/O BUFFER WITH EN(OR) 9mA 50kΩ PULL-DOWN	1	16	1-34
BN3133	I/O BUFFER WITH EN(OR) 12mA	1	16	1-34
BN5133	I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN	1	16	1-34
BN3533	I/O BUFFER WITH EN(OR) 18mA	1	20	1-34
BN5533	I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN	1	20	1-34
BN3F33	I/O BUFFER WITH EN(OR) 24mA	1	20	1-34
BN5F33	I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN	1	20	1-34

LOW NOISE I/O BUFFER WITH EN(OR)

Name	Function	I/O cells	int. cells	Page
BN7C33	LOW NOISE I/O BUFFER WITH EN(OR) 6mA	1	10	1-38
BNBC33	LOW NOISE I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN	1	10	1-38
BN7333	LOW NOISE I/O BUFFER WITH EN(OR) 9mA	1	10	1-38
BNB333	LOW NOISE I/O BUFFER WITH EN(OR) 9mA 50kΩ PULL-DOWN	1	10	1-38
BN7133	LOW NOISE I/O BUFFER WITH EN(OR) 12mA	1	10	1-38
BNB133	LOW NOISE I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN	1	10	1-38
BN7533	LOW NOISE I/O BUFFER WITH EN(OR) 18mA	1	10	1-38
BNB533	LOW NOISE I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN	1	10	1-38
	LOW NOISE I/O BUFFER WITH EN(OR) 24mA	1	10	1-38
BNBF33	LOW NOISE I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN	1	10	1-38

CHAPTER2 INTERFACE BLOCK(5V)

INPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FIV1	INPUT BUFFER	1	4	2-2
FDV1	INPUT BUFFER 50kΩ PULL-DOWN	1	4	2-2
FIF1	INPUT BUFFER SCHMITT	1	8	2-2
FDF1	INPUT BUFFER SCHMITT 50kΩ PULL-DOWN	1	8	2-2
FIG1	INPUT BUFFER CLOCK DRIVER	1	24	2-2
FDG1	INPUT BUFFER CLOCK DRIVER 50kΩ PULL-DOWN	1	24	2-2

INPUT BUFFER WITH EN(OR)

Name	Function	I/O cells	int. cells	Page
FN1335	INPUT BUFFER WITH EN(OR)	1	4	2-4
FN2335	INPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN	1	4	2-4

CMOS OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FY09	CMOS OUTPUT BUFFER 3mA	1	20	2-6
FY04	CMOS OUTPUT BUFFER 6mA	1	20	2-6
FY01	CMOS OUTPUT BUFFER 9mA	1	24	2-6
FY02	CMOS OUTPUT BUFFER 12mA	1	24	2-6
FY03	CMOS OUTPUT BUFFER 18mA	2	24	2-6
FY06	CMOS OUTPUT BUFFER 24mA	2	24	2-6

CMOS LOW-NOISE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FZ02	CMOS LOW-NOISE OUTPUT BUFFER 12mA	1	8	2-8
FZ03	CMOS LOW-NOISE OUTPUT BUFFER 18mA	2	8	2-8
FZ06	CMOS LOW-NOISE OUTPUT BUFFER 24mA	2	8	2-8

TTL OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FV0A	TTL OUTPUT BUFFER 1mA	1	4	2-10
FV0B	TTL OUTPUT BUFFER 2mA	1	4	2-10
FV09	TTL OUTPUT BUFFER 3mA	1	4	2-10
FV04	TTL OUTPUT BUFFER 6mA	1	4	2-10
FV01	TTL OUTPUT BUFFER 9mA	1	8	2-10

TTL LOW-NOISE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FW02	TTL LOW-NOISE OUTPUT BUFFER 12mA	1	4	2-12
FW03	TTL LOW-NOISE OUTPUT BUFFER 18mA	2	4	2-12
FW06	TTL LOW-NOISE OUTPUT BUFFER 24mA	2	4	2-12

TTL HIGH SPEED OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FY19	TTL HIGH SPEED OUTPUT BUFFER 3mA	1	4	2-14
FY14	TTL HIGH SPEED OUTPUT BUFFER 6mA	1	4	2-14
FY11	TTL HIGH SPEED OUTPUT BUFFER 9mA	1	8	2-14
FY12	TTL HIGH SPEED OUTPUT BUFFER 12mA	1	8	2-14
FY13	TTL HIGH SPEED OUTPUT BUFFER 18mA	2	8	2-14
FY16	TTL HIGH SPEED OUTPUT BUFFER 24mA	2	8	2-14

CMOS 3-STATE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
BD0T	CMOS 3-STATE OUTPUT BUFFER 3mA	1	32	2-16
BD0E	CMOS 3-STATE OUTPUT BUFFER 6mA	1	32	2-16
BD08	CMOS 3-STATE OUTPUT BUFFER 9mA	1	42	2-16
BD07	CMOS 3-STATE OUTPUT BUFFER 12mA	1	42	2-16
BD09	CMOS 3-STATE OUTPUT BUFFER 18mA	2	42	2-16
BD0H	CMOS 3-STATE OUTPUT BUFFER 24mA	2	42	2-16

CMOS LOW-NOISE 3-STATE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
BJ07	CMOS LOW-NOISE 3-STATE OUTPUT BUFFER 12mA	1	20	2-18
BJ09	CMOS LOW-NOISE 3-STATE OUTPUT BUFFER 18mA	2	20	2-18
BJ0H	CMOS LOW-NOISE 3-STATE OUTPUT BUFFER 24mA	2	20	2-18

TTL 3-STATE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
BV0Q	TTL 3-STATE OUTPUT BUFFER 1mA	1	16	2-20
BVDQ	TTL 3-STATE OUTPUT BUFFER 1mA 50kΩ PULL-DOWN	1	16	2-20
BV0M	TTL 3-STATE OUTPUT BUFFER 2mA	1	16	2-20
BVDM	TTL 3-STATE OUTPUT BUFFER 2mA 50kΩ PULL-DOWN	1	16	2-20
BV0T	TTL 3-STATE OUTPUT BUFFER 3mA	1	16	2-20
BVDT	TTL 3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-DOWN	1	16	2-20
BV0E	TTL 3-STATE OUTPUT BUFFER 6mA	1	16	2-20
BVDE	TTL 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	16	2-20
BV08	TTL 3-STATE OUTPUT BUFFER 9mA	1	20	2-20
BVD8	TTL 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	20	2-20

TTL LOW-NOISE 3-STATE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
BY07	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 12mA	1	16	2-22
BYD7	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	16	2-22
BY09	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 18mA	2	16	2-22
BYD9	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	2	16	2-22
BY0H	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 24mA	2	16	2-22
BYDH	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	2	16	2-22

TTL HIGH SPEED 3-STATE OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
BD1T	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 3mA	1	32	2-24
BD2T	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-DOWN	1	32	2-24
BD1E	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 6mA	1	32	2-24
BD2E	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	32	2-24
BD18	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 9mA	1	42	2-24
BD28	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	42	2-24
BD17	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 12mA	1	42	2-24
BD27	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	42	2-24
BD19	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 18mA	2	42	2-24
BD29	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	2	42	2-24
BD1H	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 24mA	2	42	2-24
BD2H	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	2	42	2-24

TTL N-CH OPEN DRAIN OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
EVTH	TTL N-CH OPEN DRAIN OUTPUT BUFFER 3mA	1	4	2-26
EVTJ	TTL N-CH OPEN DRAIN OUTPUT BUFFER 6mA	1	4	2-26
EVT9	TTL N-CH OPEN DRAIN OUTPUT BUFFER 12mA	1	8	2-26
	TTL N-CH OPEN DRAIN OUTPUT BUFFER 18mA	2	8	2-26
EVTD	TTL N-CH OPEN DRAIN OUTPUT BUFFER 24mA	2	8	2-26

TTL LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
EYT9	TTL LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 12mA	1	2	2-28
EYT5	TTL LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 18mA	2	2	2-28
EYTD	TTL LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 24mA	2	2	2-28

CMOS I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BM0U	CMOS I/O BUFFER 3mA	1	36	2-30
BM0C	CMOS I/O BUFFER 6mA	1	36	2-30
BM03	CMOS I/O BUFFER 9mA	1	46	2-30
BM01	CMOS I/O BUFFER 12mA	1	46	2-30
BM05	CMOS I/O BUFFER 18mA	2	46	2-30
BM0F	CMOS I/O BUFFER 24mA	2	46	2-30

CMOS LOW-NOISE I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BP01	CMOS LOW-NOISE I/O BUFFER 12mA	1	24	2-32
BP05	CMOS LOW-NOISE I/O BUFFER 18mA	2	24	2-32
BP0F	CMOS LOW-NOISE I/O BUFFER 24mA	2	24	2-32

CMOS SCHMITT I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BQIU	CMOS SCHMITT I/O BUFFER 3mA	1	40	2-34
BQIC	CMOS SCHMITT I/O BUFFER 6mA	1	40	2-34
BQI3	CMOS SCHMITT I/O BUFFER 9mA	1	50	2-34
BQI1	CMOS SCHMITT I/O BUFFER 12mA	1	50	2-34
BQI5	CMOS SCHMITT I/O BUFFER 18mA	2	50	2-34
BQIF	CMOS SCHMITT I/O BUFFER 24mA	2	50	2-34

CMOS LOW-NOISE SCHMITT I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BUI1	CMOS LOW-NOISE SCHMITT I/O BUFFER 12mA	1	28	2-36
BUI5	CMOS LOW-NOISE SCHMITT I/O BUFFER 18mA	2	28	2-36
BUIF	CMOS LOW-NOISE SCHMITT I/O BUFFER 24mA	2	28	2-36

TTL I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BW0X	TTL I/O BUFFER 1mA	1	20	2-38
BWDX	TTL I/O BUFFER 1mA 50kΩ PULL-DOWN	1	20	2-38
BW0K	TTL I/O BUFFER 2mA	1	20	2-38
BWDK	TTL I/O BUFFER 2mA 50kΩ PULL-DOWN	1	20	2-38
BW0U	TTL I/O BUFFER 3mA	1	20	2-38
BWDU	TTL I/O BUFFER 3mA 50kΩ PULL-DOWN	1	20	2-38
BW0C	TTL I/O BUFFER 6mA	1	20	2-38
BWDC	TTL I/O BUFFER 6mA 50kΩ PULL-DOWN	1	20	2-38
BW03	TTL I/O BUFFER 9mA	1	24	2-38
BWD3	TTL I/O BUFFER 9mA $50 \mathrm{k}\Omega$ PULL-DOWN	1	24	2-38

TTL LOW-NOISE I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BX01	TTL LOW-NOISE I/O BUFFER 12mA	1	20	2-40
BXD1	TTL LOW-NOISE I/O BUFFER 12mA 50kΩ PULL-DOWN	1	20	2-40
BX05	TTL LOW-NOISE I/O BUFFER 18mA	2	20	2-40
BXD5	TTL LOW-NOISE I/O BUFFER 18mA 50kΩ PULL-DOWN	2	20	2-40
BX0F	TTL LOW-NOISE I/O BUFFER 24mA	2	20	2-40
BXDF	TTL LOW-NOISE I/O BUFFER 24mA 50kΩ PULL-DOWN	2	20	2-40

TTL HIGH SPEED I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BM1U	TTL HIGH SPEED I/O BUFFER 3mA	1	36	2-42
BM2U	TTL HIGH SPEED I/O BUFFER 3mA 50kΩ PULL-DOWN	1	36	2-42
BM1C	TTL HIGH SPEED I/O BUFFER 6mA	1	36	2-42
BM2C	TTL HIGH SPEED I/O BUFFER 6mA 50kΩ PULL-DOWN	1	36	2-42
BM13	TTL HIGH SPEED I/O BUFFER	1	46	2-42
BM23	TTL HIGH SPEED I/O BUFFER 9mA 50kΩ PULL-DOWN	1	46	2-42
BM11	TTL HIGH SPEED I/O BUFFER 12mA	1	46	2-42
BM21	TTL HIGH SPEED I/O BUFFER 12mA 50kΩ PULL-DOWN	1	46	2-42
BM15	TTL HIGH SPEED I/O BUFFER 18mA	2	46	2-42
BM25	TTL HIGH SPEED I/O BUFFER 18mA 50kΩ PULL-DOWN	2	46	2-42
BM1F	TTL HIGH SPEED I/O BUFFER 24mA	2	46	2-42
BM2F	TTL HIGH SPEED I/O BUFFER 24mA 50kΩ PULL-DOWN	2	46	2-42

TTL SCHMITT I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BKIX	TTL SCHMITT I/O BUFFER 1mA	1	24	2-44
BKDX	TTL SCHMITT I/O BUFFER 1mA 50kΩ PULL-DOWN	1	24	2-44
BKIK	TTL SCHMITT I/O BUFFER 2mA	1	24	2-44
BKDK	TTL SCHMITT I/O BUFFER 2mA 50kΩ PULL-DOWN	1	24	2-44
BKIU	TTL SCHMITT I/O BUFFER 3mA	1	24	2-44
BKDU	TTL SCHMITT I/O BUFFER 3mA 50kΩ PULL-DOWN	1	24	2-44
BKIC	TTL SCHMITT I/O BUFFER 6mA	1	24	2-44
BKDC	TTL SCHMITT I/O BUFFER 6mA 50kΩ PULL-DOWN	1	24	2-44
BKI3	TTL SCHMITT I/O BUFFER 9mA	1	28	2-44
BKD3	TTL SCHMITT I/O BUFFER 9mA 50kΩ PULL-DOWN	1	28	2-44

TTL LOW-NOISE SCHMITT I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BZI1	TTL LOW-NOISE SCHMITT I/O BUFFER 12mA	1	24	2-46
BZD1	TTL LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-DOWN	1	24	2-46
BZI5	TTL LOW-NOISE SCHMITT I/O BUFFER 18mA	2	24	2-46
BZD5	TTL LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-DOWN	2	24	2-46
BZIF	TTL LOW-NOISE SCHMITT I/O BUFFER 24mA	2	24	2-46
BZDF	TTL LOW-NOISE SCHMITT I/O BUFFER 24mA 50kΩ PULL-DOWN	2	24	2-46

CMOS I/O BUFFER WITH EN(OR)

	\ /			
Name	Function	I/O cells	int. cells	Page
BN3U35	CMOS I/O BUFFER WITH EN(OR) 3mA	1	32	2-48
BN3C35	CMOS I/O BUFFER WITH EN(OR) 6mA	1	32	2-48
BN3335	CMOS I/O BUFFER WITH EN(OR) 9mA	1	32	2-48
BN3135	CMOS I/O BUFFER WITH EN(OR) 12mA	1	32	2-48
BN3535	CMOS I/O BUFFER WITH EN(OR) 18mA	2	36	2-48
BN3F35	CMOS I/O BUFFER WITH EN(OR) 24mA	2	36	2-48

CMOS LOW NOISE I/O BUFFER WITH EN(OR)

Name	Function	I/O cells	int. cells	Page
BN7135	CMOS LOW NOISE I/O BUFFER WITH EN(OR) 12mA	1	24	2-52
BN7535	CMOS LOW NOISE I/O BUFFER WITH EN(OR) 18mA	2	24	2-52
BN7F35	CMOS LOW NOISE I/O BUFFER WITH EN(OR) 24mA	2	24	2-52

TTL I/O BUFFER WITH EN(OR)

Name	Function	I/O cells	int. cells	Page
BN6U35	TTL I/O BUFFER WITH EN(OR) 3mA	1	36	2-54
BN9U35	TTL I/O BUFFER WITH EN(OR) 3mA 50kΩ PULL-DOWN	1	36	2-54
BN6C35	TTL I/O BUFFER WITH EN(OR) 6mA	1	36	2-54
BN9C35	TTL I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN	1	36	2-54
BN6335	TTL I/O BUFFER WITH EN(OR) 9mA	1	46	2-54
BN9335	TTL I/O BUFFER WITH EN(OR) 9mA 50kΩ PULL-DOWN	1	46	2-54
BN6135	TTL I/O BUFFER WITH EN(OR) 12mA	1	46	2-54
BN9135	TTL I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN	1	46	2-54
BN6535	TTL I/O BUFFER WITH EN(OR) 18mA	2	46	2-54
BN9535	TTL I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN	2	46	2-54
BN6F35	TTL I/O BUFFER WITH EN(OR) 24mA	2	46	2-54
BN9F35	TTL I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN	2	46	2-54

LOW NOISE I/O BUFFER WITH EN(OR)

	,			
Name	Function	I/O cells	int. cells	Page
BNA135	LOW NOISE I/O BUFFER WITH EN(OR) 12mA	1	20	2-58
BND135	LOW NOISE I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN	1	20	2-58
BNA535	LOW NOISE I/O BUFFER WITH EN(OR) 18mA	2	20	2-58
BND535	LOW NOISE I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN	2	20	2-58
BNAF35	LOW NOISE I/O BUFFER WITH EN(OR) 24mA	2	20	2-58
BNDF35	LOW NOISE I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN	2	20	2-58

CHAPTER3 INTERFACE BLOCK(OSCILLATOR)

OSCILLATOR INPUT BUFFER

Name	Function	I/O cells	int. cells	Page
OSI1	OSCILLATOR INPUT BUFFER	1	0	3-2

OSCILLATOR INPUT BUFFER FOR ENABLE

Name	Function	I/O cells	int. cells	Page
OSI2	OSCILLATOR INPUT BUFFER FOR ENABLE	1	0	3-4

OSCILLATOR OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
OSO1	OSCILLATOR OUTPUT BUFFER INTERNAL FEEDBACK RESISTOR	1	4	3-6
OSO3	OSCILLATOR OUTPUT BUFFER FOR OSF TYPE	1	4	3-8
OSO7	OSCILLATOR OUTPUT BUFFER FOR ENABLE TYPE	1	6	3-10
OSO9	OSCILLATOR OUTPUT BUFFER EXTERNAL FEEDBACK RESISTOR	1	4	3-12

FEEDBACK RESISTOR FOR OSCILLATOR

Name	Function	I/O cells	int. cells	Page
OSF1	FEEDBACK RESISTOR FOR OSCILLATOR	1	0	3-14

FEEDBACK RESISTOR FOR OSCILLATOR FOR ENABLE

Name	Function	I/O cells	int. cells	Page
OSF3	FEEDBACK RESISTOR FOR OSCILLATOR FOR ENABLE	1	2	3-16

CHAPTER4 INTERFACE BLOCK(HIGH SPEED SIGNALE TRANSMISSION)

3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL

Name	Function	I/O cells	int. cells	Page
FIXA	3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL	1	24	4-2
FUXA	3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP	1	24	4-2

5V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL

Name	Function	I/O cells	int. cells	Page
FIZA	5V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL	1	24	4-4

GTL INPUT BUFFER WITH EN

Name	Function	I/O cells	int. cells	Page
FIR1	GTL INPUT BUFFER WITH EN	1	8	4-6

GTL INPUT BUFFER FOR REFERENCE VOLTAGE

Name	Function	I/O cells	int. cells	Page
FIP1	GTL INPUT BUFFER FOR REFERENCE VOLTAGE	1		4-8

GTL OUTPUT BUFFER WITH ENB

Name	Function	I/O cells	int. cells	Page
EGTL	GTL OUTPUT BUFFER WITH ENB	2	18	4-10

GTL I/O BUFFER

Name	Function	I/O cells	int. cells	Page
BG0W	GTL I/O BUFFER	2	26	4-12

P-ECL INPUT BUFFER WITH EN

Name	Function	I/O cells	int. cells	Page
FIX1	P-ECL INPUT BUFFER WITH EN	1	26	4-14
FIX2	P-ECL INPUT BUFFER WITH EN	1	26	4-14
FIP3	P-ECL INPUT BUFFER FOR REFERENCE VOLTAGE	1	0	4-16
FIP4	P-ECL INPUT BUFFER FOR REFERENCE VOLTAGE	1	0	4-16

P-ECL OUTPUT BUFFER

Name	Function	I/O cells	int. cells	Page
FO0G	P-ECL OUTPUT BUFFER	1	4	4-18

CHAPTER5 INTERFACE BLOCK (DIGITAL PLL)

3V INPUT BUFFER REFERENCE CLOCK

Name	Function	I/O cells	int. cells	Page
FI0P	3V INPUT BUFFER REFERENCE CLOCK	1	3	5-2

5V INPUT BUFFER REFERENCE CLOCK

Name	Function	I/O cells	int. cells	Page
FI0Q	5V INPUT BUFFER REFERENCE CLOCK	1	3	5-4

DIGITAL PLL(25MHZ TO 50MHZ)

Name	Function	I/O cells	int. cells	Page
F9E6	DIGITAL PLL(25MHZ TO 50MHZ)	-	1900	5-6

DIGITAL PLL(50MHZ TO 75MHZ)

Name	Function	I/O cells	int. cells	Page
F9E8	DIGITAL PLL(50MHZ TO 75MHZ)	-	1596	5-8

CHAPTER6 FUNCTION BLOCK

H,L LEVEL GENERATOR

Name	Function	I/O cells	int. cells	
F091	H,L LEVEL GENERATOR	-	1	6-2

INTERFACE BLOCK FOR OSCILLATOR BUFFER

Name	Function	I/O cells	int. cells	Page
F093	INTERFACE BLOCK FOR OSCILLATOR BUFFER	-	1	6-4

INVERTER

Name	Function	I/O cells	int. cells	Page
L101	INVERTER SINGLE OUT(LOW POWER)	-	1	6-6
F101	INVERTER SINGLE OUT	-	1	6-6
F102	INVERTER SINGLE OUT (X2 DRIVE)	-	2	6-6
F143	INVERTER SINGLE OUT (X3 DRIVE)	-	3	6-6
F103	INVERTER MULTI OUT (X3 DRIVE)	-	3	6-6
F144	INVERTER SINGLE OUT (X4 DRIVE)	-	4	6-6
F104	INVERTER MULTI OUT (X4 DRIVE)	-	4	6-6
	INVERTER SINGLE OUT (X8 DRIVE)	-	12	6-6
F108	INVERTER MULTI OUT (X8 DRIVE)	-	12	6-6

BUFFER

Name	Function	I/O cells	int. cells	Page
	BUFFER SINGLE OUT(LOW POWER)	-	1	6-8
F111	BUFFER SINGLE OUT	-	2	6-8
F112	BUFFER SINGLE OUT (X2 DRIVE)	-	3	6-8
F153	BUFFER SINGLE OUT (X3 DRIVE)	-	4	6-8
F113	BUFFER MULTI OUT (X3 DRIVE)	-	4	6-8
F154	BUFFER SINGLE OUT (X4 DRIVE)	-	5	6-8
F114	BUFFER MULTI OUT (X4 DRIVE)	-	5	6-8
F158	BUFFER SINGLE OUT (X8 DRIVE)	-	11	6-8
F118	BUFFER MULTI OUT (X8 DRIVE)	-	11	6-8

CLOCK DRIVER

Name	Function	I/O cells	int. cells	Page
FCK1	CLOCK DRIVER (LOW DRIVE)	-	40	6-10
FCK2	CLOCK DRIVER (LOW MIDDLE DRIVE)	-	80	6-10
FCK3	CLOCK DRIVER (MIDDLE DRIVE)	-	120	6-10
FCK4	CLOCK DRIVER (UPPER MIDDLE DRIVE)	-	160	6-10
FCK5	CLOCK DRIVER (HIGH DRIVE)	-	200	6-10

CLOCK DRIVER SINGLE OUT

Name	Function	I/O cells	int. cells	Page
FCKA	CLOCK DRIVER SINGLE OUT (LOW DRIVE)	-	40	6-12
FCKB	CLOCK DRIVER SINGLE OUT (LOWEW MIDDLE DRIVE)	-	80	6-12
FCKC	CLOCK DRIVER SINGLE OUT (MIDDLE DRIVE)	-	120	6-12
FCKD	CLOCK DRIVER SINGLE OUT (UPPER MIDDLE DRIVE)	-	160	6-12
FCKE	CLOCK DRIVER SINGLE OUT (HIGH DRIVE)	-	200	6-12

CLOCK TREE SYNTHESIS DRIVER

Name	Function	I/O cells	int. cells	Page
FC42	CLOCK TREE SYNTHESIS DRIVER	-	132	6-14
FC82	CLOCK TREE SYNTHESIS DRIVER	-	396	6-14
FC44	CLOCK TREE SYNTHESIS DRIVER	-	340	6-14
FC84	CLOCK TREE SYNTHESIS DRIVER	-	1020	6-14

3-STATE BUFFER

Name	Function	I/O cells	int. cells	Page
F531	3-STATE BUFFER WITH EN	-	5	6-16

3-STATE BUFFER

Name	Function	I/O cells	int. cells	Page
F532	3-STATE BUFFER WITH ENB	-	5	6-16

DELAY GATE

Name	Function	I/O cells	int. cells	Page
F131	DELAY GATE	-	6	6-18
F132	DELAY GATE	-	10	6-18

2-INPUT NOR

Name	Function	I/O cells	int. cells	Page
L202	2-INPUT NOR (LOW POWER)	-	1	6-20
F202	2-INPUT NOR	-	2	6-20
F222	2-INPUT NOR (X2 DRIVE)	-	4	6-20
F282	2-INPUT NOR (X4 DRIVE)	-	6	6-20
L202N1	2-INPUT NOR 1-INPUT INVERTER (LOW POWER)	-	2	6-20
F202N1	2-INPUT NOR 1-INPUT INVERTER	-	3	6-20
F222N1	2-INPUT NOR 1-INPUT INVERTER (X2 DRIVE)	-	5	6-20
F282N1	2-INPUT NOR 1-INPUT INVERTER (X4 DRIVE)	-	7	6-20

3-INPUT NOR

Name	Function	I/O cells	int. cells	Page
L203	3-INPUT NOR (LOW POWER)	-	2	6-22
F203	3-INPUT NOR	-	3	6-22
F223	3-INPUT NOR (X2 DRIVE)	-	6	6-22
L203N1	3-INPUT NOR 1-INPUT INVERTER (LOW POWER)	-	2	6-22
F203N1	3-INPUT NOR 1-INPUT INVERTER	-	4	6-22
F223N1	3-INPUT NOR 1-INPUT INVERTER (X2 DRIVE)	-	7	6-22
L203N2	3-INPUT NOR 2-INPUT INVERTER (LOW POWER)	-	3	6-22
F203N2	3-INPUT NOR 2-INPUT INVERTER	-	4	6-22
F223N2	3-INPUT NOR 2-INPUT INVERTER (X2 DRIVE)	-	7	6-22

4-INPUT NOR

Name	Function	I/O cells	int. cells	Page
L204	4-INPUT NOR (LOW POWER)	-	2	6-24
F204	4-INPUT NOR	1	4	6-24
F224	4-INPUT NOR (X2 DRIVE)	-	8	6-24
L204N1	4-INPUT NOR 1-INPUT INVERTER (LOW POWER)	1	3	6-24
F204N1	4-INPUT NOR 1-INPUT INVERTER	1	5	6-24
F224N1	4-INPUT NOR 1-INPUT INVERTER (X2 DRIVE)	-	9	6-24
L204N2	4-INPUT NOR 2-INPUT INVERTER (LOW POWER)	-	3	6-24
F204N2	4-INPUT NOR 2-INPUT INVERTER	1	5	6-24
F224N2	4-INPUT NOR 2-INPUT INVERTER (X2 DRIVE)	-	9	6-24

5-INPUT NOR

Name	Function	I/O cells	int. cells	Page
L205	5-INPUT NOR (LOW POWER)	-	4	6-28
F205	5-INPUT NOR	-	5	6-28
F225	5-INPUT NOR (X2 DRIVE)	-	6	6-28
L205N1	5-INPUT NOR 1-INPUT INVERTER (LOW POWER)	-	5	6-28
F205N1	5-INPUT NOR 1-INPUT INVERTER	-	5	6-28
F225N1	5-INPUT NOR 1-INPUT INVERTER (X2 DRIVE)	-	6	6-28
L205N2	5-INPUT NOR 2-INPUT INVERTER (LOW POWER)	-	5	6-28
F205N2	5-INPUT NOR 2-INPUT INVERTER	-	6	6-28
F225N2	5-INPUT NOR 2-INPUT INVERTER (X2 DRIVE)	-	7	6-28
L205N3	5-INPUT NOR 3-INPUT INVERTER (LOW POWER)	-	6	6-28
F205N3	5-INPUT NOR 3-INPUT INVERTER	-	6	6-28
F225N3	5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE)	-	7	6-28

6-INPUT NOR

Name	Function	I/O cells	int. cells	Page
F206	6-INPUT NOR	-	5	6-32
F226	6-INPUT NOR (X2 DRIVE)	-	6	6-32
F206N1	6-INPUT NOR 1-INPUT INVERTER	-	6	6-32
F226N1	6-INPUT NOR 1-INPUT INVERTER (X2 DRIVE)	-	7	6-32
F206N2	6-INPUT NOR 2-INPUT INVERTER	-	6	6-32
F226N2	6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE)	-	7	6-32
F206N3	6-INPUT NOR 3-INPUT INVERTER	-	7	6-32
F226N3	6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE)	-	8	6-32

8-INPUT NOR

Name	Function	I/O cells	int. cells	Page
F208	8-INPUT NOR	-	7	6-36
F228	8-INPUT NOR (X2 DRIVE)	-	8	6-36
F208N1	8-INPUT NOR 1-INPUT INVERTER	-	8	6-36
F228N1	8-INPUT NOR 1-INPUT INVERTER (X2 DRIVE)	-	9	6-36
F208N2	8-INPUT NOR 2-INPUT INVERTER	-	8	6-36
F228N2	8-INPUT NOR 2-INPUT INVERTER (X2 DRIVE)	-	9	6-36
F208N3	8-INPUT NOR 3-INPUT INVERTER	-	9	6-36
F228N3	8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE)	-	10	6-36
F208N4	8-INPUT NOR 4-INPUT INVERTER	-	9	6-36
F228N4	8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE)	-	10	6-36

2-INPUT OR

Name	Function	I/O cells	int. cells	Page
L212	2-INPUT OR (LOW POWER)	-	2	6-40
F212	2-INPUT OR	-	2	6-40
F232	2-INPUT OR (X2 DRIVE)	-	3	6-40
F252	2-INPUT OR (X4 DRIVE)	-	6	6-40

3-INPUT OR

Name	Function	I/O cells	int. cells	Page
L213	3-INPUT OR (LOW POWER)	-	2	6-42
F213	3-INPUT OR	-	3	6-42
F233	3-INPUT OR (X2 DRIVE)	-	4	6-42

4-INPUT OR

Name	Function	I/O cells	int. cells	Page
L214	4-INPUT OR (LOW POWER)	-	3	6-44
F214	4-INPUT OR	-	3	6-44
F234	4-INPUT OR (X2 DRIVE)	-	4	6-44
L214N1	4-INPUT OR 1-INPUT INVERTER (LOW POWER)	-	3	6-44
F214N1	4-INPUT OR 1-INPUT INVERTER	-	4	6-44
F234N1	4-INPUT OR 1-INPUT INVERTER (X2 DRIVE)	-	5	6-44

5-INPUT OR

Name	Function	I/O cells	int. cells	Page
L215	5-INPUT OR (LOW POWER)	-	4	6-46
F215	5-INPUT OR	-	5	6-46
F235	5-INPUT OR (X2 DRIVE)	-	7	6-46
L215N1	5-INPUT OR 1-INPUT INVERTER (LOW POWER)	-	4	6-46
F215N1	5-INPUT OR 1-INPUT INVERTER	-	5	6-46
F235N1	5-INPUT OR 1-INPUT INVERTER (X2 DRIVE)	-	7	6-46

6-INPUT OR

Name	Function	I/O cells	int. cells	Page
F216	6-INPUT OR	-	5	6-50
F236	6-INPUT OR (X2 DRIVE)	-	7	6-50
F216N1	6-INPUT OR 1-INPUT INVERTER	-	6	6-50
F236N1	6-INPUT OR 1-INPUT INVERTER (X2 DRIVE)	-	8	6-50
F216N2	6-INPUT OR 2-INPUT INVERTER	-	6	6-50
F236N2	6-INPUT OR 2-INPUT INVERTER (X2 DRIVE)	-	8	6-50

8-INPUT OR

Name	Function	I/O cells	int. cells	Page
F218	8-INPUT OR	-	8	6-54
F238	8-INPUT OR (X2 DRIVE)	-	9	6-54
F218N1	8-INPUT OR 1-INPUT INVERTER	-	9	6-54
F238N1	8-INPUT OR 1-INPUT INVERTER (X2 DRIVE)	-	10	6-54
F218N2	8-INPUT OR 2-INPUT INVERTER	-	9	6-54
F238N2	8-INPUT OR 2-INPUT INVERTER (X2 DRIVE)	-	10	6-54
F218N3	8-INPUT OR 3-INPUT INVERTER	-	10	6-54
F238N3	8-INPUT OR 3-INPUT INVERTER (X2 DRIVE)	-	11	6-54

2-INPUT NAND

Name	Function	I/O cells	int. cells	Page
L302	2-INPUT NAND (LOW POWER)	-	1	6-58
F302	2-INPUT NAND	-	2	6-58
F322	2-INPUT NAND (X2 DRIVE)	-	4	6-58
F382	2-INPUT NAND (X4 DRIVE)	-	6	6-58
L302N1	2-INPUT NAND 1-INPUT INVERTER (LOW POWER)	-	2	6-58
F302N1	2-INPUT NAND 1-INPUT INVERTER	-	3	6-58
F322N1	2-INPUT NAND 1-INPUT INVERTER (X2 DRIVE)	-	5	6-58
F382N1	2-INPUT NAND 1-INPUT INVERTER (X4 DRIVE)	-	7	6-58

3-INPUT NAND

Name	Function	I/O cells	int. cells	Page
L303	3-INPUT NAND (LOW POWER)	-	2	6-60
F303	3-INPUT NAND	-	3	6-60
F323	3-INPUT NAND (X2 DRIVE)	-	6	6-60
L303N1	3-INPUT NAND 1-INPUT INVERTER (LOW POWER)	-	2	6-60
F303N1	3-INPUT NAND 1-INPUT INVERTER	-	4	6-60
F323N1	3-INPUT NAND 1-INPUT INVERTER (X2 DRIVE)	-	7	6-60
L303N2	3-INPUT NAND 2-INPUT INVERTER (LOW POWER)	-	3	6-60
F303N2	3-INPUT NAND 2-INPUT INVERTER	-	4	6-60
F323N2	3-INPUT NAND 2-INPUT INVERTER (X2 DRIVE)	-	7	6-60

4-INPUT NAND

Name	Function	I/O cells	int. cells	Page
L304	4-INPUT NAND (LOW POWER)	-	2	6-62
F304	4-INPUT NAND	-	4	6-62
F324	4-INPUT NAND (X2 DRIVE)	-	8	6-62
L304N1	4-INPUT NAND 1-INPUT INVERTER (LOW POWER)	-	3	6-62
F304N1	4-INPUT NAND 1-INPUT INVERTER	-	5	6-62
F324N1	4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE)	-	9	6-62
L304N2	4-INPUT NAND 2-INPUT INVERTER (LOW POWER)	-	3	6-62
F304N2	4-INPUT NAND 2-INPUT INVERTER	-	5	6-62
F324N2	4-INPUT NAND 2-INPUT INVERTER (X2 DRIVE)	-	9	6-62

5-INPUT NAND

Name	Function	I/O cells	int. cells	Page
L305	5-INPUT NAND (LOW POWER)	-	3	6-66
F305	5-INPUT NAND	-	5	6-66
F325	5-INPUT NAND (X2 DRIVE)	-	6	6-66
L305N1	5-INPUT NAND 1-INPUT INVERTER (LOW POWER)	-	3	6-66
F305N1	5-INPUT NAND 1-INPUT INVERTER	-	5	6-66
F325N1	5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE)	-	6	6-66
L305N2	5-INPUT NAND 2-INPUT INVERTER (LOW POWER)	-	4	6-66
F305N2	5-INPUT NAND 2-INPUT INVERTER	-	6	6-66
F325N2	5-INPUT NAND 2-INPUT INVERTER (X2 DRIVE)	-	7	6-66
L305N3	5-INPUT NAND 3-INPUT INVERTER (LOW POWER)	-	4	6-66
F305N3	5-INPUT NAND 3-INPUT INVERTER	-	6	6-66
F325N3	5-INPUT NAND 3-INPUT INVERTER (X2 DRIVE)	-	7	6-66

6-INPUT NAND

Name	Function	I/O cells	int. cells	Page
L306	6-INPUT NAND (LOW POWER)	-	3	6-70
F306	6-INPUT NAND	-	6	6-70
F326	6-INPUT NAND (X2 DRIVE)	-	6	6-70
L306N1	6-INPUT NAND 1-INPUT INVERTER (LOW POWER)	-	4	6-70
F306N1	6-INPUT NAND 1-INPUT INVERTER	-	6	6-70
F326N1	6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE)	-	7	6-70
L306N2	6-INPUT NAND 2-INPUT INVERTER (LOW POWER)	-	4	6-70
F306N2	6-INPUT NAND 2-INPUT INVERTER	-	6	6-70
F326N2	6-INPUT NAND 2-INPUT INVERTER (X2 DRIVE)	-	7	6-70
L306N3	6-INPUT NAND 3-INPUT INVERTER (LOW POWER)	-	5	6-70
F306N3	6-INPUT NAND 3-INPUT INVERTER	-	7	6-70
F326N3	6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE)	-	8	6-70

8-INPUT NAND

Name	Function	I/O cells	int. cells	Page
F308	8-INPUT NAND	-	6	6-74
F328	8-INPUT NAND (X2 DRIVE)	-	7	6-74
F308N1	8-INPUT NAND 1-INPUT INVERTER	-	7	6-74
F328N1	8-INPUT NAND 1-INPUT INVERTER (X2 DRIVE)	-	8	6-74
F308N2	8-INPUT NAND 2-INPUT INVERTER	-	7	6-74
F328N2	8-INPUT NAND 2-INPUT INVERTER (X2 DRIVE)	-	8	6-74
F308N3	8-INPUT NAND 3-INPUT INVERTER	-	8	6-74
F328N3	8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE)	-	9	6-74
F308N4	8-INPUT NAND 4-INPUT INVERTER	-	8	6-74
F328N4	8-INPUT NAND 4-INPUT INVERTER (X2 DRIVE)	-	9	6-74

2-INPUT AND

Name	Function	I/O cells	int. cells	Page
L312	2-INPUT AND (LOW POWER)	-	2	6-78
F312	2-INPUT AND	-	2	6-78
F332	2-INPUT AND (X2 DRIVE)	-	3	6-78
F352	2-INPUT AND (X4 DRIVE)	-	6	6-78

3-INPUT AND

Name	Function	I/O cells	int. cells	Page
L313	3-INPUT AND (LOW POWER)	-	2	6-80
F313	3-INPUT AND	-	3	6-80
F333	3-INPUT AND (X2 DRIVE)	-	4	6-80

4-INPUT AND

Name	Function	I/O cells	int. cells	Page
L314	4-INPUT AND (LOW POWER)	-	3	6-82
F314	4-INPUT AND	-	3	6-82
F334	4-INPUT AND (X2 DRIVE)	-	4	6-82
L314N1	4-INPUT AND 1-INPUT INVERTER (LOW POWER)	1	3	6-82
F314N1	4-INPUT AND 1-INPUT INVERTER	1	4	6-82
F334N1	4-INPUT AND 1-INPUT INVERTER (X2 DRIVE)	-	5	6-82

5-INPUT AND

Name	Function	I/O cells	int. cells	Page
L315	5-INPUT AND (LOW POWER)	-	4	6-84
F315	5-INPUT AND	-	5	6-84
F335	5-INPUT AND (X2 DRIVE)	1	7	6-84
L315N1	5-INPUT AND 1-INPUT INVERTER (LOW POWER)	-	4	6-84
F315N1	5-INPUT AND 1-INPUT INVERTER	-	5	6-84
F335N1	5-INPUT AND 1-INPUT INVERTER (X2 DRIVE)	-	7	6-84

6-INPUT AND

Name	Function	I/O cells	int. cells	Page
L316	6-INPUT AND (LOW POWER)	-	4	6-88
	6-INPUT AND	-	6	6-88
F336	6-INPUT AND (X2 DRIVE)	1	7	6-88
L316N1	6-INPUT AND 1-INPUT INVERTER (LOW POWER)	1	5	6-88
F316N1	6-INPUT AND 1-INPUT INVERTER	-	6	6-88
F336N1	6-INPUT AND 1-INPUT INVERTER (X2 DRIVE)	1	8	6-88
L316N2	6-INPUT AND 2-INPUT INVERTER (LOW POWER)	1	5	6-88
	6-INPUT AND 2-INPUT INVERTER	-	6	6-88
F336N2	6-INPUT AND 2-INPUT INVERTER (X2 DRIVE)	-	8	6-88

8-INPUT AND

Name	Function	I/O cells	int. cells	Page
L318	8-INPUT AND (LOW POWER)	-	5	6-92
F318	8-INPUT AND	-	6	6-92
F338	8-INPUT AND (X2 DRIVE)	-	8	6-92
L318N1	8-INPUT AND 1-INPUT INVERTER (LOW POWER)	-	6	6-92
F318N1	8-INPUT AND 1-INPUT INVERTER	-	7	6-92
F338N1	8-INPUT AND 1-INPUT INVERTER (X2 DRIVE)	-	9	6-92
L318N2	8-INPUT AND 2-INPUT INVERTER (LOW POWER)	-	6	6-92
F318N2	8-INPUT AND 2-INPUT INVERTER	-	7	6-92
F338N2	8-INPUT AND 2-INPUT INVERTER (X2 DRIVE)	-	9	6-92
L318N3	8-INPUT AND 3-INPUT INVERTER (LOW POWER)	-	7	6-92
F318N3	8-INPUT AND 3-INPUT INVERTER	-	8	6-92
F338N3	8-INPUT AND 3-INPUT INVERTER (X2 DRIVE)	-	10	6-92

2-INPUT EXCLUSIVE OR

Name	Function	I/O cells	int. cells	Page
L511	2-INPUT EXCLUSIVE OR (LOW POWER)	-	3	6-98
F511	2-INPUT EXCLUSIVE OR	-	4	6-98

3-INPUT EXCLUSIVE OR

Name	Function	I/O cells	int. cells	Page
L516	3-INPUT EXCLUSIVE OR (LOW POWER)	-	6	6-100
F516	3-INPUT EXCLUSIVE OR	-	8	6-100

2-INPUT EXCLUSIVE NOR

Name	Function	I/O cells	int. cells	Page
L512	2-INPUT EXCLUSIVE NOR (LOW POWER)	-	3	6-102
F512	2-INPUT EXCLUSIVE NOR	-	4	6-102

3-INPUT EXCLUSIVE NOR

Name	Function	I/O cells	int. cells	Page
L517	3-INPUT EXCLUSIVE NOR (LOW POWER)	-	6	6-104
F517	3-INPUT EXCLUSIVE NOR	-	8	6-104

1-2-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L421	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-106
F421	1-2-INPUT AND-OR-INVERTER	-	3	6-106
F421NP	1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	5	6-106
L421NA	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-106
F421NA	1-2-INPUT AND-OR-INVERTER	-	4	6-106
F421NAP	1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	5	6-106
L421NB	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-106
F421NB	1-2-INPUT AND-OR-INVERTER	-	4	6-106
F421NBP	1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-106
L421NC	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-106
F421NC	1-2-INPUT AND-OR-INVERTER	-	5	6-106
F421NCP	1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-106
L421ND	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-106
F421ND	1-2-INPUT AND-OR-INVERTER	-	4	6-106
F421NDP	1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	5	6-106
L421NE	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-106
F421NE	1-2-INPUT AND-OR-INVERTER	-	4	6-106
F421NEP	1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-106

1-1-2-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L422	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-110
F422	1-1-2-INPUT AND-OR-INVERTER	-	4	6-110
F422NP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	5	6-110
L422NA	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-110
F422NA	1-1-2-INPUT AND-OR-INVERTER	-	5	6-110
F422NAP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-110
L422NB	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-110
F422NB	1-1-2-INPUT AND-OR-INVERTER	-	5	6-110
F422NBP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-110
L422NC	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-110
F422NC	1-1-2-INPUT AND-OR-INVERTER	-	6	6-110
F422NCP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	7	6-110
L422ND	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-110
F422ND	1-1-2-INPUT AND-OR-INVERTER	-	6	6-110
F422NDP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	7	6-110
L422NE	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-110
F422NE	1-1-2-INPUT AND-OR-INVERTER	-	5	6-110
F422NEP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-110
L422NF	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-110
F422NF	1-1-2-INPUT AND-OR-INVERTER	-	6	6-110
F422NFP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	7	6-110
L422NG	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-110
F422NG	1-1-2-INPUT AND-OR-INVERTER	-	5	6-110
F422NGP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-110
L422NH	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-110
F422NH	1-1-2-INPUT AND-OR-INVERTER	-	5	6-110
F422NHP	1-1-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-110

1-3-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L423	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-116
F423	1-3-INPUT AND-OR-INVERTER	-	4	6-116
F423NP	1-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	5	6-116
L423NA	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-116
F423NA	1-3-INPUT AND-OR-INVERTER	-	5	6-116
F423NAP	1-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-116
L423NB	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-116
F423NB	1-3-INPUT AND-OR-INVERTER	-	5	6-116
F423NBP	1-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-116
L423NC	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-116
F423NC	1-3-INPUT AND-OR-INVERTER	-	6	6-116
F423NCP	1-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	7	6-116
L423ND	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-116
F423ND	1-3-INPUT AND-OR-INVERTER	-	6	6-116
F423NDP	1-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	7	6-116
L423NE	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-116
F423NE	1-3-INPUT AND-OR-INVERTER	-	5	6-116
F423NEP	1-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-116
L423NF	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-116
F423NF	1-3-INPUT AND-OR-INVERTER	-	5	6-116
F423NFP	1-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-116
L423NG	1-3-INPUT AND-OR-INVERTER (LOW POWER)		4	6-116
F423NG	1-3-INPUT AND-OR-INVERTER	-	6	6-116
F423NGP	1-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	7	6-116

2-2-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L424	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-122
F424	2-2-INPUT AND-OR-INVERTER	-	4	6-122
F424NP	2-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	5	6-122
L424NA	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-122
F424NA	2-2-INPUT AND-OR-INVERTER	-	5	6-122
F424NAP	2-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-122
L424NB	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-122
F424NB	2-2-INPUT AND-OR-INVERTER	-	5	6-122
F424NBP	2-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-122
L424NC	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-122
F424NC	2-2-INPUT AND-OR-INVERTER	-	6	6-122
F424NCP	2-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	7	6-122
L424ND	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-122
F424ND	2-2-INPUT AND-OR-INVERTER	-	5	6-122
F424NDP	2-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-122
L424NE	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-122
F424NE	2-2-INPUT AND-OR-INVERTER	-	6	6-122
F424NEP	2-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	7	6-122

2-2-2-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L425	2-2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-126
F425	2-2-2-INPUT AND-OR-INVERTER	-	6	6-126
F425NP	2-2-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-126

3-3-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L426	3-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-128
F426	3-3-INPUT AND-OR-INVERTER	-	6	6-128
F426NP	3-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-128

2-3-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L427	2-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-130
F427	2-3-INPUT AND-OR-INVERTER	-	5	6-130
F427NP	2-3-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-130

1-2-2-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L428	1-2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-132
F428	1-2-2-INPUT AND-OR-INVERTER	-	5	6-132
F428NP	1-2-2-INPUT AND-OR-INVERTER (X2 DRIVE)	-	6	6-132

2-2-2-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L429	2-2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-134
F429	2-2-2-INPUT AND-OR-INVERTER	-	8	6-134

4-4-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L442	4-4-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-136
F442	4-4-INPUT AND-OR-INVERTER	-	8	6-136

1-2-3-INPUT AND-OR-INVERTER

Name	Function	I/O cells	int. cells	Page
L462	1-2-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-138
F462	1-2-3-INPUT AND-OR-INVERTER	-	6	6-138

1-2-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L431	1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	2	6-140
F431	1-2-INPUT OR-AND-INVERTER	-	3	6-140
F431NP	1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	5	6-140
L431NA	1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	2	6-140
F431NA	1-2-INPUT OR-AND-INVERTER	-	4	6-140
F431NAP	1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	5	6-140
L431NB	1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-140
F431NB	1-2-INPUT OR-AND-INVERTER	-	4	6-140
F431NBP	1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-140
L431NC	1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-140
F431NC	1-2-INPUT OR-AND-INVERTER	-	5	6-140
F431NCP	1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-140
L431ND	1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	2	6-140
F431ND	1-2-INPUT OR-AND-INVERTER	-	4	6-140
F431NDP	1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	5	6-140
L431NE	1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-140
F431NE	1-2-INPUT OR-AND-INVERTER	-	4	6-140
F431NEP	1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-140

1-1-2-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L432	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	2	6-144
F432	1-1-2-INPUT OR-AND-INVERTER	-	5	6-144
F432NP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	5	6-144
L432NA	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-144
F432NA	1-1-2-INPUT OR-AND-INVERTER	-	5	6-144
F432NAP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-144
L432NB	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-144
F432NB	1-1-2-INPUT OR-AND-INVERTER	-	5	6-144
F432NBP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-144
L432NC	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-144
F432NC	1-1-2-INPUT OR-AND-INVERTER	-	6	6-144
F432NCP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	7	6-144
L432ND	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-144
F432ND	1-1-2-INPUT OR-AND-INVERTER	-	6	6-144
F432NDP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	7	6-144
L432NE	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-144
F432NE	1-1-2-INPUT OR-AND-INVERTER	-	5	6-144
F432NEP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-144
L432NF	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-144
F432NF	1-1-2-INPUT OR-AND-INVERTER	-	6	6-144
F432NFP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	7	6-144
L432NG	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-144
F432NG	1-1-2-INPUT OR-AND-INVERTER	-	5	6-144
F432NGP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-144
L432NH	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)		3	6-144
F432NH	1-1-2-INPUT OR-AND-INVERTER	-	5	6-144
F432NHP	1-1-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-144

1-3-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L433	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	2	6-150
F433	1-3-INPUT OR-AND-INVERTER	-	4	6-150
F433NP	1-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	5	6-150
L433NA	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-150
F433NA	1-3-INPUT OR-AND-INVERTER	-	5	6-150
F433NAP	1-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-150
L433NB	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-150
F433NB	1-3-INPUT OR-AND-INVERTER	-	5	6-150
F433NBP	1-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-150
L433NC	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-150
F433NC	1-3-INPUT OR-AND-INVERTER	-	6	6-150
F433NCP	1-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	7	6-150
L433ND	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-150
F433ND	1-3-INPUT OR-AND-INVERTER	-	6	6-150
F433NDP	1-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	7	6-150
L433NE	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-150
F433NE	1-3-INPUT OR-AND-INVERTER	-	5	6-150
F433NEP	1-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-150
L433NF	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-150
F433NF	1-3-INPUT OR-AND-INVERTER	-	5	6-150
F433NFP	1-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-150
L433NG	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-150
F433NG	1-3-INPUT OR-AND-INVERTER	-	6	6-150
F433NGP	1-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	7	6-150

2-2-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L434	2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	2	6-156
F434	2-2-INPUT OR-AND-INVERTER	-	4	6-156
F434NP	2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	5	6-156
L434NA	2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-156
F434NA	2-2-INPUT OR-AND-INVERTER	-	5	6-156
F434NAP	2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-156
L434NB	2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-156
F434NB	2-2-INPUT OR-AND-INVERTER	-	5	6-156
F434NBP	2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-156
L434NC	2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-156
F434NC	2-2-INPUT OR-AND-INVERTER	-	6	6-156
F434NCP	2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	7	6-156
L434ND	2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-156
F434ND	2-2-INPUT OR-AND-INVERTER	-	5	6-156
F434NDP	2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-156
L434NE	2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-156
F434NE	2-2-INPUT OR-AND-INVERTER	-	6	6-156
F434NEP	2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	7	6-156

2-3-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L435	2-3-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-160
F435	2-3-INPUT OR-AND-INVERTER	-	5	6-160
F435NP	2-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-160

3-3-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L436	3-3-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-162
F436	3-3-INPUT OR-AND-INVERTER	-	6	6-162
F436NP	3-3-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-162

1-2-2-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L437	1-2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-164
F437	1-2-2-INPUT OR-AND-INVERTER	-	5	6-164
F437NP	1-2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-164

2-2-2-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L438	2-2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-166
F438	2-2-2-INPUT OR-AND-INVERTER	-	6	6-166
F438NP	2-2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-166

2-2-2-INPUT OR-AND-INVERTER

Name	Function	I/O cells	int. cells	Page
L454	2-2-2-INPUT OR-AND-INVERTER (LOW POWER)	-	5	6-168
F454	2-2-2-INPUT OR-AND-INVERTER	-	8	6-168

D-LATCH

Name	Function	I/O cells	int. cells	Page
F601	D-LATCH	-	6	6-170
F601NP	D-LATCH (X2 DRIVE)	-	8	6-170
L601	D-LATCH Q OUT ONLY (LOW POWER)	-	3	6-170
F601NQ	D-LATCH Q OUT ONLY	1	5	6-170
F601NQP	D-LATCH Q OUT ONLY (X2 DRIVE)	-	6	6-170
F601NB	D-LATCH QB OUT ONLY	-	5	6-170
F601NBP	D-LATCH QB OUT ONLY (X2 DRIVE)	-	6	6-170

D-LATCH HIGH SPEED

Name	Function	I/O cells	int. cells	Page
F6R1	D-LATCH HIGH SPEED	-	6	6-174

D-LATCH WITH R

Name	Function	I/O cells	int. cells	Page
F602	D-LATCH WITH R	-	6	6-176
F602NP	D-LATCH WITH R (X2 DRIVE)	-	9	6-176
L602	D-LATCH WITH R Q OUT ONLY (LOW POWER)	-	4	6-176
F602NQ	D-LATCH WITH R Q OUT ONLY	-	6	6-176
F602NQP	D-LATCH WITH R Q OUT ONLY (X2 DRIVE)	-	7	6-176
F602NB	D-LATCH WITH R QB OUT ONLY	-	5	6-176
F602NBP	D-LATCH WITH R QB OUT ONLY (X2 DRIVE)	-	6	6-176

D-LATCH WITH R HIGH SPEED

Name	Function	I/O cells	int. cells	Page
F6R2	D-LATCH WITH R HIGH SPEED	-	7	6-180

D-LATCH WITH RB

Name	Function	I/O cells	int. cells	Page
F603	D-LATCH WITH RB	-	7	6-182
F603NP	D-LATCH WITH RB (X2 DRIVE)	-	8	6-182
L603	D-LATCH WITH RB Q OUT ONLY (LOW POWER)	-	4	6-182
F603NQ	D-LATCH WITH RB Q OUT ONLY	-	5	6-182
F603NQP	D-LATCH WITH RB Q OUT ONLY (X2 DRIVE)	-	6	6-182
F603NB	D-LATCH WITH RB QB OUT ONLY	-	6	6-182
F603NBP	D-LATCH WITH RB QB OUT ONLY (X2 DRIVE)	-	7	6-182

D-LATCH WITH RB HIGH SPEED

Name	Function	I/O cells	int. cells	Page
F6R5	D-LATCH WITH RB HIGH SPEED	-	6	6-186

D-LATCH WITH SB

Name	Function	I/O cells	int. cells	Page
L606	D-LATCH WITH SB (LOW POWER)	-	4	6-188

D-LATCH (GB)

Name	Function	I/O cells	int. cells	Page
F604	D-LATCH (GB)	-	6	6-190
F604NP	D-LATCH (GB) (X2 DRIVE)	-	8	6-190
L604	D-LATCH (GB) Q OUT ONLY (LOW POWER)	-	3	6-190
F604NQ	D-LATCH (GB) Q OUT ONLY	-	5	6-190
F604NQP	D-LATCH (GB) Q OUT ONLY (X2 DRIVE)	-	6	6-190
F604NB	D-LATCH (GB) QB OUT ONLY	-	5	6-190
F604NBP	D-LATCH (GB) QB OUT ONLY (X2 DRIVE)	-	6	6-190

D-LATCH (GB) HIGH SPEED

Name	Function	I/O cells	int. cells	Page
F6R8	D-LATCH (GB) HIGH SPEED	-	6	6-194

D-LATCH (GB) WITH RB

Name	Function	I/O cells	int. cells	Page
F605	D-LATCH (GB) WITH RB	-	7	6-196
F605NP	D-LATCH (GB) WITH RB (X2 DRIVE)	-	8	6-196
L605	D-LATCH (GB) WITH RB Q OUT ONLY (LOW POWER)	-	4	6-196
F605NQ	D-LATCH (GB) WITH RB Q OUT ONLY	-	5	6-196
F605NQP	D-LATCH (GB) WITH RB Q OUT ONLY (X2 DRIVE)	-	6	6-196
F605NB	D-LATCH (GB) WITH RB QB OUT ONLY	-	6	6-196
F605NBP	D-LATCH (GB) WITH RB QB OUT ONLY (X2 DRIVE)	-	7	6-196

4-BIT D-LATCH

Name	Function	I/O cells	int. cells	Page
F901	4-BIT D-LATCH	-	20	6-200
L901	4-BIT D-LATCH Q OUT ONLY (LOW POWER)	-	10	6-200

4-BIT D-LATCH HIGH SPEED

Name	Function	I/O cells	int. cells	Page
F971	4-BIT D-LATCH HIGH SPEED	-	20	6-204

8-BIT D-LATCH

Name	Function	I/O cells	int. cells	Page
F902	8-BIT D-LATCH	-	38	6-206
L902	8-BIT D-LATCH Q OUT ONLY (LOW POWER)	-	18	6-206

8-BIT D-LATCH HIGH SPEED

Name	Function	I/O cells	int. cells	Page
F972	8-BIT D-LATCH HIGH SPEED	-	38	6-210

RS-LATCH

Name	Function	I/O cells	int. cells	Page
F595	RS-LATCH	-	5	6-214

D-F/F

Name	Function	I/O cells	int. cells	Page
L611	D-F/F Q OUT ONLY (LOW POWER)	-	5	6-216
F641	D-F/F	-	8	6-216
F611	D-F/F	-	8	6-216
F641NP	D-F/F (X2 DRIVE)	-	10	6-216
F641NQ	D-F/F Q OUT ONLY	-	7	6-216
F641NQP	D-F/F Q OUT ONLY (X2 DRIVE)	-	8	6-216
	D-F/F QB OUT ONLY	-	7	6-216
F641NBP	D-F/F QB OUT ONLY (X2 DRIVE)	-	8	6-216

D-F/F WITH R

Name	Function	I/O cells	int. cells	Page
F642	D-F/F WITH R	-	9	6-218
F642NP	D-F/F WITH R (X2 DRIVE)	-	11	6-218
F642NQ	D-F/F WITH R Q OUT ONLY	-	8	6-218
F642NQP	D-F/F WITH R Q OUT ONLY (X2 DRIVE)	-	9	6-218
F642NB	D-F/F WITH R QB OUT ONLY	-	8	6-218
F642NBP	D-F/F WITH R QB OUT ONLY (X2 DRIVE)	-	9	6-218

D-F/F WITH S

Name	Function	I/O cells	int. cells	Page
F643	D-F/F WITH S	-	9	6-222
F643NP	D-F/F WITH S (X2 DRIVE)	-	11	6-222
F643NQ	D-F/F WITH S Q OUT ONLY	1	8	6-222
F643NQP	D-F/F WITH S Q OUT ONLY (X2 DRIVE)	-	9	6-222
F643NB	D-F/F WITH S QB OUT ONLY	-	8	6-222
F643NBP	D-F/F WITH S QB OUT ONLY (X2 DRIVE)	-	9	6-222

D-F/F WITH R,S

Name	Function	I/O cells	int. cells	Page
L614	D-F/F WITH R,S Q OUT ONLY (LOW POWER)	-	7	6-226
F644	D-F/F WITH R,S	-	10	6-226
F614	D-F/F WITH R,S	-	10	6-226
F644NP	D-F/F WITH R,S (X2 DRIVE)	-	12	6-226
F644NQ	D-F/F WITH R,S Q OUT ONLY	-	9	6-226
F644NQP	D-F/F WITH R,S Q OUT ONLY (X2 DRIVE)	-	10	6-226
F644NB	D-F/F WITH R,S QB OUT ONLY	-	9	6-226
F644NBP	D-F/F WITH R,S QB OUT ONLY (X2 DRIVE)	-	10	6-226

D-F/F WITH RB

Name	Function	I/O cells	int. cells	Page
F615	D-F/F WITH RB	-	9	6-230
F615NP	D-F/F WITH RB (X2 DRIVE)	-	11	6-230
F615NQ	D-F/F WITH RB Q OUT ONLY	1	8	6-230
F615NQP	D-F/F WITH RB Q OUT ONLY (X2 DRIVE)	-	9	6-230
F615NB	D-F/F WITH RB QB OUT ONLY	-	8	6-230
F615NBP	D-F/F WITH RB QB OUT ONLY (X2 DRIVE)	-	9	6-230

D-F/F WITH SB

Name	Function	I/O cells	int. cells	Page
F616	D-F/F WITH SB	-	9	6-234
F616NP	D-F/F WITH SB (X2 DRIVE)	-	11	6-234
F616NQ	D-F/F WITH SB Q OUT ONLY	-	8	6-234
F616NQP	D-F/F WITH SB Q OUT ONLY (X2 DRIVE)	-	9	6-234
F616NB	D-F/F WITH SB QB OUT ONLY	-	8	6-234
F616NBP	D-F/F WITH SB QB OUT ONLY (X2 DRIVE)	-	9	6-234

D-F/F WITH RB,SB

Name	Function	I/O cells	int. cells	Page
L617	D-F/F WITH RB,SB Q OUT ONLY (LOW POWER)	-	7	6-238
F647	D-F/F WITH RB,SB	-	10	6-238
F617	D-F/F WITH RB,SB	-	10	6-238
F647NP	D-F/F WITH RB,SB (X2 DRIVE)	-	12	6-238
F647NQ	D-F/F WITH RB,SB Q OUT ONLY	-	9	6-238
F647NQP	D-F/F WITH RB,SB Q OUT ONLY (X2 DRIVE)	-	10	6-238
F647NB	D-F/F WITH RB,SB QB OUT ONLY	-	9	6-238
F647NBP	D-F/F WITH RB,SB QB OUT ONLY (X2 DRIVE)	-	10	6-238

D-F/F (CB)

Name	Function	I/O cells	int. cells	Page
L631	D-F/F (CB) Q OUT ONLY (LOW POWER)	-	5	6-242
F661	D-F/F (CB)	-	8	6-242
F631	D-F/F (CB)	-	8	6-242
F661NP	D-F/F (CB) (X2 DRIVE)	-	10	6-242
F661NQ	D-F/F (CB) Q OUT ONLY	-	7	6-242
F661NQP	D-F/F (CB) Q OUT ONLY (X2 DRIVE)	-	8	6-242
F661NB	D-F/F (CB) QB OUT ONLY	-	7	6-242
F661NBP	D-F/F (CB) QB OUT ONLY (X2 DRIVE)	-	8	6-242

D-F/F (CB) WITH RB

Name	Function	I/O cells	int. cells	Page
F665	D-F/F (CB) WITH RB	-	9	6-244
F665NP	D-F/F (CB) WITH RB (X2 DRIVE)	-	11	6-244
F665NQ	D-F/F (CB) WITH RB Q OUT ONLY	-	8	6-244
F665NQP	D-F/F (CB) WITH RB Q OUT ONLY (X2 DRIVE)	-	9	6-244
F665NB	D-F/F (CB) WITH RB QB OUT ONLY	-	8	6-244
F665NBP	D-F/F (CB) WITH RB QB OUT ONLY (X2 DRIVE)	-	9	6-244

D-F/F (CB) WITH SB

Name	Function	I/O cells	int. cells	Page
F666	D-F/F (CB) WITH SB	-	9	6-248
F666NP	D-F/F (CB) WITH SB (X2 DRIVE)	-	11	6-248
F666NQ	D-F/F (CB) WITH SB Q OUT ONLY	-	8	6-248
F666NQP	D-F/F (CB) WITH SB Q OUT ONLY (X2 DRIVE)	-	9	6-248
F666NB	D-F/F (CB) WITH SB QB OUT ONLY	-	8	6-248
F666NBP	D-F/F (CB) WITH SB QB OUT ONLY (X2 DRIVE)	-	9	6-248

D-F/F (CB) WITH RB,SB

Name	Function	I/O cells	int. cells	Page
	D-F/F (CB) WITH RB,SB Q OUT ONLY (LOW POWER)	-	7	6-252
	D-F/F (CB) WITH RB,SB	-	10	6-252
F637	D-F/F (CB) WITH RB,SB	-	10	6-252
F667NP	D-F/F (CB) WITH RB,SB (X2 DRIVE)	-	12	6-252
F667NQ	D-F/F (CB) WITH RB,SB Q OUT ONLY	-	9	6-252
F667NQP	D-F/F (CB) WITH RB,SB Q OUT ONLY (X2 DRIVE)	-	10	6-252
	D-F/F (CB) WITH RB,SB QB OUT ONLY	-	9	6-252
F667NBP	D-F/F (CB) WITH RB,SB QB OUT ONLY (X2 DRIVE)	-	10	6-252

4-BIT D-F/F

Name	Function	I/O cells	int. cells	Page
F924	4-BIT D-F/F	-	28	6-256
L924	4-BIT D-F/F Q OUT ONLY (LOW POWER)	-	18	6-256

4-BIT D-F/F WITH R

Name	Function	I/O cells	int. cells	Page
F922	4-BIT D-F/F WITH R	-	33	6-258
L922	4-BIT D-F/F WITH R Q OUT ONLY (LOW POWER)	-	23	6-258

RS-F/F WITH R,S

Name	Function	I/O cells	int. cells	Page
F596	RS-F/F WITH R,S	-	11	6-262

T-F/F WITH R,S

Name	Function	I/O cells	int. cells	Page
L714	T-F/F WITH R,S Q OUT ONLY (LOW POWER)	-	7	6-264
F744	T-F/F WITH R,S	1	9	6-264
F714	T-F/F WITH R,S	-	9	6-264
F744NP	T-F/F WITH R,S (X2 DRIVE)	-	11	6-264
F744NQ	T-F/F WITH R,S Q OUT ONLY	-	8	6-264
F744NQP	T-F/F WITH R,S Q OUT ONLY (X2 DRIVE)	-	9	6-264

T-F/F WITH RB,SB

Name	Function	I/O cells	int. cells	Page
L717	T-F/F WITH RB,SB Q OUT ONLY (LOW POWER)	-	7	6-268
F747	T-F/F WITH RB,SB	-	9	6-268
F717	T-F/F WITH RB,SB	-	9	6-268
F747NP	T-F/F WITH RB,SB (X2 DRIVE)	1	11	6-268
F747NQ	T-F/F WITH RB,SB Q OUT ONLY	-	8	6-268
F747NQP	T-F/F WITH RB,SB Q OUT ONLY (X2 DRIVE)	-	9	6-268

T-F/F (TB) WITH RB,SB

Name	Function	I/O cells	int. cells	Page
L737	T-F/F (TB) WITH RB,SB Q OUT ONLY (LOW POWER)	-	7	6-272
F767	T-F/F (TB) WITH RB,SB	-	9	6-272
F737	T-F/F (TB) WITH RB,SB	-	9	6-272
F767NP	T-F/F (TB) WITH RB,SB (X2 DRIVE)	-	11	6-272
F767NQ	T-F/F (TB) WITH RB,SB Q OUT ONLY	-	8	6-272
F767NQP	T-F/F (TB) WITH RB,SB Q OUT ONLY (X2 DRIVE)	-	9	6-272

T-F/F WITH DATA-HOLD R,S

Name	Function	I/O cells	int. cells	Page
F791	T-F/F WITH DATA-HOLD R,S	-	12	6-276

T-F/F (TB) WITH DATA-HOLD RB,SB

Name	Function	I/O cells	int. cells	Page
F792	T-F/F (TB) WITH DATA-HOLD RB,SB	-	12	6-278

JK-F/F

Name	Function	I/O cells	int. cells	Page
F771	JK-F/F	-	10	6-280
F771NP	JK-F/F (X2 DRIVE)	-	12	6-280
F771NQ	JK-F/F Q OUT ONLY	-	9	6-280
F771NQP	JK-F/F Q OUT ONLY (X2 DRIVE)	-	10	6-280
F771NB	JK-F/F QB OUT ONLY	-	9	6-280
F771NBP	JK-F/F QB OUT ONLY (X2 DRIVE)	-	10	6-280

JK-F/F WITH R,S

Name	Function	I/O cells	int. cells	Page
F774	JK-F/F WITH R,S	-	12	6-282
F774NP	JK-F/F WITH R,S (X2 DRIVE)	-	14	6-282
F774NQ	JK-F/F WITH R,S Q OUT ONLY	-	11	6-282
F774NQP	JK-F/F WITH R,S Q OUT ONLY (X2 DRIVE)	1	12	6-282
F774NB	JK-F/F WITH R,S QB OUT ONLY	-	11	6-282
F774NBP	JK-F/F WITH R,S QB OUT ONLY (X2 DRIVE)	-	12	6-282

JK-F/F WITH RB,SB

Name	Function	I/O cells	int. cells	Page
F777	JK-F/F WITH RB,SB	-	12	6-286
F777NP	JK-F/F WITH RB,SB (X2 DRIVE)	-	14	6-286
F777NQ	JK-F/F WITH RB,SB Q OUT ONLY	-	11	6-286
F777NQP	JK-F/F WITH RB,SB Q OUT ONLY (X2 DRIVE)	-	12	6-286
F777NB	JK-F/F WITH RB,SB QB OUT ONLY	-	11	6-286
F777NBP	JK-F/F WITH RB,SB QB OUT ONLY (X2 DRIVE)	-	12	6-286

JK-F/F (CB)

Name	Function	I/O cells	int. cells	Page
F781	JK-F/F (CB)	-	10	6-290
F781NP	JK-F/F (CB) (X2 DRIVE)	-	12	6-290
F781NQ	JK-F/F (CB) Q OUT ONLY	1	9	6-290
F781NQP	JK-F/F (CB) Q OUT ONLY (X2 DRIVE)	-	10	6-290
F781NB	JK-F/F (CB) QB OUT ONLY	-	9	6-290
F781NBP	JK-F/F (CB) QB OUT ONLY (X2 DRIVE)	-	10	6-290

JK-F/F (CB) WITH RB, SB

Name	Function	I/O cells	int. cells	Page
F787	JK-F/F (CB) WITH RB,SB	-	12	6-292
F787NP	JK-F/F (CB) WITH RB,SB (X2 DRIVE)	-	14	6-292
F787NQ	JK-F/F (CB) WITH RB,SB Q OUT ONLY	-	11	6-292
F787NQP	JK-F/F (CB) WITH RB,SB Q OUT ONLY (X2 DRIVE)	-	12	6-292
F787NB	JK-F/F (CB) WITH RB,SB QB OUT ONLY	-	11	6-292
F787NBP	JK-F/F (CB) WITH RB,SB QB OUT ONLY (X2 DRIVE)	-	12	6-292

2 TO 1 MULTIPLEXER

Name	Function	I/O cells	int. cells	Page
F565	2 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	4	6-296
L571	2 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB (LOW POWER)	-	4	6-296
F571	2 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB	-	6	6-296
F57B	2 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	5	6-296

QUAD 2 TO 1 MULTIPLEXER

Name	Function	I/O cells	int. cells	Page
F552	QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	13	6-298
F555	QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	9	6-298
L572	QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB (LOW POWER)	-	10	6-298
F572	QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB	-	14	6-298

4 TO 1 MULTIPLEXER

Name	Function	I/O cells	int. cells	Page
F564	4 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	8	6-302
F570	4 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB	-	10	6-302
F57A	4 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	10	6-302

QUAD 4 TO 1 MULTIPLEXER

Name	Function	I/O cells	int. cells	Page
F551	QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	27	6-304
F554	QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	31	6-304

8 TO 1 MULTIPLEXER

Name	Function	I/O cells	int. cells	Page
F563	8 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	17	6-308
F569	8 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB	-	18	6-308
F579	8 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	17	6-308

QUAD 8 TO 1 MULTIPLEXER

Name	Function	I/O cells	int. cells	Page
F550	QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	64	6-312
F553	QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	64	6-316

2 TO 4 DECODER

Name	Function	I/O cells	int. cells	Page
L560	2 TO 4 DECODER POSITIVE OUTPUT (LOW POWER)	-	6	6-320
F560	2 TO 4 DECODER POSITIVE OUTPUT	-	10	6-320
L561	2 TO 4 DECODER NEGATIVE OUTPUT (LOW POWER)	-	6	6-320
F561	2 TO 4 DECODER NEGATIVE OUTPUT	-	10	6-320
L981	2 TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER)	-	8	6-320
F981	2 TO 4 DECODER NEGATIVE OUTPUT WITH ENB	-	13	6-320

3 TO 8 DECODER

Name	Function	I/O cells	int. cells	Page
L982	3 TO 8 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER)	-	21	6-324
F982	3 TO 8 DECODER NEGATIVE OUTPUT WITH ENB	-	26	6-324

8-BIT ODD PARITY GENERATOR

Name	Function	I/O cells	int. cells	Page
F581	8-BIT ODD PARITY GENERATOR	-	19	6-328

8-BIT EVEN PARITY GENERATOR

Name	Function	I/O cells	int. cells	Page
F582	8-BIT EVEN PARITY GENERATOR	-	19	6-330

1-BIT FULL ADDER

Name	Function	I/O cells	int. cells	Page
F521	1-BIT FULL ADDER	-	9	6-332

4-BIT FULL ADDER

Name	Function	I/O cells	int. cells	Page
F523	4-BIT FULL ADDER	-	34	6-334

4-BIT LOOK AHEAD CARRY GENERATOR

Name	Function	I/O cells	int. cells	Page
F526	4-BIT LOOK AHEAD CARRY GENERATOR	-	34	6-338

1-BIT CARRY LOOK AHEAD ADDER

Name	Function	I/O cells	int. cells	Page
F527	1-BIT CARRY LOOK AHEAD ADDER	-	68	6-340

4-BIT MAGNITUDE COMPARATOR

Name	Function	I/O cells	int. cells	Page
F985	4-BIT MAGNITUDE COMPARATOR	-	32	6-344

4-BIT SERIAL/PARALLEL SHIFT REGISTER

Name	Function	I/O cells	int. cells	Page
F914	4-BIT SERIAL/PARALLEL SHIFT REGISTER	-	28	6-348
L914	4-BIT SERIAL/PARALLEL SHIFT REGISTER (LOW POWER)	-	18	6-348
F913	4-BIT SERIAL/PARALLEL SHIFT REGISTER WITH RB	-	39	6-350
L913	4-BIT SERIAL/PARALLEL SHIFT REGISTER WITH RB Q OUT ONLY (LOW POWE	-	27	6-350

4-BIT SHIFT REGISTER WITH R

Name	Function	I/O cells	int. cells	Page
F911	4-BIT SHIFT REGISTER WITH R	-	33	6-354
L911	4-BIT SHIFT REGISTER WITH R Q OUT ONLY (LOW POWER)	-	23	6-354

4-BIT SHIFT REGISTER WITH LOAD

Name	Function	I/O cells	int. cells	Page
F912	4-BIT SHIFT REGISTER WITH LOAD	-	35	6-356
L912	4-BIT SHIFT REGISTER WITH LOAD Q OUT ONLY (LOW POWER)	-	23	6-356

4-BIT SYNCHRONOUS BINARY COUNTER WITH RB

Name	Function	I/O cells	int. cells	Page
F961	4-BIT SYNCHRONOUS BINARY COUNTER WITH RB	-	54	6-358
F962	4-BIT SYNCHRONOUS BINARY UP COUNTER WITH RB	-	39	6-360

D-F/F WITH R,S,2 TO 1 SELECTOR

Name	Function	I/O cells	int. cells	Page
	D-F/F WITH R,S,2 TO 1 SELECTOR	-	12	6-362

D-F/F WITH 2 TO 1 SELECTOR

Name	Function	I/O cells	int. cells	Page
S002	D-F/F WITH 2 TO 1 SELECTOR	-	10	6-364

D-F/F WITH R,S,HOLD,2 TO 1 SELECTOR

Name	Function	I/O cells	int. cells	Page
S050	D-F/F WITH R,S,HOLD,2 TO 1 SELECTOR	-	14	6-366

D-F/F WITH HOLD,2 TO 1 SELECTOR

Name	Function	I/O cells	int. cells	Page
S052	D-F/F WITH HOLD,2 TO 1 SELECTOR	-	13	6-368

JK-F/F WITH R,S,D-F/F FUNCTION

Name	Function	I/O cells	int. cells	Page
S100	JK-F/F WITH R,S,D-F/F Function	-	14	6-370

JK-F/F WITH D-F/F FUNCTION

Name	Function	I/O cells	int. cells	Page
S102	JK-F/F WITH D-F/F Function	-	12	6-372

JK-F/F WITH R,S,HOLD,D-F/F FUNCTION

Name	Function	I/O cells	int. cells	Page
S150	JK-F/F WITH R,S,HOLD,D-F/F Function	-	17	6-374

JK-F/F WITH HOLD, D-F/F FUNCTION

Name	Function	I/O cells	int. cells	Page
S152	JK-F/F WITH HOLD,D-F/F Function	-	15	6-376

D-LATCH WITH R,D-F/F FUNCTION

Name	Function	I/O cells	int. cells	Page
S201	D-LATCH WITH R,D-F/F Function	-	12	6-378

D-LATCH WITH D-F/F FUNCTION

Name	Function	I/O cells	int. cells	Page
S202	D-LATCH WITH D-F/F Function	-	11	6-380
S204	D-LATCH WITH D-F/F Function HIGH SPEED	-	11	6-380

D-LATCH WITH R, SPECIAL FUNCTION

Name	Function	I/O cells	int. cells	Page
S301	D-LATCH WITH R,SPECIAL Function	-	8	6-382

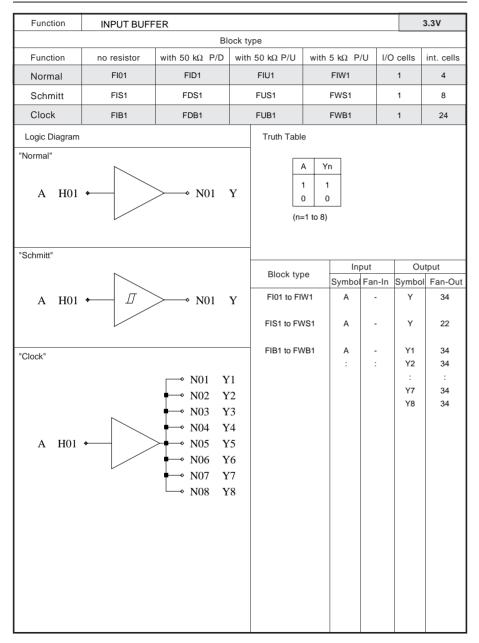
D-LATCH WITH SPECIAL FUNCTION

Name	Function	I/O cells	int. cells	Page
S302	D-LATCH WITH SPECIAL Function	-	7	6-384
S303	D-LATCH WITH SPECIAL Function HIGH SPEED	-	7	6-384

2 TO 1 DATA SELECTOR

Name	Function	I/O cells	int. cells	Page
S999	2 TO 1 DATA SELECTOR	-	4	6-386

CHAPTER 1 INTERFACE BLOCK (3.3V)



INTERFACE BLOCK(3.3V)

	Switching speed										
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → OU	Т	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FI01	$A \rightarrow Y$	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
to FIW1		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
FIS1	$A \rightarrow Y$	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
to FWS1		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			İ
FIB1	$A \rightarrow Yn$	(HH)	0.324	0.421	0.552	0.001	0.002	0.004			
to FWB1		(LL)	0.217	0.332	0.463	0.001	0.002	0.003			ĺ
	(n = 1 to 8)										İ

Function	INPUT BUFF	ER WITH FAILSA	·FΕ					;	3.3V
	I.	BI	ock ty	/ре					
Function	no resistor	with 50 kΩ P/D	with	50 kΩ P/U	with	5 kΩ P.	/U I/0	O cells	int. cells
Normal	FIA1	FDA1						1	4
Schmitt	FIE1	FDE1						1	8
Clock	FIH1	FDH1						1	24
Logic Diagram				Truth Table	е				
"Normal" A H01		>→ N01	Y		A Y 1 1 0 (0 =1 to 8))			
"Schmitt"									
				Block typ	е	Symbol	out Fan-In	-	tput Fan-Out
A H01		> N01	Y	FIA1 to FD)A1	А	-	Y	34
				FIE1 to FD	E1	Α	-	Y	22
"Clock"				FIH1 to FD	H1	Α	-	Y1	34
А Н01		N02 Y N03 Y N04 Y N05 Y N06 Y N07 Y	73 74 75			:	:	Y2 : Y7 Y8	34 : 34 34

INTERFACE BLOCK(3.3V)

	Switching speed										
Block type	Block type Path		t i	t LD0 (ns)		t 1			T		
	IN → OU	$IN \ \to \ OUT$		TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FIA1	$A \rightarrow Y$	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
to FDA1		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
FIE1	$A \rightarrow Y$	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
to FDE1		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
FIH1	$A \rightarrow Yn$	(HH)	0.324	0.421	0.552	0.001	0.002	0.004			
to FDH1		(LL)	0.217	0.332	0.463	0.001	0.002	0.003			i I
	(n = 1 to 8)										

Function	INPUT BUFF	ER WITH EN(OR))					3.3V
		Ble	ock type					
Function	no resistor	with 50 kΩ P/D	with 50 kΩ P/U	with 5 kΩ	P/U	I/O	cells	int. cells
Normal	FN13	FN23					1	4
Schmitt								
Clock								
Logic Diagram			Truth Table	е				
"Normal" A H01 ←		→ N01 Y		A EN 0 0 0 1 1 1 0 1 1	Y 0 1 1 1 1			
"Schmitt"					Input		Ou	tput
			Block typ	Sym	bol Far	n-In S		Fan-Out
"Clock"			FN13 to FI	N23 A			Y	33

INTERFACE BLOCK(3.3V)

		Switching speed										
Block type	Path		t	t LDO (ns)		t 1			Т			
	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
FN13	A → Y	(HH)	0.212	0.304	0.442	0.008	0.015	0.025				
to FN23		(LL)	0.201	0.394	0.695	0.010	0.016	0.026				
	$EN \rightarrow Y$	(HH)	0.206	0.300	0.437	0.008	0.015	0.025				
		(LL)	0.190	0.383	0.683	0.010	0.016	0.026				

Function OUTPUT BUFFER									3.3V	
Block type										
Drivability	no resistor	with 50 kΩ P/D	$50 \text{ k}\Omega$ P/D with $50 \text{ k}\Omega$ P/U with $5 \text{ k}\Omega$ P/U I/O c						int. cells	
1mA										
2mA										
3mA	FO09							1	4	
6mA	FO04							1	4	
9mA	FO01							1	4	
12mA	FO02							1	4	
18mA	FO03							1	8	
24mA	FO06							1	8	
Logio Diogram				Dlook tun	_	Inp	ut	(Output	
Logic Diagram	1			Block typ	е	Symbol	Fan-ir	Symb	ol Fan-ou	
A H01		. NO1 - W		FO09	A A		8.1	Y	-	
A H01		N01 Y		FO04			8.1	Y	-	
				FO01		А	8.1	Y	-	
				FO02		А	8.1	Y	-	
				FO03		Α	16.3	Y	-	
				FO06		А	16.3	Y	-	
Truth Table										
A Y 1 1 0 0										
			1 -	_						

INTERFACE BLOCK(3.3V)

	Switching speed												
Block type	ock type Path		t LDO (ns)			t 1			Т				
	IN → OI			TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
FO09	$A \rightarrow Y$	(HH)	0.698	1.195	2.080				0.057	0.101	0.186		
		(LL)	0.717	1.166	1.960				0.073	0.102	0.159		
FO04	$A \rightarrow Y$	(HH)	0.644	1.128	1.932				0.029	0.051	0.094		
		(LL)	0.580	1.017	1.775				0.037	0.051	0.081		
FO01	$A \rightarrow Y$	(HH)	0.670	1.197	2.075				0.020	0.035	0.064		
		(LL)	0.574	1.053	1.894				0.025	0.035	0.055		
FO02	$A \rightarrow Y$	(HH)	0.713	1.299	2.288				0.016	0.027	0.049		
		(LL)	0.594	1.124	2.078				0.019	0.028	0.043		
FO03	$A \rightarrow Y$	(HH)	0.633	1.211	2.199				0.011	0.020	0.035		
		(LL)	0.521	1.054	2.016				0.013	0.019	0.030		
FO06	$A \rightarrow Y$	(HH)	0.728	1.410	2.594				0.009	0.017	0.030		
		(LL)	0.613	1.274	2.463				0.010	0.016	0.025		

Function	LOW-NOISE OUTPUT BUFFER									3V	
		ock	type					1			
Drivability	no resistor	with 50 kΩ P/D	with	J /(cells	i	nt. cells				
1mA											
2mA											
3mA											
6mA	FE04							1		4	
9mA	FE01							1		4	
12mA	FE02							1		4	
18mA	FE03							1		4	
24mA	FE06							1		4	
Logic Diagran	0			Block typ	0	Inp				Output	
Logic Diagram	11			Бюск тур	E	Symbol	Fan-i	Sym	nbol	Fan-out	
A 1101		. NO1 - V		FE04		Α	6.1	Y		-	
A HOI	A H01 → N01 Y				А		6.1	Y		-	
				FE02		Α	6.1	Y		-	
				FE03		Α	6.1	Y		-	
				FE06		Α	6.1	Y		-	
Truth Table											
A Y 1 1 0 0											

	Switching speed											
Block type	Path		t LDO (ns)			t 1			Т			
	IN → OUT			TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
FE04	$A \rightarrow Y$	(HH)	1.472	2.780	5.000				0.033	0.057	0.102	
		(LL)	1.439	2.828	5.019				0.039	0.058	0.091	
FE01	A → Y	(HH)	1.534	2.959	5.465				0.026	0.045	0.077	
		(LL)	1.445	2.905	5.276				0.029	0.044	0.070	
FE02	A → Y	(HH)	1.627	3.193	5.974				0.022	0.039	0.068	
		(LL)	1.468	3.013	5.560				0.025	0.038	0.061	
FE03	A → Y	(HH)	1.828	3.657	6.931				0.020	0.036	0.062	
		(LL)	1.575	3.296	6.220				0.020	0.034	0.056	
FE06	A → Y	(HH)	2.085	4.232	8.116				0.019	0.034	0.058	
		(LL)	1.765	3.750	7.140				0.018	0.031	0.051	

INTERFACE BLOCK(3.3V)

Function	HIGH SPEED	OUTPUT BUFFE	R						3	.3V
	Ti .	BI	ock	type						
Drivability	no resistor	with 50 kΩ P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	ا ر	I/O (cells	nt. cells
1mA										
2mA										
3mA	FO29								1	4
6mA	FO24								1	4
9mA	FO21								1	4
12mA	FO22								1	4
18mA	FO23								1	8
24mA	FO26								1	8
Logic Diagran	2			Block typ	۵	Inp				ıtput
Logic Diagram				Бюск тур	<u> </u>	Symbol	Fan	n-in	Symbo	Fan-out
				FO29		Α	7.0)	Υ	-
A H01		── N01 Y		FO24		А	7.0)	Υ	-
				FO21		А	7.0)	Υ	-
				FO22		A	7.0)	Y	_
				FO23		Α	15.	1	Υ	-
				FO26		Α	15.	1	Υ	-
Truth Table										
AY										
0 0										
1 1										
										I

INTERFACE BLOCK(3.3V)

				Switcl	ning spe	eed					
Block type	Path		tı	LDO (ns))		t 1			Т	
	IN → Ol	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FO29	A → Y	(HH)	0.472	0.818	1.444				0.057	0.100	0.185
		(LL)	0.595	0.900	1.440				0.072	0.101	0.159
FO24	A → Y	(HH)	0.476	0.788	1.324				0.029	0.051	0.094
		(LL)	0.570	0.963	1.596				0.036	0.051	0.080
FO21	$A \rightarrow Y$	(HH)	0.463	0.774	1.300				0.019	0.034	0.063
		(LL)	0.549	0.959	1.609				0.024	0.035	0.054
FO22	$A \rightarrow Y$	(HH)	0.475	0.800	1.358				0.015	0.026	0.047
		(LL)	0.561	0.999	1.699				0.019	0.027	0.042
FO23	A → Y	(HH)	0.347	0.616	1.061				0.010	0.017	0.032
		(LL)	0.409	0.721	1.239				0.012	0.018	0.028
FO26	A → Y	(HH)	0.387	0.701	1.228				0.008	0.014	0.024
		(LL)	0.455	0.810	1.416				0.010	0.014	0.023

Function	3-STATE OU	TPUT BUFFER						3	3.3V
		E	lock	type					
Drivability	no resistor	with 50 kΩ P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	B00T	B0DT		B0UT		B0WT		1	6
6mA	B00E	B0DE		B0UE		B0WE		1	6
9mA	B008	B0D8		B0U8		B0W8		1	6
12mA	B007	B0D7		B0U7		B0W7		1	6
18mA	B009	B0D9		B0U9		B0W9		1	10
24mA	Воон	B0DH		B0UH	- 1	B0WH		1	10
Logic Diagram				Block typ	0	Inp	ut	0	utput
Logic Diagram	I			ыск тур	Е	Symbol	Fan-in	Symbo	Fan-out
				B00T to B0	WT	Α	7.1	Y	_
A H01	\leftarrow	→ N01 Y				EN	3.2		
				B00E to B0	WE	A EN	7.1 3.2	Y	-
EN H02	•					EIN	3.2		
				B008 to B0	8W0	Α	7.1	Υ	-
						EN	3.2		
				B007 to B0	NA/ 7	A	7.1	Y	
				B007 t0 B0	1007	EN	3.2	ī	_
Truth Table				B009 to B0	W9	Α	13.3	Υ	-
A EN	Y					EN	3.3		
0 1	0			B00H to B0	WH	Α	13.3	Y	_
	1					EN	3.3		
x 0	z								
X:Irrelevant									
Z:High Impedan	ce								

INTERFACE BLOCK(3.3V)

				Switcl	ning spe	eed					
Block type	Path		t i	LDO (ns)		t 1			Т	
	$IN \to O$	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
B00T	$A \rightarrow Y$	(HH)	1.030	1.787	3.038				0.057	0.101	0.186
to B0WT		(LL)	0.959	1.676	2.922				0.073	0.102	0.160
	EN o Y	(HZ)	0.718	1.187	1.779						
		(LZ)	0.454	0.718	1.119						
		(ZH)	0.946	1.614	2.716				0.057	0.101	0.186
		(ZL)	0.913	1.533	2.637				0.073	0.102	0.160
B00E	$A \rightarrow Y$	(HH)	1.023	1.829	3.121				0.030	0.053	0.095
to B0WE		(LL)	0.834	1.552	2.809				0.037	0.053	0.083
	$EN \rightarrow Y$	(HZ)	0.996	1.831	2.867						
		(LZ)	0.522	0.863	1.378						
		(ZH)	0.917	1.620	2.734				0.030	0.053	0.095
		(ZL)	0.752	1.347	2.405				0.037	0.053	0.083
B008	$A \rightarrow Y$	(HH)	1.057	1.947	3.399				0.022	0.038	0.067
to B0W8		(LL)	0.824	1.598	2.979				0.026	0.038	0.059
	EN o Y	(HZ)	1.212	2.319	3.699						
		(LZ)	0.595	1.004	1.610						
		(ZH)	0.933	1.705	2.943				0.022	0.038	0.067
		(ZL)	0.718	1.338	2.467				0.026	0.037	0.059
B007	$A \rightarrow Y$	(HH)	1.111	2.100	3.719				0.019	0.032	0.055
to B0W7		(LL)	0.841	1.672	3.201				0.021	0.031	0.049
	EN o Y	(HZ)	1.462	2.841	4.553						
		(LZ)	0.667	1.139	1.836						
		(ZH)	0.973	1.817	3.201				0.019	0.032	0.055
		(ZL)	0.705	1.353	2.568				0.021	0.031	0.048
B009	$A \rightarrow Y$	(HH)	1.025	1.984	3.561				0.015	0.025	0.043
to B0W9		(LL)	0.779	1.632	3.255				0.016	0.024	0.038
	EN o Y	(HZ)	2.005	3.976	6.418						
		(LZ)	0.849	1.471	2.369						
		(ZH)	1.000	1.894	3.351				0.015	0.025	0.043
		(ZL)	0.701	1.401	2.737				0.016	0.024	0.038
B00H	A → Y	(HH)	1.164	2.292	4.143				0.013	0.023	0.039
to B0WH		(LL)	0.883	1.903	3.850				0.013	0.021	0.032
	EN o Y	(HZ)	2.474	5.043	8.173						
		(LZ)	1.002	1.765	2.848						
		(ZH)	1.128	2.178	3.889				0.013	0.023	0.039
		(ZL)	0.752	1.540	3.109				0.013	0.021	0.034

Function	LOW-NOISE	3-STATE OUTPU	JT B	UFFER				3	3.3V
		ВІ	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA	BE0E	BEDE		BEUE	I	BEWE		1	6
9mA	BE08	BED8		BEU8		BEW8		1	6
12mA	BE07	BED7		BEU7		BEW7		1	6
18mA	BE09	BED9		BEU9		BEW9		1	6
24mA	BE0H	BEDH		BEUH	ı	BEWH		1	6
Logic Diagram				Plack typ	_	Inp	ut	0	utput
Logic Diagram	ı			Block typ	е	Symbol	Fan-in	Symbo	Fan-out
				BE0E to BE	:W/E	Α	6.1	Y	_
A H01	\sim	→ N01 Y		5202 10 52		EN	3.2		
				BE08 to BE	W8	Α	6.1	Y	-
EN H02	•					EN	3.2		
				BE07 to BE	W7	Α	6.1	Υ	-
						EN	3.2		
				BE09 to BE	W9	A EN	6.1 3.2	Y	-
						EIN	3.2		
Truth Table				BE0H to BE	WH	Α	6.1	Υ	-
	V					EN	3.2		
A EN	Y								
0 1 1 1	0								
'	Z								
X:Irrelevant									
Z:High Impedan	ce								
									1

INTERFACE BLOCK(3.3V)

				Switch	hing spe	ed					
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → O	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BE0E	$A \rightarrow Y$	(HH)	1.484	2.804	5.056				0.033	0.057	0.102
to BEWE		(LL)	1.446	2.847	5.070				0.039	0.058	0.091
	$EN \rightarrow Y$	(HZ)	0.965	1.786	2.815						
		(LZ)	0.724	1.144	1.770						
		(ZH)	1.432	2.775	5.046				0.033	0.057	0.102
		(ZL)	1.480	2.940	5.224				0.039	0.058	0.091
BE08	$A \rightarrow Y$	(HH)	1.543	2.980	5.502				0.026	0.045	0.077
to BEW8		(LL)	1.447	2.918	5.314				0.029	0.045	0.070
	$EN \rightarrow Y$	(HZ)	1.189	2.288	3.646						
		(LZ)	0.838	1.345	2.109						
		(ZH)	1.492	2.957	5.508				0.026	0.045	0.077
		(ZL)	1.484	3.011	5.492				0.029	0.044	0.070
BE07	$A \rightarrow Y$	(HH)	1.636	3.208	6.011				0.022	0.039	0.068
to BEW7		(LL)	1.470	3.024	5.605				0.025	0.039	0.061
	$EN \rightarrow Y$	(HZ)	1.431	2.802	4.512						
		(LZ)	0.945	1.537	2.431						
		(ZH)	1.583	3.187	6.011				0.022	0.039	0.068
		(ZL)	1.506	3.118	5.756				0.025	0.039	0.061
BE09	$A \rightarrow Y$	(HH)	1.836	3.669	6.952				0.020	0.036	0.062
to BEW9		(LL)	1.563	3.287	6.262				0.021	0.035	0.055
	$EN \rightarrow Y$	(HZ)	1.916	3.850	6.255						
		(LZ)	1.179	1.958	3.113						
		(ZH)	1.784	3.646	6.987				0.020	0.036	0.061
		(ZL)	1.605	3.377	6.409				0.021	0.034	0.055
BE0H	$A \rightarrow Y$	(HH)	2.090	4.257	8.132				0.019	0.033	0.060
to BEWH		(LL)	1.772	3.750	7.178				0.018	0.031	0.051
	EN o Y	(HZ)	2.396	4.909	8.009	1					
		(LZ)	1.412	2.383	3.805	1					
		(ZH)	2.041	4.239	8.119				0.019	0.033	0.058
		(ZL)	1.783	3.822	7.275				0.019	0.031	0.051

Function	HIGH SPEED	3-STATE OUTP	UT E	BUFFER				;	3.3V
	I	BI	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wit	th 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	B02T	B03T		B04T		B05T		1	12
6mA	B02E	B03E		B04E		B05E		1	12
9mA	B028	B038		B048		B058		1	12
12mA	B027	B037		B047		B057		1	12
18mA	B029	B039		B049		B059		1	16
24mA	B02H	B03H		B04H		B05H		1	16
Lasia Diagram	_			Dia ala tana	_	Inp	ut	0	utput
Logic Diagram	1			Block typ	е	Symbol	Fan-in	Symbo	ol Fan-out
				B02T to B0)5T	A	16.1	Y	-
A H01 EN H02		N01 Y		B02E to B0		EN A EN A EN	1.0 16.1 1.0 16.1 1.0	Y	-
				B027 to B0)57	A EN	16.1 1.0	Y	-
Truth Table	Y			B029 to B0)59	A EN	32.3 2.0	Y	-
0 1 1 1 X 0 X:Irrelevant Z:High Impedan	0 1 Z			B02H to B0	05H	A EN	32.3 2.0	Y	-

INTERFACE BLOCK(3.3V)

				Switcl	ning spe	eed					
Block type	Path		t i	LDO (ns)		t 1			Т	
	$IN \ \to \ O$	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
B02T	$A \rightarrow Y$	(HH)	0.466	0.840	1.522				0.057	0.101	0.186
to B05T		(LL)	0.597	0.960	1.561				0.072	0.101	0.159
	EN o Y	(HZ)	0.592	1.072	1.804						
		(LZ)	0.357	0.642	1.102						
		(ZH)	0.860	1.534	2.705				0.057	0.101	0.186
		(ZL)	0.800	1.239	2.003				0.072	0.102	0.159
B02E	$A \rightarrow Y$	(HH)	0.440	0.785	1.374				0.029	0.051	0.094
to B05E		(LL)	0.538	0.969	1.626				0.036	0.051	0.080
	$EN \ \to \ Y$	(HZ)	0.808	1.440	2.392						
		(LZ)	0.455	0.811	1.396						
		(ZH)	0.840	1.495	2.580				0.029	0.051	0.093
		(ZL)	0.749	1.262	2.087				0.036	0.051	0.080
B028	$A \rightarrow Y$	(HH)	0.428	0.767	1.347				0.019	0.034	0.062
to B058		(LL)	0.495	0.919	1.571				0.024	0.035	0.054
	$EN \ \to \ Y$	(HZ)	0.881	1.579	2.613						
		(LZ)	0.478	0.851	1.468						
		(ZH)	0.824	1.475	2.541				0.019	0.034	0.063
		(ZL)	0.703	1.213	2.034				0.025	0.035	0.054
B027	$A \rightarrow Y$	(HH)	0.438	0.793	1.396				0.015	0.026	0.047
to B057		(LL)	0.485	0.918	1.580				0.019	0.027	0.042
	$EN \ \to \ Y$	(HZ)	0.964	1.722	2.844						
		(LZ)	0.498	0.890	1.534						
		(ZH)	0.830	1.497	2.585				0.015	0.026	0.047
		(ZL)	0.688	1.208	2.045				0.019	0.027	0.042
B029	$A \rightarrow Y$	(HH)	0.379	0.674	1.156				0.010	0.018	0.032
to B059		(LL)	0.361	0.645	1.133				0.012	0.018	0.028
	$EN \ \to \ Y$	(HZ)	0.970	1.766	2.926						
		(LZ)	0.468	0.843	1.459						
		(ZH)	0.788	1.414	2.432				0.010	0.018	0.032
		(ZL)	0.575	1.014	1.730				0.013	0.018	0.028
B02H	$A \rightarrow Y$	(HH)	0.417	0.753	1.311				0.008	0.014	0.025
to B05H		(LL)	0.391	0.706	1.263				0.010	0.014	0.022
	$EN \ \to \ Y$	(HZ)	1.071	1.944	3.224						
		(LZ)	0.499	0.902	1.557						
		(ZH)	0.821	1.487	2.581				0.008	0.014	0.025
		(ZL)	0.599	1.067	1.840				0.010	0.014	0.022

Function	N-CH OPEN	DRAIN OUTPUT	BUF	FFER					3	.3V
		BI	ock	type						
Drivability	no resistor	with 50 k Ω P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	J	I/O	cells	int. cells
1mA										
2mA										
3mA	EXTH			EXUH		EXWH			1	4
6mA	EXTJ			EXUJ		EXWJ			1	4
9mA	EXT1			EXT3		EXW3			1	4
12mA	EXT9			EXTB		EXWB			1	4
18mA	EXT5			EXT7		EXW7			1	8
24mA	EXTD			EXTF		EXWF			1	8
Logic Diagran	•			Block typ	_	Inp	ut		Οι	ıtput
Logic Diagram	1			Бюск тур	Е	Symbol	Fa	ın-in	Symbo	Fan-out
		→ N01 Y		EXTH to EX	(WH	А	8	.1	Υ	-
A H01 ←	\rightarrow			EXTJ to EX	(WJ	А	8	.1	Υ	-
		' <u> </u>		EXT1 to EX	(W3	А	8	.1	Υ	-
				EXT9 to EX	(WB	А	8	.1	Y	-
				EXT5 to EX	W7	А	16	5.3	Y	-
				EXTD to EX	(WF	А	16	6.3	Υ	-
Truth Table										
AY										
1 Z 0 0										
Z:High Impedar	າce up resistor to get a hiç	ıh level								
Connect a pair t	ap redictor to get a mig	1110001								

INTERFACE BLOCK(3.3V)

				Switcl	ning spe	eed					
Block type	Path		t	LDO (ns))		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
EXTH	$A \rightarrow Y$	(LZ)	0.270	0.390	0.562						
to EXWH		(ZL)	0.608	0.977	1.616				0.072	0.101	0.159
EXTJ	$A \rightarrow Y$	(LZ)	0.317	0.508	0.786						
to EXWJ		(ZL)	0.439	0.769	1.324				0.036	0.051	0.080
EXT1	$A \rightarrow Y$	(LZ)	0.367	0.618	0.970						
to EXW3		(ZL)	0.405	0.752	1.347				0.024	0.035	0.054
EXT9	$A \rightarrow Y$	(LZ)	0.419	0.724	1.145						
to EXWB		(ZL)	0.401	0.774	1.420				0.019	0.027	0.042
EXT5	A → Y	(LZ)	0.403	0.776	1.272						
to EXW7		(ZL)	0.363	0.743	1.416				0.013	0.020	0.031
EXTD	A → Y	(LZ)	0.486	0.961	1.575						
to EXWF		(ZL)	0.391	0.821	1.601				0.011	0.017	0.027

Function	LOW-NOISE	N-CH OPEN DRA	AIN	OUTPUT BUF	FER				3.	3V
		BI	ock	type					-	
Drivability	no resistor	with 50 kΩ P/D	wi	ith 50 kΩ P/U	with	5 kΩ P/l	J /	Ос	ells i	nt. cells
1mA										
2mA										
3mA										
6mA	EETJ			EEUJ		EEWJ		1		2
9mA	EET1			EET3		EEW3		1		2
12mA	EET9			EETB	ı	EEWB		1		2
18mA	EET5			EET7		EEW7		1		2
24mA	EETD			EETF	1	EEWF		1		2
Logic Diagran	n			Block typ	е	Inp				tput
						Symbol	Fan-	in	Symbol	Fan-out
		N01 Y		EETJ to EE	WJ	А	3.0		Υ	-
A H01 ←	+			EET1 to EE	EW3	А	3.0		Υ	-
	'	<u> </u>		EET9 to EE	WB	А	3.0		Υ	-
				EET5 to EE	W7	Α	3.0		Υ	-
				EETD to EE	WF	Α	3.0		Υ	-
Truth Table										
AY										
1 Z										
0 0										
Z:High Impedar										
Connect a pull-	up resistor to get a hig	gh level								
								_		

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INTERFACE BLOCK(3.3V)

				Switch	ning spe	ed					
Block type	Path		t	LDO (ns))		t 1			Т	
	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
EETJ	$A \rightarrow Y$	(LZ)	1.332	2.141	3.245						
to EEWJ		(ZL)	1.417	2.795	4.961				0.039	0.057	0.091
EET1	A → Y	(LZ)	1.568	2.561	3.926						
to EEW3		(ZL)	1.426	2.878	5.201				0.029	0.044	0.071
EET9	$A \rightarrow Y$	(LZ)	1.794	2.963	4.588						
to EEWB		(ZL)	1.451	2.981	5.505				0.025	0.038	0.061
EET5	A → Y	(LZ)	2.270	3.808	5.961						
to EEW7		(ZL)	1.554	3.274	6.161				0.021	0.034	0.054
EETD	$A \rightarrow Y$	(LZ)	2.738	4.627	7.302						
to EEWF		(ZL)	1.698	3.604	6.848				0.019	0.032	0.052

Function	I/O BUFFER							3	.3V
		ВІ	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wi	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	B00U	B0DU		B0UU		B0WU		1	10
6mA	B00C	B0DC		B0UC		B0WC		1	10
9mA	B003	B0D3		B0U3		B0W3		1	10
12mA	B001	B0D1		B0U1		B0W1		1	10
18mA	B005	B0D5		B0U5		B0W5		1	14
24mA	B00F	B0DF		B0UF		B0WF		1	14
Logic Diagram				Plock tun	.0	Inp	ut	O	utput
Logic Diagram	I		Block typ		ie	Symbol	Fan-in	Symbo	I Fan-out
				B00U to B0	WU	Α	7.1	Y1	34
Y1 N02 ❖	$\langle \ $					EN	3.2		
				B00C to B0)WC	A EN	7.1 3.2	Y1	34
A H01 ◆	-	→ N01 Y0				LIN	5.2		
				B003 to B0)W3	Α	7.1	Y1	34
EN H03 +						EN	3.2		
				B001 to B0)W1	Α	7.1	Y1	34
				20011020		EN			"
Truth Table				B005 to B0)W5	A EN	13.3 3.3	Y1	34
A EN	Y0 \	70 Y1				EIN	3.3		
0 1	0	0 0		B00F to B0	WF	Α	13.3	Y1	34
1 1	1	1 1				EN	3.3		
X 0	Z								
X:Irrelevant									
Z:High Impedan	ce								

INTERFACE BLOCK(3.3V)

				Switch	ning spe	eed					
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
B00U	A → Y0	(HH)	1.030	1.787	3.038				0.057	0.101	0.186
to B0WU		(LL)	0.959	1.676	2.922				0.073	0.102	0.160
	EN → Y0	(HZ)	0.718	1.187	1.779						
		(LZ)	0.454	0.718	1.119						
		(ZH)	0.946	1.614	2.716				0.057	0.101	0.186
		(ZL)	0.913	1.533	2.637		<u></u>		0.073	0.102	0.160
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
B000		(LL)	0.125	0.232	0.370	0.010	0.016	0.025	0.030	0.050	0.095
B00C	A → Y0	(HH)	1.023	1.829	3.121				0.030	0.053	0.095
to B0WC	EN VO	(LL) (HZ)	0.834 0.996	1.552 1.831	2.809 2.867				0.037	0.053	0.083
	EN → Y0	(LZ)	0.522	0.863	1.378						
		(ZH)	0.917	1.620	2.734				0.030	0.053	0.095
		(ZL)	0.752	1.347	2.405				0.037	0.053	0.083
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024	0.007	0.000	0.000
	'' ''	(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
B003	A → Y0	(HH)	1.057	1.947	3.399				0.022	0.038	0.067
to B0W3		(LL)	0.824	1.598	2.979				0.026	0.038	0.059
	EN → Y0	(HZ)	1.212	2.319	3.699						
		(LZ)	0.595	1.004	1.610						
		(ZH)	0.933	1.705	2.943				0.022	0.038	0.067
		(ZL)	0.718	1.338	2.467				0.026	0.037	0.059
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
B001	A → Y0	(HH)	1.111	2.100	3.719				0.019	0.032	0.055
to B0W1		(LL)	0.841	1.672	3.201				0.021	0.031	0.049
	EN → Y0	(HZ)	1.462	2.841	4.553						
		(LZ)	0.667	1.139	1.836				0.019	0.022	0.055
		(ZH) (ZL)	0.973 0.705	1.817 1.353	3.201 2.568				0.019	0.032 0.031	0.055
	Y0 → Y1	(ZL) (HH)	0.705	0.312	0.446	0.008	0.015	0.024	0.021	0.031	0.046
	10 → 11	(LL)	0.125	0.312	0.370	0.000	0.016	0.024			
B005	A → Y0	(HH)	1.025	1.984	3.561	0.010	0.010	0.020	0.015	0.025	0.043
to B0W5	1 7 7	(LL)	0.779	1.632	3.255				0.016	0.024	0.038
1	EN → Y0	(HZ)	2.005	3.976	6.418						
	/ /	(LZ)	0.849	1.471	2.369						
		(ZH)	1.000	1.894	3.351				0.015	0.025	0.043
		(ZL)	0.701	1.401	2.737				0.016	0.024	0.038
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
B00F	A → Y0	(HH)	1.164	2.292	4.143				0.013	0.023	0.039
to B0WF		(LL)	0.883	1.903	3.850	1			0.013	0.021	0.032
	EN → Y0	(HZ)	2.474	5.043	8.173						
		(LZ)	1.002	1.765	2.848				0.046	0.000	
		(ZH)	1.128	2.178	3.889				0.013	0.023	0.039
	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(ZL)	0.752	1.540	3.109	0.000	0.045	0.004	0.013	0.021	0.034
	Y0 → Y1	(HH) (LL)	0.223 0.125	0.312 0.232	0.446 0.370	0.008	0.015 0.016	0.024 0.025			
	l	(LL)	0.125	0.232	0.370	0.010	0.016	0.025			

Function	LOW-NOISE	I/O BUFFER							3.3V
		BI	ock	type					
Drivability	no resistor	with 50 k Ω P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA	BE0C	BEDC		BEUC		BEWC		1	10
9mA	BE03	BED3		BEU3		BEW3		1	10
12mA	BE01	BED1		BEU1		BEW1		1	10
18mA	BE05	BED5		BEU5		BEW5		1	10
24mA	BE0F	BEDF		BEUF		BEWF		1	10
Logic Diagram				Block typ	.0	Inp	ut	C	Output
Logic Diagram	ı			Бюск тур	ie .	Symbol	Fan-in	Symb	ol Fan-out
				BE0C to BE	EWC	Α	6.1	Y1	34
Y1 N02 ↔	$\langle \ $					EN	3.2		
				BE03 to BE	:W3	A EN	6.1 3.2	Y1	34
A H01 ↔	-	→ N01 Y0					0.2		
				BE01 to BE	EW1	Α	6.1	Y1	34
EN H03 +						EN	3.2		
				BE05 to BE	-W5	Α	6.1	Y1	34
						EN	3.2		
T. (I. T.) I.									
Truth Table				BE0F to BE	WF	A EN	6.1 3.2	Y1	34
A EN	Y0 \	′0 Y1				EIN	3.2		
0 1	0	0 0							
1 1	1	1 1							
X 0	Z								
X:Irrelevant									
Z:High Impedan	ce								
									1

INTERFACE BLOCK(3.3V)

				Switcl	ning spe	eed					
Block type	Path		tı	LDO (ns))		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BE0C	A → Y0	(HH)	1.484	2.804	5.056				0.033	0.057	0.102
to BEWC		(LL)	1.446	2.847	5.070				0.039	0.058	0.091
	EN → Y0	(HZ)	0.965	1.786	2.815						
		(LZ)	0.724	1.144	1.770						
		(ZH)	1.432	2.775	5.046				0.033	0.057	0.102
		(ZL)	1.480	2.940	5.224				0.039	0.058	0.091
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BE03	$A \rightarrow Y0$	(HH)	1.543	2.980	5.502				0.026	0.045	0.077
to BEW3		(LL)	1.447	2.918	5.314				0.029	0.045	0.070
	EN → Y0	(HZ)	1.189	2.288	3.646						
		(LZ)	0.838	1.345	2.109						
		(ZH)	1.492	2.957	5.508				0.026	0.045	0.077
		(ZL)	1.484	3.011	5.492				0.029	0.044	0.070
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BE01	A → Y0	(HH)	1.636	3.208	6.011				0.022	0.039	0.068
to BEW1		(LL)	1.470	3.024	5.605				0.025	0.039	0.061
	EN → Y0	(HZ)	1.431	2.802	4.512						
		(LZ)	0.945	1.537	2.431						
		(ZH)	1.583	3.187	6.011				0.022	0.039	0.068
		(ZL)	1.506	3.118	5.756				0.025	0.039	0.061
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BE05	A → Y0	(HH)	1.836	3.669	6.952				0.020	0.036	0.062
to BEW5		(LL)	1.563	3.287	6.262				0.021	0.035	0.055
	EN → Y0	(HZ)	1.916	3.850	6.255						
		(LZ)	1.179	1.958	3.113						
		(ZH)	1.784	3.646	6.987				0.020	0.036	0.061
		(ZL)	1.605	3.377	6.409				0.021	0.034	0.055
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
5505		(LL)	0.125	0.232	0.370	0.010	0.016	0.025	0.040	0.000	0.000
BE0F	A → Y0	(HH)	2.090	4.257	8.132				0.019	0.033	0.060
to BEWF		(LL)	1.772	3.750	7.178				0.018	0.031	0.051
	EN → Y0	(HZ)	2.396	4.909	8.009	1				l	
		(LZ)	1.412	2.383	3.805	1					0.050
		(ZH)	2.041	4.239	8.119	1			0.019	0.033	0.058
		(ZL)	1.783	3.822	7.275	0.000	ا ممرد	0.004	0.019	0.031	0.051
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025		L	

Function	HIGH SPEED	I/O BUFFER						3	.3V
		BI	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wi	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells i	nt. cells
1mA									
2mA									
3mA	B02U	B03U		B04U		B05U		1	16
6mA	B02C	B03C		B04C		B05C		1	16
9mA	B023	B033		B043		B053		1	16
12mA	B021	B031		B041				1	16
18mA	B025	B035		B045		B055		1	20
24mA	B02F	B03F		B04F		B05F		1	20
Logic Diagram				Block typ		Inp	ut	Ou	tput
Logic Diagram	ı			ыск тур	ie	Symbol	Fan-in	Symbol	Fan-out
				B02U to B0	05U	Α	16.1	Y1	34
Y1 N02 ↔	$\langle \ $					EN	1.0		-
				B02C to B0	05C	A EN	16.1 1.0	Y1	34
A H01 ↔	-	→ N01 Y0				EIN	1.0		
				B023 to B0	053	Α	16.1	Y1	34
EN H03 ←						EN	1.0		
				B021 to B0	n51	А	16.1	Y1	34
				D021 t0 D0	551	EN	1.0		34
Truth Table				B025 to B0	055	Α	32.3	Y1	34
A EN	Y0 \	70 Y1				EN	2.0		
0 1	0	0 0		B02F to B0	05F	Α	32.3	Y1	34
1 1		1 1				EN	2.0		
X 0	Z								
X:Irrelevant									
Z:High Impedan	ce								

INTERFACE BLOCK(3.3V)

				Switch	ning spe	eed					
Block type	Path		t ı	D0 (ns))		t 1			Т	
	IN \rightarrow OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
B02U	$A \rightarrow Y0$	(HH)	0.466	0.840	1.522				0.057	0.101	0.186
to B05U		(LL)	0.597	0.960	1.561				0.072	0.101	0.159
	EN → Y0	(HZ)	0.592	1.072	1.804						
		(LZ)	0.357	0.642	1.102						
		(ZH)	0.860	1.534	2.705				0.057	0.101	0.186
		(ZL)	0.800	1.239	2.003		<u></u>		0.072	0.102	0.159
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
2000		(LL)	0.125	0.232	0.370	0.010	0.016	0.025	0.000	0.054	0.004
B02C	A → Y0	(HH)	0.440	0.785	1.374				0.029	0.051	0.094
to B05C	EN 1/0	(LL)	0.538	0.969 1.440	1.626				0.036	0.051	0.080
	EN → Y0	(HZ) (LZ)	0.808 0.455	0.811	2.392 1.396						
		(ZH)	0.433	1.495	2.580				0.029	0.051	0.093
		(ZL)	0.749	1.493	2.087				0.029	0.051	0.080
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024	0.030	0.001	0.000
	10 → 11	(LL)	0.125	0.312	0.370	0.000	0.016	0.024			
B023	A → Y0	(HH)	0.428	0.767	1.347	0.010	0.010	0.020	0.019	0.034	0.062
to B053	/ - 10	(LL)	0.495	0.919	1.571				0.024	0.035	0.054
10 2000	EN → Y0	(HZ)	0.881	1.579	2.613						
		(LZ)	0.478	0.851	1.468						
		(ZH)	0.824	1.475	2.541				0.019	0.034	0.063
		(ZL)	0.703	1.213	2.034				0.025	0.035	0.054
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
B021	A → Y0	(HH)	0.438	0.793	1.396				0.015	0.026	0.047
to B051		(LL)	0.485	0.918	1.580				0.019	0.027	0.042
	EN → Y0	(HZ)	0.964	1.722	2.844						
		(LZ)	0.498	0.890	1.534						
		(ZH)	0.830	1.497	2.585				0.015	0.026	0.047
		(ZL)	0.688	1.208	2.045				0.019	0.027	0.042
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
D005		(LL)	0.125	0.232	0.370	0.010	0.016	0.025	0.040	0.040	0.000
B025	A → Y0	(HH)	0.379	0.674	1.156				0.010	0.018	0.032
to B055	FN 1/2	(LL)	0.361 0.970	0.645 1.766	1.133 2.926				0.012	0.018	0.028
	EN → Y0	(HZ) (LZ)	0.970	0.843	1.459						
		(ZH)	0.468	1.414	2.432				0.010	0.018	0.032
		(ZL)	0.766	1.014	1.730				0.010	0.018	0.032
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024	0.010	0.010	0.020
	10 -7 11	(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
B02F	A → Y0	(HH)	0.417	0.753	1.311				0.008	0.014	0.025
to B05F		(LL)	0.391	0.706	1.263				0.010	0.014	0.022
	EN → Y0	(HZ)	1.071	1.944	3.224						
		(LZ)	0.499	0.902	1.557						
		(ZH)	0.821	1.487	2.581	1			0.008	0.014	0.025
		(ZL)	0.599	1.067	1.840				0.010	0.014	0.022
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			

Function	SCHMITT I/O	BUFFER						:	3.3V
		ВІ	ock	type					
Drivability	no resistor	with 50 k Ω P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	BSIU	BSDU		BSUU	1	BSWU		1	14
6mA	BSIC	BSDC		BSUC		BSWC		1	14
9mA	BSI3	BSD3		BSU3		BSW3		1	14
12mA	BSI1	BSD1		BSU1		BSW1		1	14
18mA	BSI5	BSD5		BSU5		BSW5		1	18
24mA	BSIF	BSDF		BSUF		BSWF		1	18
Logic Diagram				Block typ		Inp	ut	С	utput
Logic Diagram	ı			ыск тур	ie .	Symbol	Fan-in	Symbo	ol Fan-out
				BSIU to BS	SWU	В	7.1	Y1	22
Y1 N02 ❖	$\!\!<$ I \vdash					EN	3.2		
						_			
				BSIC to BS	SWC	B EN	7.1 3.2	cells in	22
B H02 ❖	-	→ N01 Y0					0.2		
				BSI3 to BS	SW3	В	7.1	Y1	22
EN H03 +						EN	3.2		
				BSI1 to BS	SW1	В	7.1	Y1	22
						EN	3.2		
T. (1 T.11)									
Truth Table				BSI5 to BS	SW5	B EN	13.3 3.3	Y1	22
B EN	Y0 \	′0 Y1				LIN	5.5		
0 1	0	0 0		BSIF to BS	SWF	В	13.3	Y1	22
1 1		1 1				EN	3.3		
X 0	Z								
X:Irrelevant									
Z:High Impedan	ce								
								1	

INTERFACE BLOCK(3.3V)

Block type					Switch	ning spe	ed					
BSIU BSWU B → Y0 (H-H) 1.030 1.787 3.038	Block type	Path		t i	LDO (ns))		t 1			Т	
To BSWU		IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
EN → Y0	BSIU	B → Y0	(HH)	1.030	1.787	3.038				0.057	0.101	0.186
C	to BSWU		(LL)	0.959	1.676	2.922				0.073	0.102	0.160
C 0.946 1.614 2.716 0.946 1.614 2.716 0.057 0.101 0.186 0.073 0.102 0.160		EN → Y0	(HZ)	0.718	1.187	1.779						
SSIC			(LZ)	0.454	0.718	1.119						
No.												
BSIC			. ,							0.073	0.102	0.160
BSIC to BSWC		Y0 → Y1										
To BSWC							0.010	0.016	0.026			
EN → Y0		B → Y0										
C Z 0.522 0.863 1.378	to BSWC									0.037	0.053	0.083
CZH) 0.977 1.620 2.734		EN → Y0										
C											0.050	0.005
No → Y1				1	l	1						
BSI3		V0 V4	٠,	1		1	0.010	0.000	0.027	0.037	0.053	0.083
BSI3 to BSW3 B → Y0 (IH) 1.057 1.947 3.399		YU → Y1	, ,	1								
to BSW3 EN → Y0 (HZ) 1.212 2.319 3.699 (LZ) 0.595 1.004 1.610 (ZH) 0.933 1.705 2.943 (ZL) 0.718 1.338 2.467 Y0 → Y1 (HH) 0.865 1.443 2.389 0.012 0.023 0.037 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 EN → Y0 (HZ) 1.462 2.841 4.553 (LZ) 0.667 1.399 1.836 (ZH) 0.973 1.817 3.201 EN → Y0 (HH) 0.865 1.443 2.389 0.012 0.023 0.037 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 BSI5 BSI5 B → Y0 (HH) 1.110 0.865 1.443 2.389 0.012 0.023 0.037 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 BSI5 BSI5 B → Y0 (HH) 1.025 1.894 3.561 0.001 0.016 0.026 EN → Y0 (HZ) 2.005 3.976 6.418 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 EN → Y0 (HZ) 2.005 3.976 6.418 (LZ) 0.849 1.471 2.369 (ZH) 1.000 1.894 3.351 0.010 0.016 0.026 EN → Y0 (HZ) 2.005 3.976 6.418 (ZL) 0.701 1.401 2.737 Y0 → Y1 (HH) 0.865 1.443 2.389 0.012 0.023 0.037 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 EN → Y0 (HZ) 2.005 3.976 6.418 (ZL) 0.701 1.401 2.737 Y0 → Y1 (HH) 0.865 1.443 2.389 0.012 0.023 0.037 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 EN → Y0 (HZ) 2.005 3.976 6.418 (ZL) 0.701 1.401 2.737 Y0 → Y1 (HH) 0.865 1.443 2.389 0.012 0.023 0.037 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 EN → Y0 (HZ) 2.005 3.976 6.418 (ZL) 0.701 1.401 2.737 Y0 → Y1 (HH) 0.865 1.443 2.389 0.012 0.023 0.037 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 EN → Y0 (HZ) 2.005 0.939 0.94 0.723 0.010 0.016 0.026 EN → Y0 (HZ) 2.005 0.939 0.94 0.723 0.010 0.016 0.026 EN → Y0 (HZ) 2.005 0.939 0.94 0.723 0.010 0.016 0.026 EN → Y0 (HZ) 2.2474 5.043 8.173 0.010 0.016 0.026 EN → Y0 (HZ) 2.474 5.043 8.173 0.010 0.016 0.026 EN → Y0 (HZ) 2.474 5.043 8.173 0.010 0.013 0.023 0.039 0.03	DCIO	B . V0					0.010	0.016	0.026	0.022	0.038	0.067
EN → Y0		B → 10		1								
Company Com	10 00 00	EN VO								0.020	0.000	0.000
CzH												
SSI1										0.022	0.038	0.067
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
BSI1		Y0 → Y1					0.012	0.023	0.037			
to BSW1				0.539	0.994	1.723	0.010	0.016	0.026			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	BSI1	B → Y0	(HH)	1.111	2.100	3.719				0.019	0.032	0.055
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	to BSW1		(LL)	0.841	1.672	3.201				0.021	0.031	0.049
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		EN → Y0	(HZ)	1.462	2.841							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			(LZ)	0.667	1.139	1.836						
Y0 → Y1												
BSI5										0.021	0.031	0.048
BSI5 to BSW5		Y0 → Y1						ı				
to BSW5 EN → Y0 (HZ) 2.005 3.976 6.418 (LZ) 0.849 1.471 2.369 (LZ) 0.701 1.401 2.737 (LZ) 0.701 1.401 2.737 (LZ) 0.849 1.471 2.389 0.012 0.023 0.037 (LL) 0.539 0.994 1.723 0.010 0.016 0.024 0.038 (LL) 0.539 0.994 1.723 0.010 0.016 0.026 (LL) 0.883 1.903 3.850 (LL) 0.883 1.903 3.850 (LL) 0.883 1.903 3.850 (LL) 0.883 1.903 3.850 (LL) 0.883 1.903 0.802 (LL) 0.883 1.73 (LZ) 1.002 1.765 2.848 (LZ) 1.002 1.765 2.848 (LZ) 0.752 1.540 3.109 (0.013 0.023 0.039 0.039 0.013 0.021 0.032 0.039 0.039 (LZ) 0.752 1.540 3.109 (0.013 0.021 0.032 0.039 0.03			. ,				0.010	0.016	0.026			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		B → Y0	, ,	1	l							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	to BSVV5		. ,	1				1		0.016	0.024	0.038
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		EN → Y0		1				1		1		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$								1		0.015	0.025	0.042
Y0 → Y1												
Columbia Columbia		V0 \ V1		1			0.012	0.023	0.037	0.010	0.024	0.000
BSIF B → Y0 (HH) 1.164 2.292 4.143 0.013 0.023 0.039 (LL) 0.883 1.903 3.850 0.013 0.021 0.032 0.032 (EN → Y0 (HZ) 2.474 5.043 8.173 (LZ) 1.002 1.765 2.848 (ZH) 1.128 2.178 3.889 0.013 0.021 0.032 0.039 (ZL) 0.752 1.540 3.109 0.013 0.021 0.034		10 → 11						ı				
to BSWF (LL) 0.883 1.903 3.850 0.013 0.021 0.032 EN → Y0 (HZ) 2.474 5.043 8.173 (LZ) 1.002 1.765 2.848 (ZH) 1.128 2.178 3.889 0.013 0.023 0.039 (ZL) 0.752 1.540 3.109 0.013 0.021 0.034	BSIF	B → Y0	. ,				5.5.5	5.0.0	0.020	0.013	0.023	0.039
EN → Y0 (HZ) 2.474 5.043 8.173 (LZ) 1.002 1.765 2.848 (ZH) 1.128 2.178 3.889 0.013 0.023 0.039 (ZL) 0.752 1.540 3.109 0.013 0.021 0.034												
(LZ) 1.002 1.765 2.848 (ZH) 1.128 2.178 3.889 (ZL) 0.752 1.540 3.109 0.013 0.023 0.039	1	EN → Y0										
(ZH) 1.128 2.178 3.889 0.013 0.023 0.039 (ZL) 0.752 1.540 3.109 0.013 0.021 0.034		/ /0		1	l	1						
(ZL) 0.752 1.540 3.109 0.013 0.021 0.034				1						0.013	0.023	0.039
								1				
		Y0 → Y1		0.865	1.443	2.389	0.012	0.023	0.037			
(LL) 0.539 0.994 1.723 0.010 0.016 0.026				0.539	0.994	1.723	0.010	0.016	0.026			

Function	LOW-NOISE	SCHMITT I/O BU	FFE	ΞR				3	3.3V
		ВІ	ock	type					
Drivability	no resistor	with 50 kΩ P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA	BFIC	BFDC		BFUC		BFWC		1	14
9mA	BFI3	BFD3		BFU3		BFW3		1	14
12mA	BFI1	BFD1		BFU1		BFW1		1	14
18mA	BFI5	BFD5		BFU5		BFW5		1	14
24mA	BFIF	BFDF		BFUF		BFWF		1	14
Logic Diagran	n		Block type		ie.	Inp			utput
Logio Diagram				Dioon typ		Symbol	Fan-in	Symbo	l Fan-out
	7			BFIC to BF	wc	В	6.1	Y1	22
Y1 N02 4						EN	3.2		
				BFI3 to BF	30/2	В	6.1	Y1	22
				BFI3 IU BF	WS	EN	3.2	11	22
B H02 4		→ N01 Y0							
				BFI1 to BF	W1	В	6.1	Y1	22
EN H03						EN	3.2		
				BFI5 to BF	W5	В	6.1	Y1	22
						EN	3.2		
Truth Table				BFIF to BF	\\/E	В	6.1	Y1	22
				Di ii to bi	***	EN	3.2		
B EN	Y0 \	(0 Y1							
0 1		0 0							
1 1 X 0	1	1 1							
X:Irrelevant Z:High Impedar	nce								
Z.i ligit lilipoddi	100								
						-			

INTERFACE BLOCK(3.3V)

				Switcl	ning spe	eed					
Block type	Path		t I	LD0 (ns))		t 1			Т	
	IN → OU	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BFIC	B → Y0	(HH)	1.484	2.804	5.056				0.033	0.057	0.102
to BFWC		(LL)	1.446	2.847	5.070				0.039	0.058	0.091
	EN → Y0	(HZ)	0.965	1.786	2.815						
		(LZ)	0.724	1.144	1.770						
		(ZH)	1.432	2.775	5.046				0.033	0.057	0.102
		(ZL)	1.480	2.940	5.224				0.039	0.058	0.091
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BFI3	B → Y0	(HH)	1.543	2.980	5.502				0.026	0.045	0.077
to BFW3		(LL)	1.447	2.918	5.314				0.029	0.045	0.070
	EN → Y0	(HZ)	1.189	2.288	3.646						
		(LZ)	0.838	1.345	2.109						
		(ZH)	1.492	2.957	5.508				0.026	0.045	0.077
		(ZL)	1.484	3.011	5.492				0.029	0.044	0.070
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BFI1	B → Y0	(HH)	1.636	3.208	6.011				0.022	0.039	0.068
to BFW1		(LL)	1.470	3.024	5.605				0.025	0.039	0.061
	EN → Y0	(HZ)	1.431	2.802	4.512						
		(LZ)	0.945	1.537	2.431						
		(ZH)	1.583	3.187	6.011				0.022	0.039	0.068
		(ZL)	1.506	3.118	5.756				0.025	0.039	0.061
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BFI5	B → Y0	(HH)	1.836	3.669	6.952				0.020	0.036	0.062
to BFW5		(LL)	1.563	3.287	6.262				0.021	0.035	0.055
	EN → Y0	(HZ)	1.916	3.850	6.255						
		(LZ)	1.179	1.958	3.113						
		(ZH)	1.784	3.646	6.987				0.020	0.036	0.061
		(ZL)	1.605	3.377	6.409				0.021	0.034	0.055
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BFIF	B → Y0	(HH)	2.090	4.257	8.132				0.019	0.033	0.060
to BFWF		(LL)	1.772	3.750	7.178	1			0.018	0.031	0.051
	EN → Y0	(HZ)	2.396	4.909	8.009	1					
		(LZ)	1.412	2.383	3.805						
		(ZH)	2.041	4.239	8.119				0.019	0.033	0.058
		(ZL)	1.783	3.822	7.275				0.019	0.031	0.051
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			

Function	I/O BUFFER	WITH EN(OR)						3	3.3V
		Bl	ock	type					
Drivability	no resistor	with 50 k Ω P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	BN3U33	BN5U33						1	16
6mA	BN3C33	BN5C33						1	16
9mA	BN3333	BN5333						1	16
12mA	BN3133	BN5133						1	16
18mA	BN3533	BN5533						1	20
24mA	BN3F33	BN5F33						1	20
Lauia Diagnan	_			Dia ala tara		Inp	ut	0	utput
Logic Diagram	1			Block typ	e	Symbol	Fan-in	Symbo	Fan-out
ENI H04 Y1 N02		7		BN3U33 to BI	N5U33	A EN ENI	16.1 1.0 2.1	Y1	33
A H01		N01 Y0		BN3C33 to BI		A EN ENI	16.1 1.0 2.1	Y1 Y1	33
EN H03	•					EN ENI	1.0 2.1		
Truth Table	Y0	Y0 ENI Y1		BN3133 to BI	N5133	A EN ENI	16.1 1.0 2.1	Y1	33
0 1 1 X 0 X:Irrelevant	0 1 Z	0 0 0 1 0 1 0 1 1 1 1 1		BN3533 to BI	N5533	A EN ENI	32.3 2.0 2.1	Y1	33
Z:High Impedan	се	·	_	BN3F33 to BI	N5F33	A EN ENI	32.3 2.0 2.1	Y1	33

INTERFACE BLOCK(3.3V)

				Switcl	ning spe	eed					
Block type	Path		t I	LDO (ns))		t 1			T	
	IN → OL	ΙΤ	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BN3U33	A → Y0	(HH)	0.466	0.840	1.522				0.057	0.101	0.186
to BN5U33		(LL)	0.597	0.960	1.561				0.072	0.101	0.159
	EN → Y0	(HZ)	0.592	1.072	1.804						
		(LZ)	0.357 0.860	0.642 1.534	1.102 2.705				0.057	0.101	0.186
		(ZH) (ZL)	0.800	1.239	2.705				0.057	0.101	0.186
	ENI → Y1	(ZL) (HH)	0.206	0.300	0.437	0.008	0.015	0.025	0.072	0.102	0.159
	LINI → II	(LL)	0.190	0.383	0.683	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.212	0.304	0.442	0.008	0.015	0.025			
	,	(LL)	0.201	0.394	0.695	0.010	0.016	0.026			
BN3C33	A → Y0	(HH)	0.440	0.785	1.374				0.029	0.051	0.094
to BN5C33		(LL)	0.538	0.969	1.626				0.036	0.051	0.080
	EN → Y0	(HZ)	0.808	1.440	2.392						
		(LZ)	0.455	0.811	1.396						
		(ZH)	0.840	1.495	2.580				0.029	0.051	0.093
		(ZL)	0.749	1.262	2.087				0.036	0.051	0.080
	ENI → Y1	(HH)	0.206	0.300	0.437	0.008	0.015	0.025			
		(LL)	0.190 0.212	0.383 0.304	0.683 0.442	0.010	0.016 0.015	0.026 0.025			
	Y0 → Y1	(HH) (LL)	0.212	0.304	0.442	0.008	0.015	0.025			
BN3333	A → Y0	(HH)	0.428	0.394	1.347	0.010	0.016	0.026	0.019	0.034	0.062
to BN5333	A → 10	(LL)	0.428	0.767	1.571				0.019	0.034	0.054
10 DI 10000	EN → Y0	(HZ)	0.881	1.579	2.613				0.024	0.000	0.004
		(LZ)	0.478	0.851	1.468						
		(ZH)	0.824	1.475	2.541				0.019	0.034	0.063
		(ZL)	0.703	1.213	2.034				0.025	0.035	0.054
	ENI → Y1	(HH)	0.206	0.300	0.437	0.008	0.015	0.025			
		(LL)	0.190	0.383	0.683	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.212	0.304	0.442	0.008	0.015	0.025			
		(LL)	0.201	0.394	0.695	0.010	0.016	0.026			
BN3133	A → Y0	(HH)	0.438	0.793	1.396				0.015	0.026	0.047
to BN5133	=11 1/4	(LL)	0.485 0.964	0.918 1.722	1.580 2.844				0.019	0.027	0.042
	EN → Y0	(HZ) (LZ)	0.498	0.890	1.534						
		(ZH)	0.430	1.497	2.585				0.015	0.026	0.047
		(ZL)	0.688	1.208	2.045				0.019	0.020	0.042
	ENI → Y1	(HH)	0.206	0.300	0.437	0.008	0.015	0.025	0.013	3.027	3.042
		(LL)	0.190	0.383	0.683	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.212	0.304	0.442	0.008	0.015	0.025			
		(LL)	0.201	0.394	0.695	0.010	0.016	0.026			
BN3533	A → Y0	(HH)	0.379	0.674	1.156				0.010	0.018	0.032
to BN5533		(LL)	0.361	0.645	1.133				0.012	0.018	0.028
	EN → Y0	(HZ)	0.970	1.766	2.926						
		(LZ)	0.468	0.843	1.459				0.046	0.046	
		(ZH)	0.788	1.414	2.432				0.010	0.018	0.032
	ENI → Y1	(ZL) (HH)	0.575 0.206	1.014 0.300	1.730 0.437	0.008	0.015	0.025	0.013	0.018	0.028
	EINI → Y1	(HH) (LL)	0.206	0.300	0.437	0.008	0.015	0.025			
	Y0 → Y1	(LL) (HH)	0.190	0.304	0.663	0.010	0.016	0.026			
	10 → T1	(LL)	0.212	0.304	0.442	0.008	0.015	0.025			
BN3F33	A → Y0	(HH)	0.201	0.753	1.311	0.010	0.010	0.020	0.008	0.014	0.025
to BN5F33	1	(LL)	0.391	0.706	1.263				0.010	0.014	0.022
2.10.00	EN → Y0	(HZ)	1.071	1.944	3.224						
	/	(LZ)	0.499	0.902	1.557						
		(ZH)	0.821	1.487	2.581				0.008	0.014	0.025
		(ZL)	0.599	1.067	1.840				0.010	0.014	0.022
	•	- '									

ı					Switch	ning spe	eed					
ı	Block type	Path		tı	LDO (ns))		t 1			Т	
ı		IN → Ol	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
ı		ENI → Y1	(HH)	0.206	0.300	0.437	0.008	0.015	0.025			
ı			(LL)	0.190	0.383	0.683	0.010	0.016	0.026			
ı		Y0 → Y1	(HH)	0.212	0.304	0.442	0.008	0.015	0.025			
ı			(LL)	0.201	0.394	0.695	0.010	0.016	0.026			

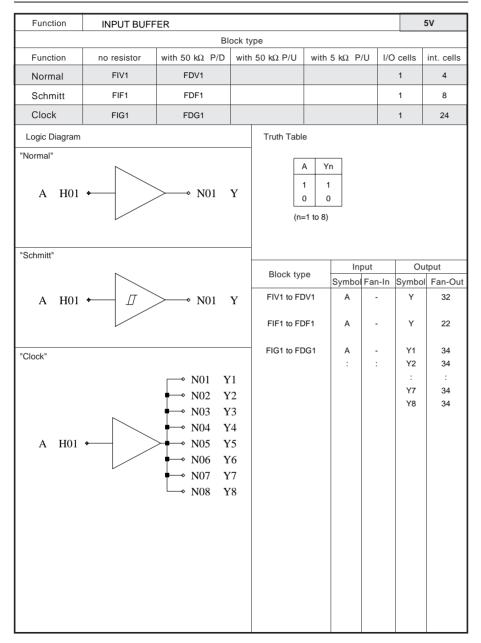
[MEMO]

Function	LOW NOISE	I/O BUFFER WIT	H E	N(OR)				;	3.3V
		BI	ock	type					
Drivability	no resistor	with 50 k Ω P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA	BN7C33	BNBC33						1	10
9mA	BN7333	BNB333						1	10
12mA	BN7133	BNB133						1	10
18mA	BN7533	BNB533						1	10
24mA	BN7F33	BNBF33						1	10
Logic Diagram				Block typ	.0	Inp	ut	0	utput
Logic Diagram	ı			Бюск тур	ie	Symbol	Fan-in	Symbo	Fan-out
ENI H04	•	\neg		BN7C33 to BN	NBC33	Α	6.1	Y1	33
		7		2.11.000 to 2.	12000	EN	3.2		
Y1 N02						ENI	2.1		
		\vdash							
	_	_		BN7333 to BN	NB333	A EN	6.1 3.2	Y1	33
A H01	\longrightarrow	→ N01 Y0				ENI	2.1		
EN H03				BN7133 to BN	NB133	Α	6.1	Y1	33
EN 1103	•					EN	3.2		
						ENI	2.1		
Truth Table				BN7533 to BN	NB533	Α	6.1	Y1	33
			_			EN	3.2		
A EN	Y0	Y0 ENI Y1				ENI	2.1		
0 1	0	0 0 0		DAITEGG / DA	IDE00				
	1	1 0 1		BN7F33 to BN	NBF33	A EN	6.1 3.2	Y1	33
X 0	Z	0 1 1 1 1				ENI	2.1		
X:Irrelevant									
Z:High Impedan	ce								

INTERFACE BLOCK(3.3V)

				Switch	ning spe	eed					
Block type	Path		H) 1.484 2.804				t 1			Т	
	IN → OU	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BN7C33	A → Y0	(HH)	1.484	2.804	5.056				0.033	0.057	0.102
to BNBC33		(LL)	1.446	2.847	5.070				0.039	0.058	0.091
	EN → Y0	(HZ)	0.965	1.786	2.815						
		(LZ)	0.724	1.144	1.770						
		(ZH)	1.432	2.775	5.046				0.033	0.057	0.102
		(ZL)	1.480	2.940	5.224		<u></u>		0.039	0.058	0.091
	ENI → Y1	(HH)	0.206	0.300	0.437	0.008	0.015	0.025			
		(LL)	0.190	0.383 0.304	0.683 0.442	0.010 0.008	0.016 0.015	0.026			
	Y0 → Y1	(HH) (LL)	0.212 0.201	0.304	0.442	0.008	0.015	0.025 0.026			
BN7333	A → Y0	(HH)	1.543	2.980	5.502	0.010	0.016	0.026	0.026	0.045	0.077
to BNB333	A → 10	(LL)	1.447	2.918	5.314				0.020	0.045	0.077
IO DINDOOS	EN → Y0	(HZ)	1.189	2.288	3.646				0.025	0.040	0.070
		(LZ)	0.838	1.345	2.109						
		(ZH)	1.492	2.957	5.508				0.026	0.045	0.077
		(ZL)	1.484	3.011	5.492				0.029	0.044	0.070
	ENI → Y1	(HH)	0.206	0.300	0.437	0.008	0.015	0.025			
		(LL)	0.190	0.383	0.683	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.212	0.304	0.442	0.008	0.015	0.025			
		(LL)	0.201	0.394	0.695	0.010	0.016	0.026			
BN7133	A → Y0	(HH)	1.636	3.208	6.011				0.022	0.039	0.068
to BNB133		(LL)	1.470	3.024	5.605				0.025	0.039	0.061
	EN → Y0	(HZ)	1.431	2.802	4.512						
		(LZ)	0.945	1.537	2.431						
		(ZH)	1.583	3.187	6.011				0.022	0.039	0.068
		(ZL)	1.506	3.118	5.756	0.000		0.005	0.025	0.039	0.061
	ENI → Y1	(HH) (LL)	0.206 0.190	0.300 0.383	0.437 0.683	0.008 0.010	0.015 0.016	0.025 0.026			
	Y0 → Y1	(HH)	0.190	0.304	0.442	0.010	0.016	0.025			
	10 → 11	(LL)	0.212	0.394	0.695	0.000	0.016	0.025			
BN7533	A → Y0	(HH)	1.836	3.669	6.952	0.010	0.010	0.020	0.020	0.036	0.062
to BNB533		(LL)	1.563	3.287	6.262				0.021	0.035	0.055
	EN → Y0	(HZ)	1.916	3.850	6.255						
		(LZ)	1.179	1.958	3.113						
		(ZH)	1.784	3.646	6.987				0.020	0.036	0.061
		(ZL)	1.605	3.377	6.409				0.021	0.034	0.055
	ENI → Y1	(HH)	0.206	0.300	0.437	0.008	0.015	0.025			
		(LL)	0.190	0.383	0.683	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.212	0.304	0.442	0.008	0.015	0.025			
BN7F33		(LL)	0.201	0.394	0.695	0.010	0.016	0.026	0.019	0.033	0.060
	A → Y0	(HH)	2.090	4.257 3.750	8.132 7.178				0.019		
to BNBF33	EN → Y0	(LL) (HZ)	1.772 2.396	4.909	8.009				0.018	0.031	0.051
	I □IN → TU	(LZ)	1.412	2.383	3.805	1	1			1	
		(ZH)	2.041	4.239	8.119				0.019	0.033	0.058
		(ZL)	1.783	3.822	7.275				0.019	0.031	0.051
	ENI → Y1	(HH)	0.206	0.300	0.437	0.008	0.015	0.025			
		(LL)	0.190	0.383	0.683	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.212	0.304	0.442	0.008	0.015	0.025			
		(LL)	0.201	0.394	0.695	0.010	0.016	0.026			
	ı	(LL)	0.201	3.00-4	0.000	0.010	0.010	0.020		·	

CHAPTER 2 INTERFACE BLOCK (5V)



INTERFACE BLOCK(5V)

				Switch	ning spe	ed					
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → OU	Т	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FIV1	A → Y	(HH)	0.257	0.400	0.683	0.008	0.015	0.024			
to FDV1		(LL)	0.150	0.278	0.492	0.010	0.016	0.025			
FIF1	$A \rightarrow Y$	(HH)	0.922	1.626	2.856	0.012	0.023	0.037			
to FDF1		(LL)	0.544	1.048	1.885	0.010	0.016	0.026			
FIG1	A → Yn	(HH)	0.333	0.543	0.988	0.001	0.002	0.004			
to FDG1		(LL)	0.204	0.379	0.662	0.001	0.002	0.003			1
	(n = 1 to 8)										

Function	INPUT BUFF	ER WITH EN(OR))					5V
		Ble	ock type					
Function	no resistor	with 50 kΩ P/D	with 50 k Ω P/U	with	5 kΩ P/	'U I/O	cells	int. cells
Normal	FN1335	FN2335					1	4
Schmitt								
Clock								
Logic Diagram			Truth Tabl	е				
"Normal" A H01 ←		→ N01 Y		0 0 1	0 0 1 1 0 1 1 1			
"Schmitt"					Inp	out	Oı	ıtput
			Block ty	ре	Symbol	Fan-In		Fan-Out
"Clock"			FN1335 to F	N2335	A EN	2.1	Y	34

INTERFACE BLOCK(5V)

				Switch	ning spe	ed					
Block type	Path		t i	LDO (ns))		t 1		T		
	$IN \ \to \ O$	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FN1335	$A \rightarrow Y$	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
to FN2335		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
	$EN \ \to \ Y$	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			

Function	CMOS OUTP	UT BUFFER						5	5V
		BI	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wi	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	FY09							1	20
6mA	FY04							1	20
9mA	FY01							1	24
12mA	FY02							1	24
18mA	FY03							2	24
24mA	FY06							2	24
Logic Diagran	0			Block typ	0	Inp	ut		utput
Logic Diagram	11			Бюск тур	E	Symbol	Fan-in	Symbo	Fan-out
A 1101		. NO1 - W		FY09		А	8.0	Y	-
A H01		→ N01 Y		FY04		А	8.0	Y	-
				FY01		Α	16.1	Υ	-
				FY02		Α	16.1	Υ	-
				FY03		Α	10.7	Υ	-
				FY06		Α	10.7	Υ	-
Truth Table									
A Y 1 1									
0 0									

INTERFACE BLOCK(5V)

				Switcl	ning spe	eed					
Block type	Path		t i	LDO (ns)		t 1			Т	
	IN → Ol	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FY09	$A \rightarrow Y$	(HH)	0.720	1.244	2.223				0.057	0.101	0.188
		(LL)	0.836	1.225	1.953				0.073	0.103	0.162
FY04	$A \rightarrow Y$	(HH)	0.606	1.018	1.757				0.020	0.036	0.068
		(LL)	0.696	1.179	1.973				0.026	0.037	0.060
FY01	$A \rightarrow Y$	(HH)	0.437	0.762	1.327				0.015	0.028	0.053
		(LL)	0.509	0.845	1.421				0.020	0.029	0.048
FY02	$A \rightarrow Y$	(HH)	0.453	0.802	1.403				0.011	0.021	0.041
		(LL)	0.519	0.896	1.541				0.015	0.022	0.036
FY03	A → Y	(HH)	0.573	1.394	1.734				0.007	0.013	0.023
		(LL)	0.709	1.436	2.133				0.009	0.015	0.022
FY06	$A \rightarrow Y$	(HH)	0.590	1.478	1.811				0.006	0.012	0.021
		(LL)	0.738	1.528	2.262				0.008	0.014	0.020

Function	CMOS LOW-	NOISE OUTPUT	BUF	FER				5	V
	Ti .	BI	ock	type				-	
Drivability	no resistor	with 50 kΩ P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	U I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA									
9mA									
12mA	FZ02							1	8
18mA	FZ03							2	8
24mA	FZ06							2	8
Logi- Di				Disabilities	_	Inp	out	Ou	utput
Logic Diagran	1			Block typ	е	Symbol	Fan-in	Symbo	Fan-out
				FZ02		А	7.0	Y	-
A H01		→ N01 Y		FZ03		А	7.0	Υ	-
				FZ06		A	7.0	Y	_
Truth Table									
A Y									
1 1									
0 0									

INTERFACE BLOCK(5V)

				Switcl	hing spe	eed					
Block type	Path		t	LDO (ns)		t 1			Т	
	IN → Ol			TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FZ02	A → Y	(HH)	1.844	3.548	6.562				0.023	0.040	0.069
		(LL)	1.689	3.418	6.205				0.026	0.041	0.065
FZ03	$A \rightarrow Y$	(HH)	3.028	6.073	11.564				0.018	0.031	0.053
		(LL)	2.725	5.808	10.780				0.019	0.032	0.052
FZ06	$A \rightarrow Y$	(HH)	3.248	6.558	12.558				0.017	0.030	0.053
		(LL)	2.879	6.174	11.507				0.018	0.031	0.051

Function	TTL OUTPUT	BUFFER								5V
			ВІ	ock	type					
Drivability	no resistor	with 50 $k\Omega$	P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	J 1/0	cells	int. cells
1mA	FV0A								1	4
2mA	FV0B								1	4
3mA	FV09								1	4
6mA	FV04								1	4
9mA	FV01								1	8
12mA										
18mA										
24mA										
Logic Diagram	1				Block typ	e	Inp			Output
Logio Liagian					2.00.0.1,7		Symbol	Fan-ir	Symb	ol Fan-out
					FV0A		Α	8.1	Υ	-
A H01	\leftarrow	→ N01	Y							
					FV0B		Α	8.1	Y	-
					FV09		Α	8.1	Υ	_
					FV04		Α	8.1	Υ	-
					FV01		Α	16.3	Y	_
					1 101		, ,	10.0	'	
Truth Table										
A Y										
1 1										
0 0										

INTERFACE BLOCK(5V)

				Switch	ning spe	eed					
Block type	Path		t	LD0 (ns))		t 1			Т	
	$IN \to C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FV0A	$A \rightarrow Y$	(HH)	0.973	1.666	2.916				0.058	0.103	0.191
		(LL)	1.008	1.572	2.573				0.073	0.104	0.163
FV0B	A → Y	(HH)	0.809	1.399	2.422				0.030	0.053	0.099
		(LL)	0.745	1.264	2.163				0.038	0.054	0.086
FV09	A → Y	(HH)	0.819	1.442	2.512				0.021	0.037	0.070
		(LL)	0.723	1.280	2.274				0.026	0.038	0.061
FV04	A → Y	(HH)	0.846	1.519	2.671				0.017	0.030	0.056
		(LL)	0.724	1.340	2.430				0.021	0.031	0.051
FV01	A → Y	(HH)	0.752	1.418	2.561				0.013	0.023	0.045
		(LL)	0.635	1.251	2.361				0.016	0.024	0.040

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Function	TTL LOW-NC	ISE OUTPUT BU	FFE	R				5	V
	Ti .	BI	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	U I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA									
9mA									
12mA	FW02							1	4
18mA	FW03							2	4
24mA	FW06							2	4
Logis Disease				Disabilities	_	Inp	out	Ou	ıtput
Logic Diagran	1			Block typ	е	Symbol	Fan-in	Symbo	Fan-out
				FW02		А	6.1	Υ	-
A H01		→ N01 Y		FW03		А	6.1	Υ	-
				FW06		А	6.1	Υ	-
Truth Table									
A Y									
1 1									
0 0									

INTERFACE BLOCK(5V)

				Switch	ning spe	ed					
Block type	Path		t	LDO (ns)		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FW02	$A \rightarrow Y$	(HH)	1.726	3.468	6.619				0.016	0.029	0.054
		(LL)	1.959	4.101	7.801				0.020	0.033	0.054
FW03	$A \rightarrow Y$	(HH)	2.326	4.657	8.989				0.013	0.024	0.043
		(LL)	2.766	5.869	11.034				0.016	0.029	0.048
FW06	$A \rightarrow Y$	(HH)	2.630	5.337	10.382				0.013	0.023	0.043
		(LL)	3.082	6.610	12.484				0.015	0.027	0.047

Function	TTL HIGH SP	EED OUTPUT B	UFF	FER					5V
		ВІ	ock	type					
Drivability	no resistor	with 50 k Ω P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	FY19							1	4
6mA	FY14							1	4
9mA	FY11							1	8
12mA	FY12							1	8
18mA	FY13							2	8
24mA	FY16							2	8
Logic Diagram	1			Block typ	۵	Inp			Dutput
Logic Diagram	,			Бюск тур		Symbol	Fan-in	Symb	ol Fan-out
A H01				FY19		А	8.0	Y	-
A HUI		N01 Y		FY14		А	8.0	Y	-
				FY11		А	16.1	Y	-
				FY12		А	16.1	Υ	-
				FY13		А	16.1	Y	-
				FY16		А	16.1	Y	-
Truth Table									
A Y 0 0 1 1									

INTERFACE BLOCK(5V)

				Switcl	ning spe	eed					
Block type	Path		t	LD0 (ns))		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FY19	$A \rightarrow Y$	(HH)	0.720	1.244	2.223				0.057	0.101	0.188
		(LL)	0.836	1.225	1.953				0.073	0.103	0.162
FY14	$A \rightarrow Y$	(HH)	0.606	1.018	1.757				0.020	0.036	0.068
		(LL)	0.696	1.179	1.973				0.026	0.037	0.060
FY11	$A \rightarrow Y$	(HH)	0.437	0.762	1.327				0.015	0.028	0.053
		(LL)	0.509	0.845	1.421				0.020	0.029	0.048
FY12	$A \rightarrow Y$	(HH)	0.453	0.802	1.403				0.011	0.021	0.041
		(LL)	0.519	0.896	1.541				0.015	0.022	0.036
FY13	$A \rightarrow Y$	(HH)	0.573	0.998	1.734				0.007	0.012	0.023
		(LL)	0.709	1.247	2.133				0.009	0.013	0.022
FY16	A → Y	(HH)	0.590	1.034	1.811				0.006	0.011	0.021
		(LL)	0.738	1.314	2.262				0.008	0.012	0.020

Function	CMOS 3-STA	TE OUTPUT BUF	FE	R					5V
		BI	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	J 1/C	cells	int. cells
1mA									
2mA									
3mA	BD0T							1	32
6mA	BD0E							1	32
9mA	BD08							1	42
12mA	BD07							1	42
18mA	BD09							2	42
24mA	BD0H							2	42
Logic Diagram				Block typ	0	Inp	ut	(Output
Logic Diagram	ı			Бюск тур		Symbol	Fan-ir	Symb	ol Fan-out
				BD0T		Α	20.2	Y	_
A H01	\leftarrow	N01 Y				EN	1.0		
				BD0E		A EN	17.8 1.0	Y	-
EN H02	•					EIN	1.0		
				BD08		Α	21.3	Υ	-
						EN	2.0		
				DDOZ			04.0	Y	
				BD07		A EN	21.3 2.0	Y	-
							2.0		
Truth Table				BD09		Α	21.3	Υ	-
A EN	Υ					EN	2.0		
0 1	0			BD0H		Α	21.3	Y	_
1 1 1	1			22011		EN	2.0	'	
x 0	Z								
X:Irrelevant									
Z:High Impedan	ce								

INTERFACE BLOCK(5V)

				Switcl	hing spe	eed					
Block type	Path		t	LD0 (ns))		t 1			Т	
	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BD0T	A → Y	(HH)	0.644	1.162	2.163				0.058	0.103	0.190
		(LL)	0.775	1.179	1.916				0.074	0.104	0.164
	EN → Y	(HZ)	0.885	1.655	2.878						
		(LZ)	0.526	0.991	1.745						
		(ZH)	1.125	2.067	3.631				0.058	0.103	0.190
		(ZL)	1.014	1.578	2.522				0.074	0.105	0.165
BD0E	A → Y	(HH)	0.490	0.948	1.606				0.020	0.036	0.068
		(LL)	0.581	1.134	1.768				0.026	0.038	0.061
	$EN \rightarrow Y$	(HZ)	1.120	1.798	3.569						
		(LZ)	0.667	0.971	2.174						
		(ZH)	1.098	1.824	3.493				0.020	0.035	0.068
		(ZL)	0.864	1.432	2.468				0.026	0.038	0.061
BD08	$A \rightarrow Y$	(HH)	0.457	0.808	1.352				0.016	0.027	0.054
		(LL)	0.499	0.970	1.468				0.020	0.031	0.049
	$EN \rightarrow Y$	(HZ)	0.986	1.613	3.100						
		(LZ)	0.529	0.830	1.728						
		(ZH)	0.964	1.608	2.938				0.015	0.027	0.054
		(ZL)	0.728	1.290	2.094				0.020	0.031	0.049
BD07	$A \rightarrow Y$	(HH)	0.475	0.863	1.444				0.011	0.020	0.040
		(LL)	0.524	1.021	1.584				0.015	0.024	0.038
	$EN \rightarrow Y$	(HZ)	1.069	1.787	3.366						
		(LZ)	0.561	0.891	1.830						
		(ZH)	0.989	1.657	3.049				0.011	0.020	0.041
		(ZL)	0.733	1.323	2.150				0.015	0.024	0.039
BD09	$A \rightarrow Y$	(HH)	0.638	1.073	2.043				0.007	0.013	0.024
		(LL)	0.692	1.300	2.246				0.010	0.016	0.025
	EN → Y	(HZ)	1.346	2.107	4.176						
		(LZ)	0.679	0.988	2.160						
		(ZH)	1.132	1.868	3.593				0.008	0.012	0.024
		(ZL)	0.854	1.543	2.660				0.010	0.016	0.025
BD0H	A → Y	(HH)	0.665	1.111	2.157				0.007	0.011	0.021
		(LL)	0.725	1.364	2.391				0.009	0.015	0.023
	EN → Y	(HZ)	1.441	2.254	4.466						
		(LZ)	0.708	1.028	2.251						
		(ZH)	1.157	1.912	3.709				0.007	0.011	0.022
		(ZL)	0.862	1.573	2.719				0.009	0.015	0.024

Function	CMOS LOW-	NOISE 3-STATE	ΟU	ITPUT BUFFER	₹				5V	
		В	ock	type						
Drivability	no resistor	with 50 kΩ P/D	w	rith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. ce	ells
1mA										
2mA										
3mA										
6mA										
9mA										
12mA	BJ07							1	20	_
18mA	BJ09							2	20	
24mA	BJ0H							2	20	
Logic Diagram	1			Block typ	۵	Inp	ut	_	Dutput	
Logic Diagram	,			Бюск тур		Symbol	Fan-in	Symb	ol Fan	-out
				BJ07		Α	7.1	Υ	_	
A H01	→	→ N01 Y				EN	4.2			
				BJ09		A EN	7.1 4.2	Υ	-	
EN H02	•					LIV	7.2			
				BJ0H		Α	7.1	Υ	-	
						EN	4.2			
Truth Table										
A EN	Y									
0 1	0									
1 1 X 0	1 Z									
X:Irrelevant										
Z:High Impedan	ce									
			2						'	

INTERFACE BLOCK(5V)

				Switch	ning spe	eed					
Block type	Path		tı	LDO (ns)		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BJ07	$A \rightarrow Y$	(HH)	2.565	5.089	9.558				0.023	0.040	0.069
		(LL)	1.786	3.825	7.040				0.022	0.035	0.057
	$EN \ \to \ Y$	(HZ)	1.833	3.131	4.762						
		(LZ)	1.210	1.903	3.016						
		(ZH)	2.539	5.105	9.601				0.023	0.040	0.069
		(ZL)	1.762	3.713	6.670				0.022	0.036	0.060
BJ09	$A \rightarrow Y$	(HH)	3.808	7.716	14.622				0.020	0.036	0.062
		(LL)	2.564	5.821	10.808				0.020	0.032	0.052
	$EN \ \to \ Y$	(HZ)	3.024	5.132	7.751						
		(LZ)	1.923	2.980	4.651						
		(ZH)	3.783	7.729	14.677				0.020	0.036	0.062
		(ZL)	2.555	5.554	10.116				0.019	0.033	0.055
BJ0H	$A \rightarrow Y$	(HH)	4.095	8.344	15.878				0.020	0.035	0.061
		(LL)	2.733	6.186	11.537				0.019	0.031	0.050
	$EN \ \to \ Y$	(HZ)	3.431	5.848	8.897						
		(LZ)	2.121	3.288	5.141						
		(ZH)	4.071	8.359	15.940				0.020	0.035	0.061
		(ZL)	2.666	5.858	10.709				0.019	0.032	0.054

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Function	TTL 3-STATE	OUTPUT BUF	FEF	?					5V
			Bloc	ck type					
Drivability	no resistor	with 50 kΩ P/I)	with 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA	BV0Q	BVDQ						1	16
2mA	BV0M	BVDM						1	16
3mA	BV0T	BVDT						1	16
6mA	BV0E	BVDE						1	16
9mA	BV08	BVD8						1	20
12mA									
18mA									
24mA									
Logic Diagram				Block typ		Inp	ut	(Dutput
Logio Diagram	'			Blook typ		Symbol	Fan-in	Symb	ol Fan-out
				BV0Q to B\	/DQ	Α	7.1	Υ	-
A H01	\rightarrow	N01 Y	7			EN	4.5		
				D)/OM to D)	/DM	A	7.1	Y	
EN 1102				BV0M to B\	VDIVI	EN	4.5	ĭ	-
EN H02	•								
				BV0T to B\	/DT	Α	7.1	Υ	-
						EN	4.5		
				BV0E to B\	/DE	Α	7.1	Υ	_
						EN	4.5		
Truth Table				D) (00 t- D)	/D0		40.0	.,	
Trutti Tabic				BV08 to B\	/D8	A EN	13.3 4.6	Υ	-
A EN	Υ						4.0		
0 1	0								
1 1	1								
X 0	Z								
X:Irrelevant									
Z:High Impedan	ce								

INTERFACE BLOCK(5V)

				Switcl	hing spe	ed					
Block type	Path		tı	LDO (ns)		t 1			Т	
	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BV0Q	A → Y	(HH)	1.184	2.056	3.557				0.059	0.104	0.191
to BVDQ		(LL)	1.123	1.930	3.335				0.075	0.106	0.166
	EN → Y	(HZ)	0.720	1.195	1.785						
		(LZ)	0.507	0.828	1.327						
		(ZH)	1.079	1.826	3.045				0.058	0.103	0.190
		(ZL)	1.088	1.888	3.201				0.075	0.106	0.167
BV0M	A → Y	(HH)	1.125	2.004	3.446				0.031	0.054	0.099
to BVDM		(LL)	0.985	1.808	3.212				0.040	0.058	0.092
	EN → Y	(HZ)	0.990	1.819	2.882						
		(LZ)	0.574	0.970	1.584						
		(ZH)	1.016	1.764	2.950				0.031	0.054	0.100
		(ZL)	1.014	1.830	3.161				0.040	0.059	0.094
BV0T	A → Y	(HH)	1.165	2.134	3.735				0.023	0.039	0.071
to BVDT		(LL)	1.035	1.923	3.473				0.030	0.045	0.072
	EN → Y	(HZ)	1.215	2.302	3.692						
		(LZ)	0.649	1.111	1.819						
		(ZH)	1.041	1.864	3.188				0.023	0.040	0.072
		(ZL)	1.056	1.894	3.307				0.031	0.047	0.075
BV0E	A → Y	(HH)	1.215	2.273	4.034				0.020	0.033	0.059
to BVDE		(LL)	1.063	1.975	3.458				0.027	0.041	0.064
	EN → Y	(HZ)	1.442	2.759	4.456						
		(LZ)	0.719	1.246	2.041						
		(ZH)	1.074	1.844	3.026				0.020	0.034	0.060
		(ZL)	1.057	1.871	3.265				0.028	0.043	0.068
BV08	A → Y	(HH)	1.136	2.187	3.929				0.016	0.027	0.047
to BVD8		(LL)	1.040	2.018	3.823				0.025	0.037	0.057
	EN → Y	(HZ)	1.997	3.945	6.414	1					
		(LZ)	0.900	1.576	2.578	1					
		(ZH)	1.112	2.074	3.642	1			0.016	0.027	0.048
		(ZL)	1.072	1.960	3.629				0.026	0.040	0.061

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Function	TTL LOW-NO	ISE 3-STATE	OU	ITP	UT BUFFER					5V	
			Ble	ock	type						
Drivability	no resistor	with 50 kΩ I	P/D	wi	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. c	ells
1mA											
2mA											
3mA											
6mA											_
9mA											
12mA	BY07	BYD7							1	16	<u>. </u>
18mA	BY09	BYD9							2	16	
24mA	BY0H	BYDH							2	16	i
Logic Diagram					Block typ	0	Inp	ut	(Output	
Logic Diagram					Бюск тур		Symbol	Fan-in	Symb	ol Fan	-out
					BY07 to BY	/D7	Α	6.1	Υ	_	
A H01	\longrightarrow	→ N01	Y				EN	4.5			
					BY09 to BY	709	A EN	6.1 4.5	Υ	-	
EN H02	•						LIV	4.5			
					BY0H to BY	/DH	Α	6.1	Υ	-	.
							EN	4.5			
Truth Table											
A EN	Y										
0 1	0										
1 1 X 0	1 Z										
X:Irrelevant Z:High Impedan	ce										
gpoud											
					22				1		_

INTERFACE BLOCK(5V)

				Switch	ning spe	eed					
Block type	Path		t	LDO (ns)		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BY07	A → Y	(HH)	2.232	4.527	8.678				0.019	0.035	0.061
to BYD7		(LL)	1.987	4.111	7.806				0.024	0.038	0.062
	$EN \ \to \ Y$	(HZ)	2.391	4.855	7.978						
		(LZ)	1.483	2.516	4.052						
		(ZH)	2.156	4.442	8.516				0.019	0.035	0.062
		(ZL)	1.966	4.152	7.834				0.025	0.039	0.063
BY09	$A \rightarrow Y$	(HH)	3.028	6.194	12.045				0.017	0.031	0.053
to BYD9		(LL)	2.722	5.106	8.050				0.021	0.034	0.054
	$EN \ \to \ Y$	(HZ)	3.374	6.267	9.976						
		(LZ)	2.122	3.379	5.355						
		(ZH)	2.932	4.361	7.918				0.017	0.032	0.055
		(ZL)	2.686	5.054	8.242				0.021	0.034	0.057
BY0H	$A \rightarrow Y$	(HH)	3.484	7.192	14.049				0.017	0.030	0.053
to BYDH		(LL)	3.072	5.568	9.302				0.021	0.033	0.052
	$EN \ \to \ Y$	(HZ)	4.235	7.923	12.718						
		(LZ)	2.548	4.087	6.497						
		(ZH)	3.391	4.950	9.407				0.017	0.031	0.055
		(ZL)	2.980	5.438	9.017				0.021	0.034	0.057

Function	TTL HIGH SP	EED 3-STA	TE O	UTI	PUT BUFFER					5V
			ВІ	ock	type					
Drivability	no resistor	with 50 $k\Omega$	P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA										
2mA										
3mA	BD1T	BD2T							1	32
6mA	BD1E	BD2E							1	32
9mA	BD18	BD28							1	42
12mA	BD17	BD27							1	42
18mA	BD19	BD29							2	42
24mA	BD1H	BD2H						:	2	42
Logic Diagram					Block typ	_	Inp	ut	C	Output
Logic Diagram	I				Бюск тур	е	Symbol	Fan-in	Symb	ol Fan-out
					BD1T to BI	D2T	Α	20.2	Υ	₋
A H01	\leftarrow	→ N01	Y				EN	1.0		
	ŕ				BD1E to BI	D2E	A EN	20.2 1.0	Y	-
EN H02	•						LIN	1.0		
					BD18 to BI	D28	Α	22.2	Υ	-
							EN	2.0		
					BD17 to BI	727	Α	22.2	Y	1 . 1
					5517 10 51	J.Z.1	EN	2.0		
<u> </u>										
Truth Table					BD19 to BI	D29	A	22.2	Υ	-
A EN	Υ						EN	2.0		
0 1	0				BD1H to BI	D2H	Α	22.2	Υ	-
1 1	1						EN	2.0		
X 0	Z									
X:Irrelevant										
Z:High Impedan	ce									

INTERFACE BLOCK(5V)

				Switcl	ning spe	eed					
Block type	Path		t i	LDO (ns)		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BD1T	A → Y	(HH)	0.644	1.162	2.163				0.058	0.103	0.190
to BD2T		(LL)	0.775	1.179	1.916				0.074	0.104	0.164
	EN o Y	(HZ)	0.885	1.655	2.878						
		(LZ)	0.526	0.991	1.745						
		(ZH)	1.125	2.067	3.631				0.058	0.103	0.190
		(ZL)	1.014	1.578	2.522				0.074	0.105	0.165
BD1E	A → Y	(HH)	0.490	0.896	1.606				0.020	0.036	0.068
to BD2E		(LL)	0.581	1.030	1.768				0.026	0.038	0.061
	$EN \rightarrow Y$	(HZ)	1.120	2.078	3.569						
		(LZ)	0.667	1.234	2.174						
		(ZH)	1.098	2.007	3.493				0.020	0.036	0.068
		(ZL)	0.864	1.486	2.468				0.026	0.038	0.061
BD18	A → Y	(HH)	0.457	0.791	1.352				0.016	0.028	0.054
to BD28		(LL)	0.499	0.854	1.468				0.020	0.030	0.049
	$EN \rightarrow Y$	(HZ)	0.986	1.818	3.100						
		(LZ)	0.529	0.979	1.728						
		(ZH)	0.964	1.717	2.938				0.015	0.028	0.054
		(ZL)	0.728	1.251	2.094				0.020	0.030	0.049
BD17	$A \rightarrow Y$	(HH)	0.475	0.839	1.444				0.011	0.021	0.040
to BD27		(LL)	0.524	0.912	1.584				0.015	0.023	0.038
	EN o Y	(HZ)	1.069	1.981	3.366						
		(LZ)	0.561	1.039	1.830						
		(ZH)	0.989	1.772	3.049				0.011	0.021	0.041
		(ZL)	0.733	1.280	2.150				0.015	0.024	0.039
BD19	$A \rightarrow Y$	(HH)	0.638	1.172	2.043				0.007	0.013	0.024
to BD29		(LL)	0.692	1.247	2.246				0.010	0.015	0.025
	EN o Y	(HZ)	1.346	2.479	4.176						
		(LZ)	0.679	1.248	2.160						
		(ZH)	1.132	2.060	3.593				0.008	0.013	0.024
		(ZL)	0.854	1.547	2.660				0.010	0.015	0.025
BD1H	$A \rightarrow Y$	(HH)	0.665	1.231	2.157				0.007	0.012	0.021
to BD2H		(LL)	0.725	1.318	2.391				0.009	0.014	0.023
	$EN \ o \ Y$	(HZ)	1.441	2.648	4.466						
		(LZ)	0.708	1.302	2.251						
		(ZH)	1.157	2.120	3.709				0.007	0.012	0.022
		(ZL)	0.862	1.576	2.719				0.009	0.015	0.024

Function	TTL N-CH OF	PEN DRAIN OUTF	PUT	BUFFER				ŧ	5V
		ВІ	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wi	th 50 kΩ P/U	with	5 kΩ P/l	J 1/C	cells	int. cells
1mA									
2mA									
3mA	EVTH							1	4
6mA	EVTJ							1	4
9mA									
12mA	EVT9							1	8
18mA	EVT5							2	8
24mA	EVTD							2	8
Legie Diegran	_			Dioak tun	_	Inp	ut	0	utput
Logic Diagran	11			Block typ	е	Symbol	Fan-ir	Symbo	Fan-out
		→ N01 Y		EVTH		Α	8.1	Υ	_
	<u> </u>								
A H01 ←	$+ \rightarrow \longrightarrow$	├		EVTJ		Α	8.1	Υ	-
		+		EVT9		A	16.3	Y	
		<u></u>		LVIS			10.5	'	
				EVT5		Α	16.3	Υ	-
				E) (TD			40.0	\ \ \	
				EVTD		A	16.3	Y	-
Toursh Table									
Truth Table									
AY									
1 Z									
0 0									
Z:High Impedar	nce								
Connect a pull-	up resistor to get a hig	gh level							

INTERFACE BLOCK(5V)

				Switch	hing spe	eed					
Block type	Path		t	LD0 (ns))		t 1			Т	
	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
EVTH	$A \rightarrow Y$	(LZ)	0.272	0.394	0.568						
		(ZL)	0.528	0.901	1.560				0.114	0.183	0.318
EVTJ	$A \rightarrow Y$	(LZ)	0.318	0.510	0.794						
		(ZL)	0.374	0.676	1.228				0.057	0.092	0.159
EVT9	$A \rightarrow Y$	(LZ)	0.325	0.605	0.989						
		(ZL)	0.352	0.688	1.303				0.029	0.046	0.081
EVT5	$A \rightarrow Y$	(LZ)	0.377	0.647	1.019						
		(ZL)	0.391	0.744	1.398				0.019	0.031	0.054
EVTD	$A \rightarrow Y$	(LZ)	0.432	0.758	1.206						
		(ZL)	0.408	0.794	1.512				0.014	0.023	0.041

Function	TTL LOW-NC	ISE N-CH OPEN	DR	AIN OUTPUT	BUFFI	ER			5V
		ВІ	ock	type					
Drivability	no resistor	with 50 kΩ P/D	W	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA									
9mA									
12mA	EYT9							1	2
18mA	EYT5							2	2
24mA	EYTD							2	2
Logic Diagran	2			Block typ		Inp	ut	C	Output
Logic Diagram				Бюск тур		Symbol	Fan-in	Symb	ol Fan-out
		→ N01 Y		EYT9		А	3.0	Υ	-
A H01 ←	-			EYT5		А	3.0	Υ	-
				EYTD		Α	3.0	Y	-
Truth Table A Y 1 Z 0 0 Z:High Impedar Connect a pull-t	ice up resistor to get a hiç	gh level							

INTERFACE BLOCK(5V)

				Switcl	ning spe	ed					
Block type	Path		t	LD0 (ns))		t 1			Т	
	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
EYT9	$A \rightarrow Y$	(LZ)	1.837	3.033	4.685						
		(ZL)	1.399	2.890	5.347				0.032	0.053	0.092
EYT5	$A \rightarrow Y$	(LZ)	2.939	4.783	7.353						
		(ZL)	2.004	4.159	7.762				0.025	0.043	0.073
EYTD	A → Y	(LZ)	3.416	5.594	8.670						
		(ZL)	2.155	4.539	8.524				0.022	0.037	0.064

2 - 28 2 - 29

Function	CMOS I/O BU	JFFER							5V
		BI	ock	type					
Drivability	no resistor	with 50 kΩ P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	BM0U							1	36
6mA	BM0C							1	36
9mA	BM03							1	46
12mA	BM01							1	46
18mA	BM05							2	46
24mA	BM0F							2	46
Logic Diagram	2			Block typ		Inp	ut	0	utput
Logic Diagram	ı			ыск тур	E	Symbol	Fan-in	Symbo	l Fan-out
	$\overline{}$			BM0U		Α	20.2	Y1	34
Y1 N02 •	<+					EN	1.0		
				BM0C		A EN	17.8 1.0	Y1	34
A H01 •	-	→ N01 Y0					1.0		
				BM03		Α	21.3	Y1	34
EN H03 •						EN	2.0		
				BM01		Α	21.3	Y1	34
						EN	2.0		
Totals									
Truth Table				BM05		A EN	21.3 2.0	Y1	34
A EN	Υ0	70 Y1				LIV	2.0		
0 1	0	0 0		BM0F		Α	21.3	Y1	34
1 1	1	1 1				EN	2.0		
X 0	Z								
X:Irrelevant									
Z:High Impedan	ice								

INTERFACE BLOCK(5V)

				Switcl	hing spe	ed					
Block type	Path		tı	LD0 (ns)		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BM0U	A → Y0	(HH)	0.644	1.162	2.163				0.058	0.103	0.190
		(LL)	0.775	1.179	1.916				0.074	0.104	0.164
	EN → Y0	(HZ)	0.885	1.655	2.878						
		(LZ)	0.526	0.991	1.745						
		(ZH)	1.125	2.067	3.631				0.058	0.103	0.190
		(ZL)	1.014	1.578	2.522	0.000			0.074	0.105	0.165
	Y0 → Y1	(HH)	0.223	0.312 0.232	0.446	0.008	0.015	0.024 0.025			
BM0C	A → Y0	(LL) (HH)	0.125	0.232	0.370 1.606	0.010	0.016	0.025	0.020	0.036	0.068
DIVIOC	A → YU	(LL)	0.490	1.134	1.768				0.026	0.038	0.061
	EN → Y0	(HZ)	1.120	1.798	3.569				0.020	0.030	0.001
		(LZ)	0.667	0.971	2.174						
		(ZH)	1.098	1.824	3.493				0.020	0.035	0.068
		(ZL)	0.864	1.432	2.468				0.026	0.038	0.061
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BM03	A → Y0	(HH)	0.457	0.808	1.352				0.016	0.027	0.054
		(LL)	0.499	0.970	1.468				0.020	0.031	0.049
	EN → Y0	(HZ)	0.986	1.613	3.100						
		(LZ)	0.529	0.830	1.728						
		(ZH)	0.964	1.608	2.938				0.015	0.027	0.054
		(ZL)	0.728	1.290	2.094				0.020	0.031	0.049
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
D1404		(LL)	0.125	0.232	0.370	0.010	0.016	0.025	0.011	0.000	0.040
BM01	A → Y0	(HH) (LL)	0.475 0.524	0.863 1.021	1.444 1.584				0.011	0.020 0.024	0.040
	EN → Y0	(LL) (HZ)	1.069	1.787	3.366				0.015	0.024	0.036
	EN → 10	(LZ)	0.561	0.891	1.830						
		(ZH)	0.989	1.657	3.049				0.011	0.020	0.041
		(ZL)	0.733	1.323	2.150				0.015	0.024	0.039
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BM05	A → Y0	(HH)	0.638	1.073	2.043				0.007	0.013	0.024
		(LL)	0.692	1.300	2.246				0.010	0.016	0.025
	EN → Y0	(HZ)	1.346	2.107	4.176						
		(LZ)	0.679	0.988	2.160						
		(ZH)	1.132	1.868	3.593				0.008	0.012	0.024
		(ZL)	0.854	1.543	2.660	0.000			0.010	0.016	0.025
	Y0 → Y1	(HH)	0.223	0.312 0.232	0.446 0.370	0.008	0.015	0.024			
BM0F	A → Y0	(LL) (HH)	0.125 0.665	1.111	2.157	0.010	0.016	0.025	0.007	0.011	0.021
DIVIUF	A → 10	(HH) (LL)	0.665	1.364	2.157				0.007	0.011	0.021
	EN → Y0	(LL) (HZ)	1.441	2.254	4.466				0.009	0.013	0.023
ĺ	LIN → 10	(LZ)	0.708	1.028	2.251	1		1			1
		(ZH)	1.157	1.912	3.709				0.007	0.011	0.022
		(ZL)	0.862	1.573	2.719				0.009	0.015	0.024
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
		_ ` _							•		•

Function	CMOS LOW-	NOISE I/O BUFFE	ΞR						5V
		BI	ock t	type					
Drivability	no resistor	with 50 k Ω P/D	wit	h 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA									
9mA									
12mA	BP01							1	24
18mA	BP05							2	24
24mA	BP0F							2	24
Logic Diagran	0			Block typ	0	Inp	ut	C	Output
Logic Diagram	.1			Бюск тур		Symbol	Fan-in	Symb	ol Fan-out
	$\overline{}$			BP01		Α	7.1	Y1	34
Y1 N02 •	-					EN	4.2		
	\vee								
				BP05		A EN	7.1 4.2	Y1	34
A H01 •		→ N01 Y0							
				BP0F		Α	7.1	Y1	34
EN H03 •						EN	4.2		
Truth Table									
	\(\frac{1}{2}\)								
A EN		Y0 Y1							
0 1 1 1	0 1	0 0 1 1							
X 0	z	1 1							
X:Irrelevant									
Z:High Impedan	nce								

INTERFACE BLOCK(5V)

				Switcl	hing spe	eed					
Block type	Path		t I	LD0 (ns)		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BP01	A → Y0	(HH)	2.565	5.089	9.558				0.023	0.040	0.069
		(LL)	1.786	3.825	7.040				0.022	0.035	0.057
	EN → Y0	(HZ)	1.833	3.131	4.762						
		(LZ)	1.210	1.903	3.016						
		(ZH)	2.539	5.105	9.601				0.023	0.040	0.069
		(ZL)	1.762	3.713	6.670				0.022	0.036	0.060
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BP05	A → Y0	(HH)	3.808	7.716	14.622				0.020	0.036	0.062
		(LL)	2.564	5.821	10.808				0.020	0.032	0.052
	EN → Y0	(HZ)	3.024	5.132	7.751						
		(LZ)	1.923	2.980	4.651						
		(ZH)	3.783	7.729	14.677				0.020	0.036	0.062
		(ZL)	2.555	5.554	10.116				0.019	0.033	0.055
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BP0F	$A \rightarrow Y0$	(HH)	4.095	8.344	15.878				0.020	0.035	0.061
		(LL)	2.733	6.186	11.537				0.019	0.031	0.050
	EN → Y0	(HZ)	3.431	5.848	8.897						
		(LZ)	2.121	3.288	5.141						
		(ZH)	4.071	8.359	15.940				0.020	0.035	0.061
		(ZL)	2.666	5.858	10.709				0.019	0.032	0.054
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			

Function	CMOS SCHM	IITT I/O BUFFER							5V
		ВІ	ock	type					
Drivability	no resistor	with 50 kΩ P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	BQIU							1	40
6mA	BQIC							1	40
9mA	BQI3							1	50
12mA	BQI1							1	50
18mA	BQI5							2	50
24mA	BQIF							2	50
Logic Diagram				Block typ	_	Inp	ut	C	Output
Logic Diagram	I			ыск тур	E	Symbol	Fan-in	Symb	ol Fan-out
	/			BQIU		В	20.2	Y1	22
Y1 N02 ❖						EN	1.0		
				BQIC		B EN	17.8 1.0	Y1	22
B H02 ❖	-	→ N01 Y0				LIN	1.0		
				BQI3		В	21.3	Y1	22
EN H03 +						EN	2.0		
				BQI1		В	21.3	Y1	22
				24		EN	2.0		
T. (1 T.11)									
Truth Table				BQI5		B EN	21.3 2.0	Y1	22
B EN	Y0 \	70 Y1				EIN	2.0		
0 1	0	0 0		BQIF		В	21.3	Y1	22
1 1		1 1				EN	2.0		
X 0	Z								
X:Irrelevant									
Z:High Impedan	ce								

INTERFACE BLOCK(5V)

				Switcl	ning spe	eed					
Block type	Path		t i	LD0 (ns)		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BQIU	B → Y0	(HH)	0.644	1.162	2.163				0.058	0.103	0.190
		(LL)	0.775	1.179	1.916				0.074	0.104	0.164
	EN → Y0	(HZ)	0.885	1.655	2.878						
		(LZ)	0.526	0.991	1.745						
		(ZH)	1.125	2.067	3.631				0.058	0.103	0.190
		(ZL)	1.014	1.578	2.522				0.074	0.105	0.165
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BQIC	B → Y0	(HH)	0.490	0.948	1.606				0.020	0.036	0.068
		(LL)	0.581	1.134	1.768				0.026	0.038	0.061
	EN → Y0	(HZ)	1.120	1.798	3.569						
		(LZ)	0.667	0.971	2.174						
		(ZH)	1.098	1.824	3.493				0.020	0.035	0.068
	\ \(\sigma_1\)	(ZL)	0.864	1.432	2.468	0.040	0.000	0.007	0.026	0.038	0.061
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
DOIO	D 1/0	(LL) (HH)	0.539	0.994	1.723	0.010	0.016	0.026	0.016	0.027	0.054
BQI3	B → Y0	(LL)	0.499	0.000	1.468				0.016	0.027	0.034
	EN VO	(HZ)	0.499	1.613	3.100				0.020	0.031	0.049
	EN → Y0	(LZ)	0.529	0.830	1.728						
		(ZH)	0.964	1.608	2.938				0.015	0.027	0.054
		(ZL)	0.728	1.290	2.936				0.013	0.027	0.034
	Y0 → Y1	(ZL) (HH)	0.728	1.443	2.389	0.012	0.023	0.037	0.020	0.031	0.049
	10 → 11	(LL)	0.539	0.994	1.723	0.012	0.016	0.026			
BQI1	B → Y0	(HH)	0.475	0.863	1.444	0.010	0.010	0.020	0.011	0.020	0.040
Dan		(LL)	0.524	1.021	1.584				0.015	0.024	0.038
	EN → Y0	(HZ)	1.069	1.787	3.366						
		(LZ)	0.561	0.891	1.830						
		(ZH)	0.989	1.657	3.049				0.011	0.020	0.041
		(ZL)	0.733	1.323	2.150				0.015	0.024	0.039
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BQI5	B → Y0	(HH)	0.638	1.073	2.043				0.007	0.013	0.024
		(LL)	0.692	1.300	2.246				0.010	0.016	0.025
	EN → Y0	(HZ)	1.346	2.107	4.176						
		(LZ)	0.679	0.988	2.160						
		(ZH)	1.132	1.868	3.593				0.008	0.012	0.024
		(ZL)	0.854	1.543	2.660				0.010	0.016	0.025
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BQIF	B → Y0	(HH)	0.665	1.111	2.157	1			0.007	0.011	0.021
		(LL)	0.725	1.364	2.391				0.009	0.015	0.023
	EN → Y0	(HZ)	1.441	2.254	4.466						
		(LZ)	0.708	1.028	2.251						
		(ZH)	1.157	1.912	3.709				0.007	0.011	0.022
		(ZL)	0.862	1.573	2.719	0.046		0.00-	0.009	0.015	0.024
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			

Function	CMOS LOW-	NOISE SCHMITT	I/O	BUFFER					5V						
		BI	ock	type											
Drivability	no resistor	with 50 kΩ P/D	wi	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells						
1mA															
2mA															
3mA															
6mA															
9mA															
12mA	BUI1							1	28						
18mA	BUI5							2	28						
24mA	BUIF							2	28						
Logic Diagram	1			Block typ	۵	Inp	ut		Output						
Logic Diagram	,			Diock typ		Symbol	Symbol Fan-in		ol Fan-out						
				BUI1		В	7.1	Y1	22						
Y1 N02 •					EN	4.2									
				BUI5		B EN	7.1 4.2	Y1	22						
B H02 •	-	→ N01 Y0				LIN	7.2								
				BUIF		В	7.1	Y1	22						
EN H03 •						EN	4.2								
Truth Table															
B EN	Y0 \	70 Y1													
0 1		0 0													
1 1 X 0	1 Z	1 1													
X:Irrelevant Z:High Impedan	ce														
Z.i ligii illipedali	Ce														
				26				1							

INTERFACE BLOCK(5V)

				Switcl	hing spe	eed					
Block type	Path		t ı	LDO (ns)		t 1			Т	
	IN → OU	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BUI1	B → Y0	(HH)	2.565	5.089	9.558				0.023	0.040	0.069
		(LL)	1.786	3.825	7.040				0.022	0.035	0.057
	EN → Y0	(HZ)	1.833	3.131	4.762						
		(LZ)	1.210	1.903	3.016						
		(ZH)	2.539	5.105	9.601				0.023	0.040	0.069
		(ZL)	1.762	3.713	6.670				0.022	0.036	0.060
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BUI5	$B \rightarrow Y0$	(HH)	3.808	7.716	14.622				0.020	0.036	0.062
		(LL)	2.564	5.821	10.808				0.020	0.032	0.052
	EN → Y0	(HZ)	3.024	5.132	7.751						
		(LZ)	1.923	2.980	4.651						
		(ZH)	3.783	7.729	14.677				0.020	0.036	0.062
		(ZL)	2.555	5.554	10.116				0.019	0.033	0.055
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BUIF	B → Y0	(HH)	4.095	8.344	15.878				0.020	0.035	0.061
		(LL)	2.733	6.186	11.537				0.019	0.031	0.050
	EN → Y0	(HZ)	3.431	5.848	8.897						
		(LZ)	2.121	3.288	5.141						
		(ZH)	4.071	8.359	15.940	1			0.020	0.035	0.061
		(ZL)	2.666	5.858	10.709				0.019	0.032	0.054
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			

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Function	TTL I/O BUFF	ER							5V			
		ВІ	ock	type								
Drivability	no resistor	with 50 kΩ P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells			
1mA	BW0X	BWDX						1	20			
2mA	BW0K	BWDK						1	20			
3mA	BW0U	BWDU						1	20			
6mA	BW0C	BWDC						1	20			
9mA	BW03	BWD3						1	24			
12mA												
18mA												
24mA												
Logic Diagram	1			Block typ	۵	Input		(Output			
Logio Diagran	•			Diook typ	Symbol Fa		Fan-in	Symb	ol Fan-out			
				BW0X to B\	NDX	Α	7.1	Y1	34			
Y1 N02 ❖						EN	4.5					
				BW0K to B\	MDK	A	7.1	Y1 34				
				DWUK IO BY	VUK	EN	4.5	11	34			
A H01 ↔		→ N01 Y0										
				BW0U to B\	NDU	Α	7.1	Y1	34			
EN H03 ◆				E			4.5					
				BW0C to BV	NDC	Α	7.1	Y1	34			
						EN	4.5					
Truth Table				BW03 to B\	ND3	Α	13.3	Y1	34			
				BW03 to BV	WD3	EN	4.6		34			
A EN	Y0 \	/0 Y1										
0 1		0 0										
1 1	1	1 1										
X 0												
X:Irrelevant Z:High Impedan	00											
Z.mgn impedan	ce											
				1		-		-				

INTERFACE BLOCK(5V)

				Switch	ning spe	eed					
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BW0X	A → Y0	(HH)	1.184	2.056	3.557				0.059	0.104	0.191
to BWDX		(LL)	1.123	1.930	3.335				0.075	0.106	0.166
	EN → Y0	(HZ)	0.720	1.195	1.785						
		(LZ)	0.507	0.828	1.327						
		(ZH)	1.079	1.826	3.045				0.058	0.103	0.190
		(ZL)	1.088	1.888	3.201				0.075	0.106	0.167
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BW0K	$A \rightarrow Y0$	(HH)	1.125	2.004	3.446				0.031	0.054	0.099
to BWDK		(LL)	0.985	1.808	3.212				0.040	0.058	0.092
	$EN \rightarrow Y0$	(HZ)	0.990	1.819	2.882						
		(LZ)	0.574	0.970	1.584						
		(ZH)	1.016	1.764	2.950				0.031	0.054	0.100
		(ZL)	1.014	1.830	3.161				0.040	0.059	0.094
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BW0U	A → Y0	(HH)	1.165	2.134	3.735				0.023	0.039	0.071
to BWDU		(LL)	1.035	1.923	3.473				0.030	0.045	0.072
	EN → Y0	(HZ)	1.215	2.302	3.692						
		(LZ)	0.649	1.111	1.819						
		(ZH)	1.041	1.864	3.188				0.023	0.040	0.072
		(ZL)	1.056	1.894	3.307				0.031	0.047	0.075
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BW0C	A → Y0	(HH)	1.215	2.273	4.034				0.020	0.033	0.059
to BWDC		(LL)	1.063	1.975	3.458				0.027	0.041	0.064
	EN → Y0	(HZ) (LZ)	1.442 0.719	2.759 1.246	4.456 2.041						
		. ,							0.000	0.004	0.000
		(ZH)	1.074	1.844	3.026				0.020 0.028	0.034	0.060
	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(ZL)	1.057 0.223	1.871 0.312	3.265 0.446	0.008	0.015	0.024	0.028	0.043	0.068
	Y0 → Y1	(HH) (LL)	0.223	0.312	0.446	0.008	0.015	0.024			
BW03	A V0	(HH)	1.136	2.187	3.929	0.010	0.016	0.025	0.016	0.027	0.047
to BWD3	A → Y0	(LL)	1.040	2.107	3.823				0.016	0.027	0.047
נט פעועם טו	EN VO	(LL) (HZ)	1.997	3.945	6.414				0.023	0.037	0.037
	EN → Y0	(LZ)	0.900	1.576	2.578						
		(LZ) (ZH)	1.112	2.074	3.642	1			0.016	0.027	0.048
		(ZL)	1.072	1.960	3.629				0.016	0.027	0.048
	Y0 → Y1	(ZL) (HH)	0.223	0.312	0.446	0.008	0.015	0.024	0.020	0.040	0.001
	10 → 11	(LL)	0.223	0.312	0.440	0.008	0.015	0.024			
		(LL)	0.123	0.202	0.570	0.010	0.010	0.023			

Function	TTL LOW-NC	ISE I/O BUFFER						5V	
		В	lock	type					
Drivability	no resistor	with 50 kΩ P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA									
9mA									
12mA	BX01	BXD1						1	20
18mA	BX05	BXD5						2	20
24mA	BX0F	BXDF						2	20
Logic Diagran	0			Block typ		Inp	ut	(Dutput
Logic Diagram				Бюск тур		Symbol	Fan-in	Symb	ol Fan-out
				BX01 to BX	KD1	Α	6.1	Y1	34
Y1 N02 •	-				EN	4.5			
				DV05 (D)	.				
				BX05 to BX	XD5	A EN	6.1 4.5	Y1	34
A H01 •	-	→ N01 Y0							
				BX0F to BX	KDF	Α	6.1	Y1	34
EN H03 •						EN	4.5		
Truth Table									
A EN	Y0 \	70 Y1							
0 1		0 0							
1 1 X 0	1	1 1							
X:Irrelevant Z:High Impedan	nce								
Z.i ligit illipoddi	100								

INTERFACE BLOCK(5V)

				Switcl	hing spe	ed					
Block type	Path		t i	LDO (ns))		t 1		Т		
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BX01	A → Y0	(HH)	2.232	4.527	8.678				0.019	0.035	0.061
to BXD1		(LL)	1.987	4.111	7.806				0.024	0.038	0.062
	EN → Y0	(HZ)	2.391	4.855	7.978						
		(LZ)	1.483	2.516	4.052						
		(ZH)	2.156	4.442	8.516				0.019	0.035	0.062
		(ZL)	1.966	4.152	7.834				0.025	0.039	0.063
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BX05	A → Y0	(HH)	3.028	6.194	12.045				0.017	0.031	0.053
to BXD5		(LL)	2.722	5.106	8.050				0.021	0.034	0.054
	EN → Y0	(HZ)	3.374	6.267	9.976						
		(LZ)	2.122	3.379	5.355						
		(ZH)	2.932	4.361	7.918				0.017	0.032	0.055
		(ZL)	2.686	5.054	8.242				0.021	0.034	0.057
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BX0F	A → Y0	(HH)	3.484	7.192	14.049				0.017	0.030	0.053
to BXDF		(LL)	3.072	5.568	9.302				0.021	0.033	0.052
	EN → Y0	(HZ)	4.235	7.923	12.718						
		(LZ)	2.548	4.087	6.497						
		(ZH)	3.391	4.950	9.407				0.017	0.031	0.055
		(ZL)	2.980	5.438	9.017				0.021	0.034	0.057
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			

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Function	TTL HIGH SPEED I/O BUFFER 5V										
		В	lock	type							
Drivability	no resistor	with 50 kΩ P/D	W	rith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells		
1mA											
2mA											
3mA	BM1U	BM2U						1	36		
6mA	BM1C	BM2C						1	36		
9mA	BM13	BM23						1	46		
12mA	BM11	BM21						1	46		
18mA	BM15	BM25						2	46		
24mA	BM1F	BM2F						2	46		
Logic Diagran	_			Dlook tun		Inp	ut	C	Output		
Logic Diagran	11			Block typ	е	Symbol F		Symb	ol Fan-ou		
	/			BM1U to BI	M2U	Α	20.2	Y1	34		
Y1 N02	Y1 N02 ←			DW10 to Di	VIZO	EN	1.0		04		
				BM1C to BI	M2C	A EN	17.8	Y1	34		
A H01	\longrightarrow	→ N01 Y0				EIN	1.0				
				BM13 to BI	M23	Α	21.3	Y1	34		
EN H03						EN	2.0				
				BM11 to BI	M21	Α	21.3	Y1	34		
				DIWITI TO DI	VIZ I	EN	2.0		34		
Truth Table				BM15 to BI	M25	Α	21.3	Y1	34		
A EN	Y0	Y0 Y1				EN	2.0				
0 1	0	0 0		BM1F to BI	M2F	Α	21.3	Y1	34		
1 1	1	1 1				EN	2.0				
X 0	Z										
X:Irrelevant											
Z:High Impedar	nce										

INTERFACE BLOCK(5V)

				Switch	ning spe	eed					
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BM1U	A → Y0	(HH)	0.644	1.162	2.163				0.058	0.103	0.190
to BM2U		(LL)	0.775	1.179	1.916				0.074	0.104	0.164
	EN → Y0	(HZ)	0.885	1.655	2.878						
		(LZ)	0.526	0.991	1.745						
		(ZH)	1.125	2.067	3.631				0.058	0.103	0.190
		(ZL)	1.014	1.578	2.522				0.074	0.105	0.165
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BM1C	A → Y0	(HH)	0.490	0.948	1.606				0.020	0.036	0.068
to BM2C		(LL)	0.581	1.134	1.768				0.026	0.038	0.061
	EN → Y0	(HZ)	1.120	1.798	3.569						
		(LZ)	0.667 1.098	0.971 1.824	2.174 3.493				0.020	0.035	0.068
		(ZH) (ZL)	0.864	1.824	2.468				0.020	0.035	0.068
	Y0 → Y1	(ZL) (HH)	0.004	0.312	0.446	0.008	0.015	0.024	0.026	0.036	0.061
	YU → Y1	(LL)	0.223	0.312	0.446	0.008	0.015	0.024			
BM13	A → Y0	(HH)	0.123	0.808	1.352	0.010	0.010	0.023	0.016	0.027	0.054
to BM23	A → 10	(LL)	0.499	0.970	1.468				0.020	0.021	0.049
to DIVIZO	EN → Y0	(HZ)	0.986	1.613	3.100				0.020	0.001	0.040
		(LZ)	0.529	0.830	1.728						
		(ZH)	0.964	1.608	2.938				0.015	0.027	0.054
		(ZL)	0.728	1.290	2.094				0.020	0.031	0.049
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BM11	A → Y0	(HH)	0.475	0.863	1.444				0.011	0.020	0.040
to BM21		(LL)	0.524	1.021	1.584				0.015	0.024	0.038
	EN → Y0	(HZ)	1.069	1.787	3.366						
		(LZ)	0.561	0.891	1.830						
		(ZH)	0.989	1.657	3.049				0.011	0.020	0.041
		(ZL)	0.733	1.323	2.150				0.015	0.024	0.039
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			
BM15	A → Y0	(HH)	0.638	1.073	2.043				0.007	0.013	0.024
to BM25		(LL)	0.692	1.300	2.246				0.010	0.016	0.025
	EN → Y0	(HZ)	1.346	2.107	4.176						
		(LZ)	0.679 1.132	0.988 1.868	2.160		1		0.008	0.012	0.024
		(ZH) (ZL)	0.854	1.868	3.593 2.660		1		0.008	0.012	0.024
	Y0 → Y1	(ZL) (HH)	0.034	0.312	0.446	0.008	0.015	0.024	0.010	0.010	0.023
	10 → f1	(LL)	0.223	0.312	0.370	0.008	0.015	0.024			
BM1F	A → Y0	(HH)	0.665	1.111	2.157	0.010	5.510	0.020	0.007	0.011	0.021
to BM2F	" ' '	(LL)	0.725	1.364	2.391				0.009	0.015	0.023
	EN → Y0	(HZ)	1.441	2.254	4.466						
		(LZ)	0.708	1.028	2.251						
		(ZH)	1.157	1.912	3.709				0.007	0.011	0.022
		(ZL)	0.862	1.573	2.719		1		0.009	0.015	0.024
	Y0 → Y1	(HH)	0.223	0.312	0.446	0.008	0.015	0.024			
		(LL)	0.125	0.232	0.370	0.010	0.016	0.025			

Function	TTL SCHMIT	T I/O BUFFER							5V
		ВІ	ock	type					
Drivability	no resistor	with 50 kΩ P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA	BKIX	BKDX						1	24
2mA	BKIK	BKDK						1	24
3mA	BKIU	BKDU						1	24
6mA	BKIC	BKDC						1	24
9mA	BKI3	BKD3						1	28
12mA									
18mA									
24mA				1					
Logic Diagram	1			Block typ	ie.	Inp	ut	_	Dutput
Logio Diagran	•			Dioon typ		Symbol	Fan-in	Symb	ol Fan-out
				BKIX to Bk	(DX	В	7.1	Y1	22
Y1 N02 ❖						EN	4.5		
				BKIK to Bk	/DI/	В	7.1	Y1	22
D 1100				DKIK to Dr	NDIN .	EN	4.5	''	22
B H02 ❖		→ N01 Y0							
				BKIU to Bk	(DU	В	7.1	Y1	22
EN H03 +						EN	4.5		
				BKIC to Bk	(DC	В	7.1	Y1	22
						EN	4.5		
Truth Table				BKI3 to Bk	(D3	В	13.3	Y1	22
				DNIS to Br	ND3	EN	4.6	''	22
B EN	Y0 \	/0 Y1							
0 1	1 1	0 0							
1 1	1	1 1							
X 0									
X:Irrelevant Z:High Impedan	00								
Z.mgn impedan	ce								
				1		-		-	1

INTERFACE BLOCK(5V)

				Switcl	ning spe	eed					
Block type	Path		t i	LDO (ns)		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BKIX	B → Y0	(HH)	1.184	2.056	3.557				0.059	0.104	0.191
to BKDX		(LL)	1.123	1.930	3.335				0.075	0.106	0.166
	EN → Y0	(HZ)	0.720	1.195	1.785						
		(LZ)	0.507	0.828	1.327						
		(ZH)	1.079	1.826	3.045				0.058	0.103	0.190
		(ZL)	1.088	1.888	3.201				0.075	0.106	0.167
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BKIK	B → Y0	(HH)	1.125	2.004	3.446				0.031	0.054	0.099
to BKDK		(LL)	0.985	1.808	3.212				0.040	0.058	0.092
	EN → Y0	(HZ)	0.990	1.819	2.882						
		(LZ)	0.574	0.970	1.584						
		(ZH)	1.016	1.764	2.950				0.031	0.054	0.100
		(ZL)	1.014	1.830	3.161		l		0.040	0.059	0.094
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
DIGILI	5 1/2	(LL) (HH)	0.539	0.994	1.723 3.735	0.010	0.016	0.026	0.023	0.039	0.071
BKIU	B → Y0	. ,	1.165 1.035	2.134 1.923	3.735				0.023	0.039	0.071
to BKDU	=1, ,,,	(LL) (HZ)	1.035	2.302	3.473				0.030	0.045	0.072
	EN → Y0	(LZ)	0.649	1.111	1.819						
		(ZH)	1.041	1.864	3.188				0.023	0.040	0.072
		(ZL)	1.056	1.894	3.307				0.023	0.040	0.072
	Y0 → Y1	(ZL) (HH)	0.865	1.443	2.389	0.012	0.023	0.037	0.031	0.047	0.075
	10 → 11	(LL)	0.539	0.994	1.723	0.012	0.016	0.026			
BKIC	B → Y0	(HH)	1.215	2.273	4.034	0.0.0	0.0.0	0.020	0.020	0.033	0.059
to BKDC		(LL)	1.063	1.975	3.458				0.027	0.041	0.064
10 51150	EN → Y0	(HZ)	1.442	2.759	4.456						
	=	(LZ)	0.719	1.246	2.041						
		(ZH)	1.074	1.844	3.026				0.020	0.034	0.060
		(ZL)	1.057	1.871	3.265				0.028	0.043	0.068
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BKI3	B → Y0	(HH)	1.136	2.187	3.929				0.016	0.027	0.047
to BKD3		(LL)	1.040	2.018	3.823				0.025	0.037	0.057
	EN → Y0	(HZ)	1.997	3.945	6.414						
		(LZ)	0.900	1.576	2.578						
		(ZH)	1.112	2.074	3.642				0.016	0.027	0.048
		(ZL)	1.072	1.960	3.629				0.026	0.040	0.061
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			

Function	TTL LOW-NO	ISE SCHMITT I/C	Вι	UFFER					5V
		BI	ock	type					
Drivability	no resistor	with 50 kΩ P/D	wi	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA									
9mA									
12mA	BZI1	BZD1						1	24
18mA	BZI5	BZD5						2	24
24mA	BZIF	BZDF						2	24
Logic Diagram	2			Block typ		Inp	ut	(Output
Logic Diagram	ı			ыск тур	ie .	Symbol	Fan-in	Symb	ol Fan-out
				BZI1 to BZ	ZD1	В	6.1	Y1	22
Y1 N02 •						EN	4.5		
					_	_			
				BZI5 to BZ	2D5	B EN	6.1 4.5	Y1	22
B H02 •	-	→ N01 Y0					4.0		
				BZIF to BZ	ZDF	В	6.1	Y1	22
EN H03 +						EN	4.5		
Truth Table									
B EN		/0 Y1							
0 1		0 0							
1 1 X 0	1	1 1							
X:Irrelevant									
Z:High Impedan	ice								
3 ,									
							_		

INTERFACE BLOCK(5V)

				Switch	ning spe	eed					
Block type	Path		t i	LDO (ns)		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BZI1	B → Y0	(HH)	2.232	4.527	8.678				0.019	0.035	0.061
to BZD1		(LL)	1.987	4.111	7.806				0.024	0.038	0.062
	EN → Y0	(HZ)	2.391	4.855	7.978						
		(LZ)	1.483	2.516	4.052						
		(ZH)	2.156	4.442	8.516				0.019	0.035	0.062
		(ZL)	1.966	4.152	7.834				0.025	0.039	0.063
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BZI5	B → Y0	(HH)	3.028	6.194	12.045				0.017	0.031	0.053
to BZD5		(LL)	2.722	5.106	8.050				0.021	0.034	0.054
	EN → Y0	(HZ)	3.374	6.267	9.976						
		(LZ)	2.122	3.379	5.355						
		(ZH)	2.932	4.361	7.918				0.017	0.032	0.055
		(ZL)	2.686	5.054	8.242				0.021	0.034	0.057
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			
BZIF	$B \rightarrow Y0$	(HH)	3.484	7.192	14.049				0.017	0.030	0.053
to BZDF		(LL)	3.072	5.568	9.302				0.021	0.033	0.052
	EN → Y0	(HZ)	4.235	7.923	12.718						
		(LZ)	2.548	4.087	6.497						
		(ZH)	3.391	4.950	9.407				0.017	0.031	0.055
		(ZL)	2.980	5.438	9.017				0.021	0.034	0.057
	Y0 → Y1	(HH)	0.865	1.443	2.389	0.012	0.023	0.037			
		(LL)	0.539	0.994	1.723	0.010	0.016	0.026			

Function	CMOS I/O	BUFFER WITH EN	(OR	R)					5V
		E	lock	type					
Drivability	no resistor	with 50 kΩ P/D	w	rith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	BN3U35							1	32
6mA	BN3C35							1	32
9mA	BN3335							1	32
12mA	BN3135							1	32
18mA	BN3535							2	36
24mA	BN3F35							2	36
Lania Dianana	_		•	Dia ale terra	_	Inp	ut	C	Output
Logic Diagran	1			Block typ	e	Symbol	Fan-in	Symb	ol Fan-ou
ENI H04	•			BN3U35	5	Α	20.2	Y1	34
		_		2.1000	-	EN	1.0		0.
Y1 N02	←					ENI	2.1		
		Δ		DNIGOO	_		20.2	Y1	0.4
	\sim			BN3C3	5	A EN	1.0	11	34
A H01	\longrightarrow	→ N01 Y0				ENI	2.1		
EN H03	•			BN3335	5	A	22.2	Y1	34
						EN ENI	2.0 2.1		
						2141	2.1		
Truth Table				BN3135	5	Α	22.2	Y1	34
A EN	Y0	Y0 ENI Y	1			EN	2.0		
						ENI	2.1		
0 1 1 1	0 1	0 0 0		BN3535	5	Α	22.2	Y1	34
X 0	z	1 0 1				EN	2.0		
X:Irrelevant		1 1 1				ENI	2.1		
Z:High Impedan	ice			BN3F35	5	Α	22.2	Y1	34
				DIVOI OC	,	EN	2.0		34
						ENI	2.1		
						1			

INTERFACE BLOCK(5V)

				Switch	ning spe	eed					
Block type	Path		tı	LDO (ns))		t 1			Т	
	IN → OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BN3U35	A → Y0	(HH)	0.644	1.162	2.163				0.058	0.103	0.190
		(LL)	0.775	1.179	1.916				0.074	0.104	0.164
	EN → Y0	(HZ)	0.885	1.655	2.878						
		(LZ)	0.526	0.991	1.745						
		(ZH)	1.125	2.067	3.631				0.058 0.074	0.103 0.105	0.190
	ENI → Y1	(ZL) (HH)	1.014 0.207	1.578 0.300	2.522 0.438	0.008	0.015	0.025	0.074	0.105	0.165
	EINI → TI	(LL)	0.189	0.384	0.436	0.000	0.016	0.025			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BN3C35	A → Y0	(HH)	0.490	0.896	1.606				0.020	0.036	0.068
		(LL)	0.581	1.030	1.768				0.026	0.038	0.061
	EN → Y0	(HZ)	1.120	2.078	3.569						
		(LZ)	0.667 1.098	1.234 2.007	2.174 3.493				0.020	0.036	0.068
		(ZH) (ZL)	0.864	1.486	2.468				0.020	0.036	0.068
	ENI → Y1	(ZL) (HH)	0.804	0.300	0.438	0.008	0.015	0.025	0.020	0.000	3.001
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BN3335	A → Y0	(HH)	0.457	0.791	1.352				0.016	0.028	0.054
		(LL)	0.499	0.854	1.468				0.020	0.030	0.049
	EN → Y0	(HZ)	0.986 0.529	1.818 0.979	3.100 1.728						
		(LZ) (ZH)	0.529	1.717	2.938				0.015	0.028	0.054
		(ZL)	0.728	1.251	2.094				0.013	0.020	0.049
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025	0.020	0.000	0.0.0
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BN3135	A → Y0	(HH)	0.475	0.839	1.444				0.011	0.021	0.040
	FN 1/0	(LL)	0.524 1.069	0.912 1.981	1.584 3.366				0.015	0.023	0.038
	EN → Y0	(HZ) (LZ)	0.561	1.039	1.830						
		(ZH)	0.989	1.772	3.049				0.011	0.021	0.041
		(ZL)	0.733	1.280	2.150				0.015	0.024	0.039
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
DNIGEGE	A >/**	(LL)	0.230	0.455	0.817	0.010	0.016	0.026	0.007	0.040	0.004
BN3535	A → Y0	(HH) (LL)	0.638 0.692	1.172 1.247	2.043 2.246				0.007 0.010	0.013 0.015	0.024 0.025
	EN → Y0	(LL) (HZ)	1.346	2.479	4.176				0.010	0.015	0.025
	LIV → 10	(LZ)	0.679	1.248	2.160						
		(ZH)	1.132	2.060	3.593				0.008	0.013	0.024
		(ZL)	0.854	1.547	2.660				0.010	0.015	0.025
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
DNISES	A 1/2	(LL)	0.230	0.455	0.817 2.157	0.010	0.016	0.026	0.007	0.012	0.021
BN3F35	A → Y0	(HH) (LL)	0.665 0.725	1.231 1.318	2.157				0.007	0.012	0.021
	EN → Y0	(HZ)	1.441	2.648	4.466				0.009	0.014	0.023
		(LZ)	0.708	1.302	2.251						
		(ZH)	1.157	2.120	3.709				0.007	0.012	0.022
		(ZL)	0.862	1.576	2.719				0.009	0.015	0.024
		\/									

				Switch	ning spe	ed					
Block type	Path		t	LDO (ns))		t 1			Т	
	IN → OL				MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			

[MEMO]

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Function	CMOS LOW	NOISE I/O BUFFI	ER '	WITH EN(OR)					5V
		В	ock	type					
Drivability	no resistor	with 50 kΩ P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA									
6mA									
9mA									
12mA	BN7135							1	24
18mA	BN7535							2	24
24mA	BN7F35							2	24
Lasia Diagram	_		•	Dia ala tara	_	Inp	ut	C	Output
Logic Diagran	1			Block typ	e	Symbol	Fan-in	Symb	ol Fan-ou
ENI H04	•	\neg		BN7135	5	А	7.1	Y1	34
		7		DIVI 100	,	EN	4.2		04
Y1 N02	\leftarrow					ENI	2.1		
		\vdash							
	_			BN7535	5	A EN	7.1 4.2	Y1	34
A H01	\longrightarrow	→ N01 Y0				ENI	2.1		
EN H03				BN7F35	5	Α	7.1	Y1	34
EN 1103	•					EN	4.2		
						ENI	2.1		
Truth Table									
A EN	Y0	Y0 ENI Y1							
0 1	0	0 0 0							
1 1	1	1 0 1							
X 0	z	0 1 1							
X:Irrelevant		1 1 1							
Z:High Impedan	ice								
				1		1		1	1

INTERFACE BLOCK(5V)

				Switcl	ning spe	eed					
Block type	Path		t I	LD0 (ns			t 1			Т	
	IN → Ol	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BN7135	A → Y0	(HH)	2.565	5.089	9.558				0.023	0.040	0.069
		(LL)	1.786	3.825	7.040				0.022	0.035	0.057
	EN → Y0	(HZ)	1.833	3.131	4.762						
		(LZ)	1.210	1.903	3.016						
		(ZH)	2.539	5.105	9.601				0.023	0.040	0.069
		(ZL)	1.762	3.713	6.670				0.022	0.036	0.060
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BN7535	A → Y0	(HH)	3.808	7.716	14.622				0.020	0.036	0.062
		(LL)	2.564	5.821	10.808				0.020	0.032	0.052
	EN → Y0	(HZ)	3.024	5.132	7.751						
		(LZ)	1.923	2.980	4.651						
		(ZH)	3.783	7.729	14.677				0.020	0.036	0.062
		(ZL)	2.555	5.554	10.116				0.019	0.033	0.055
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BN7F35	A → Y0	(HH)	4.095	8.344	15.878				0.020	0.035	0.061
		(LL)	2.733	6.186	11.537				0.019	0.031	0.050
	EN → Y0	(HZ)	3.431	5.848	8.897						
		(LZ)	2.121	3.288	5.141						
		(ZH)	4.071	8.359	15.940				0.020	0.035	0.061
		(ZL)	2.666	5.858	10.709				0.019	0.032	0.054
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			

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Function	TTL I/O BUF	FER WITH EN(OF	?)					5	SV
		Bl	ock	type					
Drivability	no resistor	with 50 k Ω P/D	w	ith 50 kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA									
2mA									
3mA	BN6U35	BN9U35						1	36
6mA	BN6C35	BN9C35						1	36
9mA	BN6335	BN9335						1	46
12mA	BN6135	BN9135						1	46
18mA	BN6535	BN9535						2	46
24mA	BN6F35	BN9F35						2	46
Logic Diagram				Plook typ	.0	Inp	ut	0	utput
Logic Diagram	ı			Block typ	ie	Symbol	Fan-in	Symbo	Fan-out
ENI H04	•	\neg		BN6U35 to BI	N9U35	Α	20.2	Y1	34
		$_{Z} ig \rfloor$				EN	1.0		
Y1 N02	\leftarrow					ENI	2.1		
		\vdash		BN6C35 to BI	NQC35	Α	20.2	Y1	34
				D140033 to D1	13033	EN	1.0		34
A H01	$\leftarrow \mid \; >$	→ N01 Y0				ENI	2.1		
				DNIOGOE 4- DI	N000E		00.0	V/4	0.4
EN H03	•			BN6335 to BI	N9335	A EN	22.2 2.0	Y1	34
						ENI	2.1		
Truth Table				BN6135 to BI	N9135	A	22.2	Y1	34
A EN	Y0	Y0 ENI Y1				EN ENI	2.0 2.1		
0 1	0	0 0 0							
1 1	1	0 1 1		BN6535 to BI	N9535	Α	22.2	Y1	34
X 0	Z	1 0 1				EN	2.0		
X:Irrelevant		1 1 1				ENI	2.1		
Z:High Impedan	ce			BN6F35 to BI	N9F35	Α	22.2	Y1	34
						EN	2.0		
						ENI	2.1		

INTERFACE BLOCK(5V)

				Switch	ning spe	eed					
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BN6U35	A → Y0	(HH)	0.644	1.162	2.163				0.058	0.103	0.190
to BN9U35		(LL)	0.775	1.179	1.916				0.074	0.104	0.164
	EN → Y0	(HZ)	0.885	1.655	2.878						
		(LZ)	0.526	0.991	1.745						
		(ZH)	1.125	2.067	3.631				0.058	0.103 0.105	0.190
	ENI → Y1	(ZL) (HH)	1.014 0.207	1.578 0.300	2.522 0.438	0.008	0.015	0.025	0.074	0.105	0.165
	ENI → Y1	(HH)	0.207	0.384	0.436	0.008	0.015	0.025			
	Y0 → Y1	(HH)	0.103	0.392	0.673	0.010	0.015	0.024			
	10 → 11	(LL)	0.230	0.455	0.817	0.010	0.016	0.024			
BN6C35	A → Y0	(HH)	0.490	0.896	1.606				0.020	0.036	0.068
to BN9C35		(LL)	0.581	1.030	1.768				0.026	0.038	0.061
	EN → Y0	(HZ)	1.120	2.078	3.569						
		(LZ)	0.667	1.234	2.174						
		(ZH)	1.098	2.007	3.493				0.020	0.036	0.068
		(ZL)	0.864	1.486	2.468				0.026	0.038	0.061
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246 0.230	0.392 0.455	0.673	0.008 0.010	0.015 0.016	0.024 0.026			
BN6335	A → Y0	(LL) (HH)	0.230	0.455	0.817 1.352	0.010	0.016	0.026	0.016	0.028	0.054
to BN9335	A → YU	(LL)	0.499	0.791	1.468				0.016	0.028	0.034
10 DN9333	EN → Y0	(HZ)	0.986	1.818	3.100				0.020	0.030	0.043
	LIN - 10	(LZ)	0.529	0.979	1.728						
		(ZH)	0.964	1.717	2.938				0.015	0.028	0.054
		(ZL)	0.728	1.251	2.094				0.020	0.030	0.049
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BN6135	A → Y0	(HH)	0.475	0.839	1.444				0.011	0.021	0.040
to BN9135	=11 1/4	(LL)	0.524 1.069	0.912 1.981	1.584 3.366				0.015	0.023	0.038
	EN → Y0	(HZ) (LZ)	0.561	1.039	1.830						
		(ZH)	0.989	1.772	3.049				0.011	0.021	0.041
		(ZL)	0.733	1.280	2.150				0.015	0.021	0.039
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025	0.010	0.024	0.000
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BN6535	A → Y0	(HH)	0.638	1.172	2.043				0.007	0.013	0.024
to BN9535		(LL)	0.692	1.247	2.246				0.010	0.015	0.025
	EN → Y0	(HZ)	1.346	2.479	4.176						
		(LZ)	0.679	1.248	2.160				0.000	0.010	0.004
		(ZH)	1.132	2.060	3.593				0.008	0.013 0.015	0.024
	ENI → Y1	(ZL) (HH)	0.854 0.207	1.547 0.300	2.660 0.438	0.008	0.015	0.025	0.010	0.015	0.025
	EINI → ¥1	(HH) (LL)	0.207	0.300	0.438	0.008	0.015	0.025			
	Y0 → Y1	(LL)	0.169	0.392	0.673	0.010	0.016	0.020			
	'0 → '1	(LL)	0.230	0.455	0.817	0.000	0.016	0.024			
BN6F35	A → Y0	(HH)	0.665	1.231	2.157	2.3.0	2.3.0	2.320	0.007	0.012	0.021
to BN9F35		(LL)	0.725	1.318	2.391				0.009	0.014	0.023
	EN → Y0	(HZ)	1.441	2.648	4.466						
		(LZ)	0.708	1.302	2.251						
		(ZH)	1.157	2.120	3.709				0.007	0.012	0.022
		(ZL)	0.862	1.576	2.719				0.009	0.015	0.024

				Switch	ning spe	ed					
Block type	Path		t	LDO (ns))		t 1			Т	
	IN → OU	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			

[MEMO]

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Function	TTL LOW N	5V						
		Blo	ock type					
Drivability	no resistor	with 50 kΩ P/D	with 50 k Ω P/U	with	5 kΩ P/l	J I/O	cells	int. cells
1mA								
2mA								
3mA								
6mA								
9mA								
12mA	BNA135	BND135					1	20
18mA	BNA535	BND535					2	20
24mA	BNAF35	BNDF35					2	20
I			Di i .		Inp	ut	C	Output
Logic Diagram	1		Block ty	pe	Symbol	Fan-in	Symb	ol Fan-ou
ENI H04	•		BNA135 to I	3ND135	Α	6.1	Y1	34
		_	Brit 100 to 1	0110	EN	4.5		04
Y1 N02	←				ENI	2.1		
		\vdash	D.14 505 / 1			0.4		
			BNA535 to I	SND535	A EN	6.1 4.5	Y1	34
A H01	\longrightarrow	→ N01 Y0			ENI	2.1		
EN H03			BNAF35 to I	BNDF35	A	6.1	Y1	34
					EN ENI	4.5 2.1		
					2141	2.1		
Truth Table								
A EN	Y0	Y0 ENI Y1						
0 1	0	0 0 0	-					
1 1	1	0 0 0						
X 0	z	1 0 1						
X:Irrelevant		1 1 1						
Z:High Impedan	ce							
			<u> </u>		!		1	

INTERFACE BLOCK(5V)

				Switcl	hing spe	eed					
Block type	Path		t i	LDO (ns))		t 1			T	
	IN → OU	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BNA135	A → Y0	(HH)	2.232	4.527	8.678				0.019	0.035	0.061
to BND135		(LL)	1.987	4.111	7.806				0.024	0.038	0.062
	EN → Y0	(HZ)	2.391	4.855	7.978						
		(LZ)	1.483	2.516	4.052						
		(ZH)	2.156	4.442	8.516				0.019	0.035	0.062
		(ZL)	1.966	4.152	7.834				0.025	0.039	0.063
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BNA535	A → Y0	(HH)	3.028	6.194	12.045				0.017	0.031	0.053
to BND535		(LL)	2.722	5.106	8.050				0.021	0.034	0.054
	EN → Y0	(HZ)	3.374	6.267	9.976						
		(LZ)	2.122	3.379	5.355						
		(ZH)	2.932	4.361	7.918				0.017	0.032	0.055
		(ZL)	2.686	5.054	8.242				0.021	0.034	0.057
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			
BNAF35	A → Y0	(HH)	3.484	7.192	14.049				0.017	0.030	0.053
to BNDF35		(LL)	3.072	5.568	9.302				0.021	0.033	0.052
	EN → Y0	(HZ)	4.235	7.923	12.718						
		(LZ)	2.548	4.087	6.497						
		(ZH)	3.391	4.950	9.407				0.017	0.031	0.055
		(ZL)	2.980	5.438	9.017				0.021	0.034	0.057
	ENI → Y1	(HH)	0.207	0.300	0.438	0.008	0.015	0.025			
		(LL)	0.189	0.384	0.685	0.010	0.016	0.026			
	Y0 → Y1	(HH)	0.246	0.392	0.673	0.008	0.015	0.024			
		(LL)	0.230	0.455	0.817	0.010	0.016	0.026			

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CHAPTER 3 INTERFACE BLOCK (OSCILLATOR)

Function	OSCILLATO	OR INPUT BUFFE	R							
		BI	ock type							
Fund							1/	O cells	ir	nt. cells
Noi	rmal	OSI1						1		0
Oscillation	stop function									
-	-									
Logic Diagram			'	Block	tvpe		out		Out	
						Symbol				
XT1 H0	1 •—	N01 O		os	11	XT1	-)	2
0	O 0 1									

OSCILLATION BLOCK

				Switcl	ning spe	ed					
Block type	Path		t LDO (ns)			t 1			Т		
	IN \rightarrow C	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
OSI1	XT1 → O	(HH)	0.010	0.010	0.010	0.001	0.001	0.001			
		(LL)	0.010	0.010	0.010	0.002	0.002	0.002			<u> </u>

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Function	OSCILLAT	OR INPUT BUFFE	R FOR EN	NABLE					
		BI	ock type						
Fund	tion						I/O	cells	int. cells
Nor	mal								
Oscillation	stop function	OSI2					1	I	0
-									
Logic Diagram				Block	type	Inp			Output
						Symbol			ool Fan-out
XT1 H02		N01 O		os	12	XT1 EN	1.0	0	2
Truth Table XT1 0 1 1 0 X:Irrelevant	EN O 0 0 0 1 1 1 1 X ← Pro	hibition							

OSCILLATION BLOCK

		Switching speed											
Block type	Block type Path		t LDO (ns)				t 1		T				
,,	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
OSI2	XT1 → O	(HH)	0.010	0.010	0.010	0.001	0.001	0.001					
		(LL)	0.010	0.010	0.010	0.002	0.002	0.002					

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Function	OSCILLATO	OSCILLATOR OUTPUT BUFFER									
		Ble	ock type								
Fund	tion	MHz range	kHz ra	ange			I/O	cells	int. cells		
External	feedback										
Internal	feedback	OSO1						1	4		
	feedback stop function										
Logic Diagram				Block	type		out .		Dutput		
						Symbol	Fan-in	Symb	ol Fan-out		
II H01		→ N01 XT2		osc	001	11	1.0	XT2 O2			
Truth Table											
I1 X	T2 O2										

l1	XT2	02
0	1	1
1	0	0

OSCILLATION BLOCK

	Switching speed											
Block type	Path		t LDO (ns)				t 1		Т			
	$IN \ \ o \ OUT$		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
OSO1	I1 → XT2	(HL)	0.010	0.010	0.010				0.001	0.001	0.001	
		(LH)	0.010	0.010	0.010				0.001	0.001	0.001	
	I1 → O2	(HL)	4.585	11.818	11.818	0.010	0.025	0.025				
		(LH)	4.582	13.548	13.548	0.008	0.025	0.025				

OSCILLATOR OUTPUT BUFFER

		BI	ock type						
Fund	ction	MHz range	kHz ra	ange			I/O	cells	int. cells
External	feedback	OSO3					1	l .	4
Internal	feedback								
	feedback stop function								
Logic Diagram				Block	tyne		out	_	Output
Logic Diagram	ı			DIOCK	турс	Symbol	Fan-in	Symb	ol Fan-out
				oso	D 3	I1	1.0	XT2	-
11 H01 12 H02 O2 N02	•	→ N01 XT2				12	1.0	O2	34

Truth Table

Function

l1	12	XT2	O2
0	0	1	1
1	0	0	0
Х	1	0	0

X:Irrelevant

OSCILLATION BLOCK

	Switching speed											
Block type	Path		t LDO (ns)				t 1		Т			
	$IN \ \to \ OUT$		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
OSO3	I1 → XT2	(HL)	0.010	0.010	0.010				0.001	0.001	0.001	
		(LH)	0.010	0.010	0.010				0.001	0.001	0.001	
	I1 → O2	(HL)	4.585	11.818	11.818	0.010	0.025	0.025				
		(LH)	4.582	13.548	13.548	0.008	0.025	0.025				

Function	OSCILLATOR OUTPUT BUFFER										
		Ble	ock type								
Fund	ction	MHz range	kHz ra	ange			I/O	cells	int. cells		
External	feedback										
Internal	feedback										
	feedback stop function	OSO7						1	6		
Logic Diagram				Block	tyne	—	out		Output		
Logic Diagram				DIOCK	турс	Symbol	Fan-in	Symb	ool Fan-out		
II H01 EN H02 O2 N02	•	→ N01 XT2		osc	D 7	I1 EN	1.5 1.0	XT2 O2			

Truth Table

l1	EN	XT2	02	
0	0	1	1	
1	0	0	0	
1	1	0	0	
0	1	Х	Χ	← Prohibition

X:Irrelevant

OSCILLATION BLOCK

	Switching speed												
Block type	Path		t LDO (ns)				t 1		Т				
	IN → OU	ΙΤ	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
OSO7	I1 → XT2	(HL)	0.010	0.010	0.010				0.001	0.001	0.001		
		(LH)	0.010	0.010	0.010				0.001	0.001	0.001		
	I1 → O2	(HL)	4.585	11.818	11.818	0.010	0.025	0.025					
		(LH)	4.582	13.548	13.548	0.008	0.025	0.025					

Fu	nction		OSCII	LLATOF	R OUTPUT BUF	FER						
					Ble	ock type	-					
	F	unctio	n		MHz range	kHz range					cells	int. cells
	Exte	nal fee	dback		OSO9						1	4
	Inter	nal fee	dback									
		rnal feed tion sto	dback p function	1								
Logi	c Diag	ram					Block	type	—	out Fan-in	_	utput
							OSC	20	Symbol I1	1.0	XT2	ol Fan-out
							030	<i>J</i> 9	"	1.0	02	34
	I1 H	101 ←			→ N01 XT2							
(02 N	102 +										
Truth	n Table)										
	l1	XT2	O2									
	0	1	1									

l1	XT2	02
0	1	1
1	0	0

OSCILLATION BLOCK

	Switching speed												
Block type	Path		t LDO (ns)				t 1			Т			
	IN → OU	ΙΤ	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
OSO9	I1 → XT2	(HL)	0.010	0.010	0.010				0.001	0.001	0.001		
		(LH)	0.010	0.010	0.010				0.001	0.001	0.001		
	I1 → O2	(HL)	4.585	11.818	11.818	0.010	0.025	0.025					
		(LH)	4.582	13.548	13.548	0.008	0.025	0.025					

	555554014	DE01070D F0D		TOD					
Function	FEEDBACK	RESISTOR FOR		TOR					
			ock type						
Functi		MHz range	kHz ra	inge			I/O	cells	int. cells
External fe	eedback								
Internal fe		OSF1						1	0
Internal fe Oscillation s	eedback stop function								
Logic Diagram				Block	type	Inp			Output
Logic Diagram			ŀ	DIOCK	туре	Symbol	Fan-in	Symb	ol Fan-out
II H01 •		→ N01 GND		OSF	=1	11	1.0	GNE O2	
Truth Table 11									

OSCILLATION BLOCK

		Switching speed											
Block type	Path		t	t LDO (ns)			t 1			T			
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
OSF1	I1 → O2	(HH)	0.010	0.010	0.010	0.000	0.000	0.000					
		(LL)	0.010	0.010	0.010	0.000	0.000	0.000					

Function	FEEDBACK	RESISTOR FOR	OSCILLA	TOR FO	OR EN	ABLE			
		Blo	ock type						
Fund	ction	MHz range	kHz ra	ange			I/O	cells	int. cells
External	feedback								
Internal	feedback	nck							
	feedback stop function	OSF3 1							2
Logic Diagram			Block	type	Symbol Symbol	out		utput ol Fan-out	
II H01 EN H02 O2 N02	•	→ N01 GND		osi	F3	I1 EN	1.5	GND O2	2

Truth Table

l1	EN	02	
0	0	0	
1	0	1	
Х	1	Z	← Prohibition

X:Irrelevant

Z:High impedance

OSCILLATION BLOCK

		Switching speed											
Block type	Path		t LDO (ns)			t 1			T				
	IN → OUT		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
OSF3	I1 → O2	(HH)	0.010	0.010	0.010	0.000	0.000	0.000					
		(LL)	0.010	0.010	0.010	0.000	0.000	0.000					

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CHAPTER 4 INTERFACE BLOCK (HIGHSPEED SIGNALE TRANSMISSION)

4-1 4-1

Function	3V GTL/P-E	CL INPUT BUFFE	R FOR EN	IABLE	TERM	INAL			
		Ble	ock type						
Function	no resistor	with 50 kΩ P/D	with 50 kΩ	2 P/U	with	5 kΩ P/l	J I/O	cells	int. cells
Normal	FIXA		FUXA	١				1	24
Fail safe									
-									
Logic Diagram				Block	tyne		out		Output
Logic Diagram						Symbol			ool Fan-out
A H01 Truth Table A Y 0 0 1 1			F	FIXA to	FUXA	A	-	Y	293

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	ed					
Block type	Path	Path t LD0 (ns) t 1 T									
	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FIXA	$A \rightarrow Y$				0.552	0.001	0.002	0.004			
to FUXA		(LL)	0.217	0.325	0.463	0.001	0.002	0.003			

Function	5V GTL/P-E	CL INPUT BUFFE	R FOR E	NABLE	TERM	INAL			
		Ble	ock type						
Function	no resistor	with 50 k Ω P/D	with 50 I	kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
Normal	FIZA						1	ı	24
Fail safe									
-									
Logic Diagram	1			Block	type		out		utput
Logic Diagram									ol Fan-out
А Н01		→ N01 Y		FIZ	A	A	-	Y	296
Truth Table									
A Y 0 0 1 1									

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	eed					
Block type	Path	Path tLD0 (ns) t1 T									
	IN → C	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FIZA	A → Y	(HH)	0.333	0.531	0.988	0.001	0.002	0.004			
		(LL)	0.204	0.370	0.662	0.001	0.002	0.003			

Function	GTL INPUT	BUFFER WITH E	N						
		BI	ock type						
Function	no resistor	with 50 kΩ P/D	with 50 l	ω P/U	with	5 kΩ P/l		cells	int. cells
Normal	FIR1						1		8
Fail safe									
-									
Logic Diagram				Block	tvpe	Ing Symbol	out Fan-in		utput ol Fan-out
А НО	1 -+	>→ N01 Y		FIR	:1	A RFV IEN	- 0.0 1.0	Y	22
RFV H02		> N01 Y							
IEN H03	3 •								
Truth Table									
A IEN	Y 1								
0 1 X 0	0 1								
X:Irrelevant									
			1 - 6						

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	ed					
Block type	Path										
	$IN \ \to \ O$	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FIR1	$A \rightarrow Y$	(HH)	0.416	0.996	2.337	0.014	0.029	0.058			
		(LL)	0.722	1.325	2.787	0.026	0.033	0.056			
	$RFV \rightarrow Y$	(HL)	0.010	0.010	0.010	0.047	0.047	0.047			
		(LH)	0.010	0.010	0.010	0.035	0.035	0.035			
	$IEN \rightarrow Y$	(HL)	0.383	0.781	1.644	0.023	0.027	0.043			
		(LH)	0.204	0.387	0.768	0.012	0.023	0.044			

Function	GTL INPUT	BUFFER FOR RE	FERENC	E VOLT	AGE				
		Ble	ock type						
Function	no resistor	with 50 kΩ P/D	with 50 l	kΩ P/U	with	5 kΩ P/l	J I/O	cells	int. cells
Normal	FIP1							1	
Fail safe									
-									
Logic Diagram	ı			Block	type		out		Dutput
Logic Diagram						Symbol			ool Fan-out
A H01				FIP		A	-	Y	12

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	ed					
Block type	Path										
	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FIP1	$A \rightarrow Y$	(HH)	0.010	0.010	0.010	0.047	0.047	0.047			
		(LL)	0.010	0.010	0.010	0.035	0.035	0.035			

Function	GTL OUTP	JT BUFFER WITH	I ENB						
		BI	ock type						
Function	no resistor	with 50 kΩ P/D	with 50 l	ω P/U	with	5 kΩ P/l	J I/O	cells	int. cells
Normal	EGTL						2	2	18
Fail safe									
-									
Logic Diagram	1			Block	type		out		utput
Logio Diagram						Symbol			ol Fan-out
	_			EG [*]	ΓL	A OEN	25.7 1.0	Y	-
A 110	, . \	. NO1 W				02.1			
A H0		> N01 Y							
OEN HO	2 •——								
Truth Table									
A OEN	1 Y								
0 1	0 Z*								
1 1 X 0	Z*								
X:Irrelevant									
Z:High Impedar	nce								
*:Open drain fu									
a pull-up resist	tor to get a								
Ingiliovoi.									

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	ed					
Block type	Path	Path)		t 1			Т	
	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
EGTL	$A \rightarrow Y$	(LZ)	0.971	1.613	3.078						
		(ZL)	0.494	0.936	1.888				0.003	0.005	0.009
	$OEN \rightarrow Y$	(LZ)	1.335	2.289	4.353						
		(ZL)	0.715	1.315	2.597				0.003	0.005	0.009

4 - 10 4 - 11

Function	GTL I/O BU	FFER							
		ВІ	ock type						
Function	no resistor	with 50 kΩ P/D	with 50	ω P/U	with	5 kΩ P/l	J I/O	cells	int. cells
Normal	BG0W						2	2	26
Fail safe									
-									
Logic Diagram	ı			Block	type		out		tput
Logic Diagram						Symbol			I Fan-out
RFV H03 Y1 N02 IEN H04 A H01 OEN H02		N01 Y0		BGC	ow.	A OEN RFV IEN	25.7 1.0 0.0 1.0	Y1	22
Truth Table									
A OEN	I Y0	Y0 OEN	Y1						
0 1	0	0 1	0						
1 1 X 0	Z* Z*	1 1 X 0	1						
X:Irrelevant Z:High Impedar *:Open drain fur a pull-up resist high level.	nction connect								

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	ed					
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → Ol	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
BG0W	$A \rightarrow Y0$	(LZ)	0.972	1.614	3.079						
		(ZL)	0.495	0.936	1.889				0.003	0.005	0.009
	OEN → Y0	(LZ)	1.336	2.289	4.354						
		(ZL)	0.715	1.315	2.597				0.003	0.005	0.009
	RFV → Y1	(HL)	0.010	0.010	0.010	0.047	0.047	0.047			
		(LH)	0.010	0.010	0.010	0.035	0.035	0.035			
	IEN → Y1	(HL)	0.383	0.781	1.644	0.023	0.027	0.043			
		(LH)	0.204	0.387	0.768	0.012	0.023	0.044			
	Y0 → Y1	(HH)	0.425	1.009	2.344	0.014	0.029	0.058			
		(LL)	0.727	1.322	2.790	0.026	0.033	0.056			

4 - 12 4 - 13

Function	P-ECL INPL	JT BUFFER WITH	IEN						
		Bl	ock type						
Function	no resistor	with 50 kΩ P/D	with 50 l	Ω P/U	with	5 kΩ P/l	J I/O	cells	int. cells
Normal	FIX1						1	I	26
Fail safe	FIX2						1	I	26
-									
Logic Diagram				Block	tvpe		out		utput
20910 214914111						Symbol			ol Fan-out
İ	_			FIX	.1	A RFV	1.0	Y	56
A H0	+	>→ N01 Y				IEN	1.0		
RFV HO	2 -	> VINOT I		FIX	′o		_	Y	50
				FIA		A RFV	1.0	Ť	56
IEN HO	3 •——					IEN	1.0		
Truth Table									
A IEN	Y								
1 1	1								
0 1	0								
X 0	0								
X:Irrelevant									
ı									
			1 - 1/1						

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	eed					
Block type	Path		t i	LDO (ns))		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FIX1	$A \rightarrow Y$	(HH)	0.626	1.193	2.418	0.005	0.009	0.015			
		(LL)	0.567	1.120	2.422	0.006	0.009	0.016			
	$RFV \rightarrow Y$	(HL)	0.020	0.020	0.020	0.000	0.000	0.000			
		(LH)	0.020	0.020	0.020	0.000	0.000	0.000			
	$IEN \rightarrow Y$	(HL)	0.993	2.157	4.172	0.006	0.009	0.016			
		(LH)	0.576	1.008	1.676	0.005	0.009	0.015			
FIX2	A → Y	(HH)	0.626	1.193	2.418	0.005	0.009	0.015			
		(LL)	0.567	1.120	2.422	0.006	0.009	0.016			
	$RFV \rightarrow Y$	(HL)	0.020	0.020	0.020	0.000	0.000	0.000			
		(LH)	0.020	0.020	0.020	0.000	0.000	0.000			
	$IEN \rightarrow Y$	(HL)	0.993	2.157	4.172	0.006	0.009	0.016			
		(LH)	0.576	1.008	1.676	0.005	0.009	0.015			

4 - 14 4 - 15

Function	P-ECL INPL	JT BUFFER FOR	REFERE	NCE VO	LTAG	E			
		Ble	ock type						
Function	no resistor	with 50 k Ω P/D	with 50 l	ω P/U	with	5 kΩ P/l	J I/O	cells	int. cells
Normal	FIP3						1	ı	0
Fail safe	FIP4						1	ı	0
-									
Logic Diagram				Block	tyne		out		ıtput
Logic Diagram						Symbol			I Fan-out
A H01	-	N01 Y		FIF		A	-	Y	500
Truth Table									

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	eed					
Block type	Path		t	LDO (ns))		t 1			Т	
	IN → C				MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FIP3	$A \rightarrow Y$	(HH)	0.020	0.020	0.020	0.000	0.000	0.000			
		(LL)	0.020	0.020	0.020	0.000	0.000	0.000			
FIP4	$A \rightarrow Y$	(HH)	0.020	0.020	0.020	0.000	0.000	0.000			
		(LL)	0.020	0.020	0.020	0.000	0.000	0.000			

4 - 16 4 - 17

Function	P-ECL OUT	PUT BUFFER							
		Ble	ock type						
Function	no resistor	with 50 k Ω P/D	with 50 l	ω P/U	with	5 kΩ P/l	J I/O	cells	int. cells
Normal	FO0G						1	I	4
Fail safe									
-									
Logic Diagram				Block	tvpe		out		utput
						Symbol			ol Fan-out
A H01 Truth Table A Y 0 0		→ N01 Y		FOO	G	A	8.1	Y	
1 1									

INTERFACE BLOCK(HIGHSPEED SIGNALE TRANSMISSION)

				Switch	ning spe	eed					
Block type	Path		t	LDO (ns))		t 1			Т	
	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FO0G	$A \rightarrow Y$				0.461				0.021	0.022	0.022
		(LL)	0.229	0.345	0.461				0.023	0.031	0.042

4 - 18 4 - 19

CHAPTER 5 INTERFACE BLOCK (DIGITAL PLL)

5-1 5-1

Block type	Function	3V INPUT B	UFFER REFERR	ENCE CLO	OCK					
Normal FIOP 1 3			Ble	ock type						
Fail safe - Logic Diagram Block type Input Symbol Fan-in Symbol Fan-ou FIOP A - Y 34 A HO1	Function	no resistor	with 50 kΩ P/D	with 50 kg	Ω P/U	with	5 kΩ P/l	J I/O	cells	int. cells
	Normal	FIOP						1	I	3
Logic Diagram Block type Symbol Fan-in Symbol Fan-ou FIOP A - Y 34 A H01 Truth Table A Y 1 1	Fail safe									
Logic Diagram	-									
FIOP A - Y 34 FIOP A - Y 34 Truth Table A Y 1 1 1	Logic Diagram				Block	type				
A H01 → N01 Y Truth Table A Y 1 1 1	Logio Diagram			-						
A Y 1 1 1	А Н01		→ N01 Y		FIO		A	-		34
	A Y 1 1									

INTERFACE BLOCK(DIGITAL PLL)

					Switch	ning spe	ed					
Block type		Path		t i	LDO (ns))		t 1			Т	
	IN	\rightarrow	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FI0P	Α	\rightarrow Y	(HH)	0.646	0.312	0.924	0.011	0.015	0.029			
			(LL)	0.010	0.232	0.641	0.012	0.016	0.030			

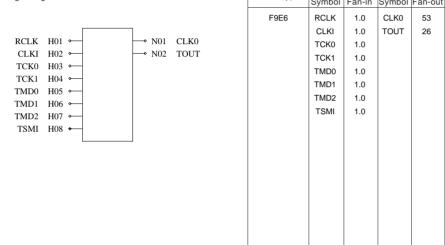
Function	5V INPUT B	UFFER REFERR	ENCE CL	.OCK					
		Ble	ock type						
Function	no resistor	with 50 kΩ P/D	with 50	kΩ P/U	with	5 kΩ P/l	U I/O	cells	int. cells
Normal	FI0Q							1	3
Fail safe									
-									
Logic Diagram				Block	type		put		utput
						Symbol			ol Fan-out
A H01		N01 Y		FIO	Q	A	-	Y	32
A Y 1 1 1 0 0									

INTERFACE BLOCK(DIGITAL PLL)

				Switch	ning spe	ed					
Block type	Path		t	LDO (ns))		t 1			Т	
	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
FI0Q	$A \rightarrow Y$	(HH)	0.280	0.400	1.022	0.008	0.015	0.028			
	(LL) 0.176 0.278 0.638 0.010 0.016										

5 - 4 5 - 5

Function	DIGITAL PL	L(25MHZ TO 50N	1HZ)						
		BI	ock type						
Function	no resistor	with 50 kΩ P/D	with 50	kΩ P/U	with	5 kΩ P/l	J I/O	cells	nt. cells
Normal	F9E6								1900
-									
-									
1				Disal	4	Inp	out	Ou	tput
Logic Diagram				Block	туре	Symbol	Fan-in	Symbo	Fan-out



Truth Table

RCLK	CLKI	TCK0	TCK1	TMD0	TMD1	TMD2	TSMI	CLK0	TOUT	Function
А	Α	х	х	0	0	0	х	А	LOCK	*1
A	Х	X	Х	1	0	0	Х	0	0	*2
A	Х	X	Х	0	1	0	Х	A	0	*3
A	X	X	Х	0	0	1	Х	0	0	*4
Х	Х	Х	1	0	1	1	Х	Х	Х	

X:Irrelevant

INTERFACE BLOCK(DIGITAL PLL)

			Switch	ning spe	ed					
Block type	Path	tι	_D0 (ns)			t 1			Т	
	IN o OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
F9E6	RCLK → CLK0 (HH)	1.807	7.804	7.804	0.003	0.020	0.020			
	(LL)	1.683	6.917	6.917	0.002	0.013	0.013			

5-6 5-7

← Prohibition

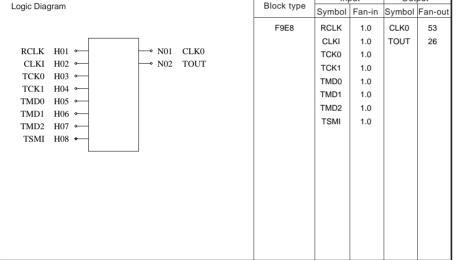
^{*1:}PLL mode

^{*2:}Reset mode

^{*3:}Through Path mode

^{*4:}Stop mode

Function	DIGITAL PL	L(50MHZ TO 75N	ΛHZ)										
	Block type												
Function	no resistor	with 50 kΩ P/D	with 50 kΩ P/U	with	5 kΩ P/U	J I/O	cells	int. cells					
Normal	F9E8							1596					
-													
-													
					Inp	ut		Output					



Truth Table

RCLK	CLKI	TCK0	TCK1	TMD0	TMD1	TMD2	TSMI	CLK0	TOUT	Function
А	Α	х	х	0	0	0	х	А	LOCK	*1
A	Х	X	Х	1	0	0	Х	0	0	*2
A	Х	X	Х	0	1	0	Х	A	0	*3
A	X	X	Х	0	0	1	Х	0	0	*4
Х	Х	Х	1	0	1	1	Х	Х	Х	

X:Irrelevant

INTERFACE BLOCK(DIGITAL PLL)

	Switching speed										
Block type	Path	t i	LDO (ns))		t 1		T			
	$IN \ o \ OUT$	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
F9E8	RCLK → CLK0 (HH)	1.580	6.510	6.510	0.003	0.020	0.020				
	(LL)	1.716	7.335	7.335	0.002	0.013	0.013				

5-8 5-9

← Prohibition

^{*1:}PLL mode

^{*2:}Reset mode

^{*3:}Through Path mode

^{*4:}Stop mode

CHAPTER 6 FUNCTION BLOCK

FUNCTION BLOCK

Function	H.L	LEVE	L GENER	ATO	₹				SSI Fa	mily	
	-,-					tanda	rd type				
Block type	Norma	al	High sp	eed							
Drivability	Name	cells	Name	cells							
-	F091	1									
-											
-											
-											
Truth Tabl			→ N0								

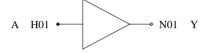
FUNCTION BLOCK

				Swite	ching sp	Switching speed									
Block	Path			t LD0 (ns)				t 1] In	put	Output			
type	IN	\rightarrow	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout		
F091												Н	103		
												L	103		

FUNCTION BLOCK

Function	INT	ERFA	CE BLOC	K FO	R OSCILL	ATOF	BUFFER		SSI Fa	mily	
Block type					St	tanda	rd type				
Block type	Normal		High speed								
Drivability	Name	cells	Name	cells							
-	F093	1									
-											
-											
-											

Logic Diagram



Truth Table

Α	Υ
0	0
1	1

F093 is used oscillator blocks.

FUNCTION BLOCK

		Switching speed											
Block	Path			t LD0 (ns)			t 1			Input		Output	
type	IN	\rightarrow	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F093	А	\rightarrow Y	(HH)	0.010	0.020	0.010	0.000	0.000	0.000	Α	2.0	Υ	4
			(LL)	0.010	0.020	0.010	0.000	0.000	0.000				

FUNCTION BLOCK

Function	INV	ERTE	R						SSI Fa	mily	
Block type		5	Single out	out typ	е	Multi output type					
Drivability	Name	cells				Name	cells				
Low Power	L101	1									
x1	F101	1									
x2	F102	2									
х3	F143	3				F103	3				
x4	F144	4				F104	4				
x5											
х6											
x8	F148	12				F108	12				
x12											

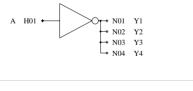
Logic Diagram Single output type



Multi output type



Multi output type



FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L101	$A \rightarrow Y$	(HL)	0.078	0.111	0.155	0.017	0.027	0.045	Α	1.0	Υ	11
		(LH)	0.076	0.111	0.153	0.025	0.046	0.073				
F101	$A \rightarrow Y$	(HL)	0.073	0.106	0.143	0.010	0.016	0.025	Α	2.0	Y	23
		(LH)	0.068	0.100	0.135	0.013	0.023	0.036				
F102	$A \rightarrow Y$	(HL)	0.069	0.100	0.139	0.005	0.007	0.012	Α	4.1	Y	46
		(LH)	0.065	0.094	0.127	0.006	0.011	0.018				
F143	$A \rightarrow Y$	(HL)	0.069	0.099	0.138	0.003	0.005	0.008	Α	6.1	Y	70
		(LH)	0.065	0.094	0.125	0.004	0.008	0.012				
F103	$A \rightarrow Yn$	(HL)	0.069	0.099	0.138	0.003	0.005	0.008	Α	6.1	Y0	35
		(LH)	0.065	0.094	0.125	0.004	0.008	0.012			Y1	35
	(n = 0,1)											
F144	$A \rightarrow Y$	(HL)	0.066	0.098	0.135	0.002	0.004	0.006	Α	8.1	Y	93
		(LH)	0.063	0.092	0.121	0.003	0.006	0.009				
F104	$A \rightarrow Yn$	(HL)	0.066	0.098	0.135	0.002	0.004	0.006	Α	8.1	Y0	46
		(LH)	0.063	0.092	0.121	0.003	0.006	0.009			Y1	46
	(n = 0,1)											
F148	$A \rightarrow Y$	(HL)	0.303	0.514	0.825	0.001	0.002	0.003	Α	2.0	Y	179
		(LH)	0.291	0.507	0.836	0.002	0.003	0.005				
F108	$A \rightarrow Yn$	(HL)	0.303	0.514	0.825	0.001	0.002	0.003	Α	2.0	Y0	44
		(LH)	0.291	0.507	0.836	0.002	0.003	0.005			Y1	44
	(n = 0,1,2,3	3)									Y2	44
											Y3	44

Function	BU	FFER							SS	I Fami	ly	
Block type		5	Single out	put typ	ре			Multi ou	tput	type		
Drivability	Name	cells				Name	cells					
Low Power	L111	1										
x1	F111	2										
x2	F112	3										
х3	F153	4				F113	4					
x4	F154	5				F114	5					
x5												
x6												
x8	F158	11				F118	11					
x12												
Multi outp	ut type		701 Y1 702 Y2									
Multi outpu	ut type											

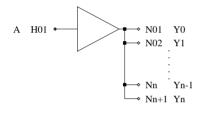
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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L111	$A \rightarrow Y$	(HH)	0.120	0.205	0.320	0.025	0.045	0.073	Α	1.0	Y	11
		(LL)	0.143	0.238	0.382	0.016	0.027	0.044				
F111	$A \rightarrow Y$	(HH)	0.122	0.206	0.307	0.012	0.023	0.036	Α	2.0	Y	23
		(LL)	0.132	0.220	0.342	0.010	0.016	0.025				
F112	$A \rightarrow Y$	(HH)	0.151	0.247	0.359	0.006	0.011	0.018	Α	2.0	Y	46
		(LL)	0.163	0.278	0.438	0.005	0.008	0.013				
F153	$A \rightarrow Y$	(HH)	0.179	0.285	0.414	0.004	0.008	0.012	Α	2.0	Y	69
		(LL)	0.189	0.340	0.530	0.003	0.005	0.009				
F113	$A \rightarrow Yn$	(HH)	0.179	0.285	0.414	0.004	0.008	0.012	Α	2.0	Y0	34
		(LL)	0.189	0.340	0.530	0.003	0.005	0.009			Y1	34
	(n = 0,1)											
F154	$A \rightarrow Y$	(HH)	0.217	0.335	0.488	0.003	0.006	0.010	Α	2.0	Y	89
		(LL)	0.214	0.395	0.622	0.003	0.004	0.008				
F114	$A \rightarrow Yn$	(HH)	0.217	0.335	0.488	0.003	0.006	0.010	Α	2.0	Y0	44
		(LL)	0.214	0.395	0.622	0.003	0.004	0.008			Y1	44
	(n = 0,1)											
F158	$A \rightarrow Y$	(HH)	0.165	0.267	0.384	0.002	0.003	0.005	Α	6.1	Y	185
		(LL)	0.171	0.304	0.468	0.001	0.002	0.004				
F118	$A \rightarrow Yn$	(HH)	0.165	0.267	0.384	0.002	0.003	0.005	Α	6.1	Y0	46
		(LL)	0.171	0.304	0.468	0.001	0.002	0.004			Y1	46
	(n = 0,1,2,3	3)									Y2	46
											Y3	46

Function	CL	OCK E	DRIVER							SSI Fa	ımily	
Block type		(Standard Middle scale		it)				Double Large scal		t)	
Drivability	Name							cells				
x1	FCK1	40										
x2	FCK2	80										
x3	FCK3	120										
x4	FCK4	160										
x5	FCK5	200										
-												
-												
-												

Logic Diagram



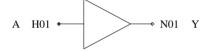
6 - 10

FUNCTION BLOCK

		Swite	ching sp	eed							
Block	Path	t	LD0 (ns))		t 1] In	put	Ou	itput
type	IN o OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
FCK1	$A \rightarrow Yn$ (HH)	0.537	0.949	1.571	0.000	0.001	0.001	Α	2.0	Y0	31
	(LL)	0.524	0.936	1.573	0.000	0.001	0.001			Y1	31
	(n = 0 to 17)									:	:
										Y16 Y17	31 31
FCK2	A → Yn (HH)	0.527	0.938	1.557	0.000	0.000	0.001	Α	6.8	Y17 Y0	31
FCR2	A → fii (III)	0.527	0.936	1.545	0.000	0.000	0.000	_ ^	0.0	Y1	31
	(n = 0 to 35)	0.010	0.517	1.040	0.000	0.000	0.000			''	:
	(0 10 00)									Y34	31
										Y35	31
FCK3	$A \rightarrow Yn$ (HH)	0.523	0.934	1.552	0.000	0.000	0.000	Α	11.6	Y0	32
	(LL)	0.515	0.910	1.531	0.000	0.000	0.000			Y1	32
	(n = 0 to 53)									:	:
										Y52	32
50144										Y53	32
FCK4	$A \rightarrow Yn$ (HH)	0.522 0.511	0.932 0.903	1.547 1.522	0.000	0.000	0.000	Α	16.4	Y0 Y1	32 32
	(LL) (n = 0 to 71)	0.511	0.903	1.522	0.000	0.000	0.000			, Y1	32
	(11 = 0 to 7 1)									Y70	32
										Y71	32
FCK5	A → Yn (HH)	0.521	0.931	1.545	0.000	0.000	0.000	Α	21.2	Y0	33
	(LL)	0.510	0.901	1.516	0.000	0.000	0.000			Y1	33
	(n = 0 to 89)									:	:
										Y88	33
										Y89	33

Function	CL	OCK E	RIVER SI	NGLE	OUT					SSI Fa	mily	
Block type		(Standard Middle scale		it)				Double Large scal		t)	
Drivability	Name	cells				Name	cells					
x1	FCKA	40										
x2	FCKB	80										
х3	FCKC	120										
x4	FCKD	160										
x5	FCKE	200										
-												
-												
-												

Logic Diagram



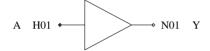
6 - 12

FUNCTION BLOCK

									_		_	
l			Swite	ching sp	eed				l .		_ ا	
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
FCKA	$A \ \to Y$	(HH)	0.537	0.949	1.571	0.000	0.001	0.001	Α	2.0	Υ	571
		(LL)	0.524	0.936	1.573	0.000	0.001	0.001				
FCKB	$A \ \to Y$	(HH)	0.527	0.938	1.557	0.000	0.000	0.001	Α	6.8	Υ	1145
		(LL)	0.518	0.917	1.545	0.000	0.000	0.000				
FCKC	$A \rightarrow Y$	(HH)	0.523	0.934	1.552	0.000	0.000	0.000	Α	11.6	Y	1739
		(LL)	0.515	0.910	1.531	0.000	0.000	0.000				
FCKD	$A \rightarrow Y$	(HH)	0.522	0.932	1.547	0.000	0.000	0.000	Α	16.4	Y	2352
		(LL)	0.511	0.903	1.522	0.000	0.000	0.000				
FCKE	$A \rightarrow Y$	(HH)	0.521	0.931	1.545	0.000	0.000	0.000	Α	21.2	Y	2994
		(LL)	0.510	0.901	1.516	0.000	0.000	0.000				

Function	CL	OCK T	REE SYN	THES	SIS DRIVE	R				SSI Fa	mily	
Block type		(Standard Middle scale		it)				Double Large scal		t)	
Drivability	Name	cells					Name	cells				
x1	FC42	132				FC44	340					
x2												
х3	FC82	396					FC84	1020				
x4												
x5												
-												
-												
-												

Logic Diagram



6 - 14

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
FC42	$A \ \to Y$	(HH)	0.645	1.591	1.629	0.000	0.000	0.000	Α	8.1	Υ	2988
		(LL)	0.861	2.456	2.494	0.000	0.000	0.000				
FC82	$A \ \to Y$	(HH)	0.535	1.033	1.640	0.000	0.000	0.000	Α	2.0	Y	5747
		(LL)	0.560	1.136	1.743	0.000	0.000	0.000				
FC44	$A \rightarrow Y$	(HH)	0.337	0.817	0.892	0.000	0.000	0.000	Α	8.1	Υ	5976
		(LL)	0.364	0.925	1.001	0.000	0.000	0.000				
FC84	$A \ \to Y$	(HH)	0.945	1.756	2.969	0.000	0.000	0.000	Α	2.0	Y	11495
		(LL)	0.949	1.769	2.983	0.000	0.000	0.000				

Function	3-S	TATE	BUFFER							SSI Far	nily	
Block type			Buffer	type					Inverter	type		
block type	with E	N	with E	NB			with E	N	with E	NB		
Drivability	Name	cells	Name	cells			Name	cells	Name	cells		
Low Power												
x1	F531	5	F532	5								
x2												
х3												
х4												
Logic Diagr for "Bu A H01	ffer with EN	1"	→ N01	Y			ic Diagram for "Buffer		ENB"	→ N01	Y	
			1.01	•					6			
EN H02	•——					ENB	H02 ←					
Logic Diagr for "Inv	am verter with E	EN"				Log	ic Diagram for "Invert		ENB"			
Truth Table					·							
With E	N					With E	NB					
Α	EN \	Y Y	*			Α	ENB	Υ	Y*			
0	1 (0 1	.]			0	0	0	1			
1	1 1	1 ()			1	0	1	0			
Х	0 2	Z Z	2			Х	1	Z	z			
	evant Impedance ter type		_					•				

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		l In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F531	$A \rightarrow Y$	(HH)	0.189	0.325	0.506	0.013	0.023	0.037	Α	2.1	Υ	22
		(LL)	0.258	0.496	0.878	0.010	0.016	0.026	EN	1.0		
	$EN \rightarrow Y$	(HZ)	0.398	0.671	1.039				Y	1.0		
		(LZ)	0.282	0.458	0.727							
		(ZH)	0.318	0.582	0.966	0.013	0.023	0.037				
		(ZL)	0.338	0.674	1.167	0.010	0.016	0.026				
F532	$A \rightarrow Y$	(HH)	0.189	0.324	0.506	0.013	0.023	0.037	Α	2.1	Y	22
		(LL)	0.259	0.498	0.881	0.010	0.016	0.026	ENB	1.0		
	$ENB \rightarrow Y$	(HZ)	0.324	0.527	0.763				Υ	1.0		
		(LZ)	0.319	0.533	0.837							
1		(ZH)	0.275	0.497	0.835	0.013	0.023	0.037				
		(ZL)	0.421	0.827	1.451	0.010	0.016	0.026				

Function	DEI	LAY G	ATE				S	SI Fa	mily	
Block type					Standa	rd type				
block type	Norma	al	High sp	eed						
Drivability	Name	cells	Name	cells						П
-	F131	6								
-	F132	10								
-										
_										П

4	H01	•——		,	}	N01	Y
---	-----	-----	--	---	---	-----	---

Truth Table

Α	Y
0	0
1	1

			Swite	ching sp	eed						_	
Block	Path	t I	LD0 (ns))		t 1] In	put	Ou	tput	
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F131	$A \rightarrow Y$	(HH)	1.065	2.208	3.965	0.013	0.024	0.038	Α	1.0	Y	21
		(LL)	1.001	2.005	3.524	0.011	0.018	0.030				
F132	$A \rightarrow Y$	(HH)	2.084	4.390	7.931	0.013	0.024	0.038	Α	1.0	Y	21
		(LL)	2.019	4.189	7.497	0.011	0.019	0.030				

Function	2-IN	IPUT	NOR							SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L202	1	L202N1	2								
x1	F202	2	F202N1	3								
x2	F222	4	F222N1	5								
x4												
x8	F282	6	F282N1	7								
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 ← B H02 ← Logic Diagra	rmal type"	→ N01	Y B	fo H01 • H02 •	Diagram r "with 1 inv Diagram r "with 4 inv	<u> </u>	• N01 Y	L	ogic Diagr for "wit		erter type"	

6 - 20

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t ı	_D0 (ns)			t 1] In	put	Ou	tput
type	IN → (TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L202	$A \rightarrow Y$	(HL)	0.087	0.122	0.177	0.016	0.026	0.043	Α	1.0	Υ	5
		(LH)	0.110	0.181	0.282	0.043	0.088	0.147	В	1.0		
	$B \ \to Y$	(HL)	0.095	0.134	0.191	0.016	0.026	0.043				
		(LH)	0.099	0.189	0.320	0.043	0.088	0.147				
F202	$A \ \to \ Y$	(HL)	0.089	0.130	0.177	0.009	0.014	0.022	Α	2.1	Y	10
		(LH)	0.099	0.179	0.279	0.022	0.044	0.073	В	2.1		
	$B \ \to Y$	(HL)	0.089	0.130	0.177	0.009	0.014	0.022				
		(LH)	0.099	0.179	0.279	0.022	0.044	0.073				
F222	$A \ \to \ Y$	(HL)	0.083	0.124	0.167	0.004	0.007	0.011	Α	4.2	Y	22
		(LH)	0.093	0.164	0.258	0.011	0.022	0.037	В	4.2		
	$B \ \to Y$	(HL)	0.083	0.124	0.167	0.004	0.007	0.011				
		(LH)	0.093	0.164	0.258	0.011	0.022	0.037				
F282	$A \ \to \ Y$	(HL)	0.272	0.492	0.810	0.002	0.004	0.006	Α	1.0	Y	91
		(LH)	0.341	0.622	1.073	0.003	0.006	0.009	В	1.0		
	$B \ \to Y$	(HL)	0.277	0.496	0.820	0.002	0.004	0.006				
		(LH)	0.328	0.629	1.111	0.003	0.006	0.009				
L202N1	$A \ \to \ Y$	(HL)	0.075	0.112	0.156	0.017	0.026	0.043	Α	1.0	Y	5
		(LH)	0.093	0.148	0.221	0.044	0.088	0.147	В	1.0		
	$B \ \to Y$	(HH)	0.151	0.283	0.452	0.044	0.088	0.147				
		(LL)	0.147	0.245	0.389	0.016	0.026	0.043				
F202N1	$A \ \to \ Y$	(HL)	0.081	0.123	0.169	0.009	0.014	0.022	Α	2.0	Y	11
		(LH)	0.090	0.158	0.248	0.022	0.044	0.074	В	1.0		
	$B \ \to Y$	(HH)	0.170	0.306	0.478	0.022	0.044	0.074				
		(LL)	0.175	0.296	0.484	0.009	0.014	0.023				
F222N1	$A \ \to \ Y$	(HL)	0.073	0.115	0.164	0.004	0.007	0.011	Α	4.1	Y	22
		(LH)	0.090	0.149	0.232	0.011	0.022	0.037	В	1.0		
	$B \ \to Y$	(HH)	0.224	0.373	0.575	0.011	0.022	0.037				
		(LL)	0.231	0.408	0.688	0.005	0.007	0.012				
F282N1	$A \ \to \ Y$	(HL)	0.272	0.491	0.809	0.002	0.004	0.006	Α	1.0	Y	90
		(LH)	0.341	0.622	1.073	0.003	0.006	0.009	В	1.0		
	$B \ \to Y$	(HH)	0.388	0.751	1.301	0.003	0.006	0.009				
		(LL)	0.337	0.608	1.033	0.002	0.004	0.006				

Function	3-IN	IPUT	NOR							SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter/	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L203	2	L203N1	2	L203N2	3						
x1	F203	3	F203N1	4	F203N2	4						
x2	F223	6	F223N1	7	F223N2	7						
x4												
x8												
Block type	Norma	al	with 1 inv	/erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 B H02 C H03 Logic Diagra	rmal type"	→ N01	Y B C	H01 • H02 • H03 •	Diagram r "with 1 inv Diagram r "with 4 inv	<u> </u>	• N01 Y	A B	ogic Diag for "wi H01 ← H02 ← H03 ← H03 ← H03		erter type" → N0	1 Y

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		l In	put	Ou	tput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L203	$A \ \to Y$	(HL)	0.086	0.122	0.176	0.017	0.026	0.043	Α	1.0	Υ	3
		(LH)	0.135	0.226	0.366	0.065	0.134	0.225	В	1.0		
	$B \ \to Y$	(HL)	0.098	0.139	0.191	0.017	0.027	0.045	С	1.0		
		(LH)	0.142	0.278	0.475	0.066	0.134	0.225				
	$C \rightarrow Y$	(HL)	0.103	0.144	0.207	0.016	0.026	0.043				
F000	,	(LH)	0.159	0.338	0.574	0.066	0.134	0.225		0.4	Y	_
F203	$A \ \to Y$	(HL) (LH)	0.100 0.156	0.138 0.298	0.199 0.491	0.008	0.013 0.068	0.022 0.113	A B	2.1 2.1	Y	5
	$B \to Y$	(Ln) (HL)	0.100	0.298	0.491	0.033	0.068	0.113	C	2.1		
	$B \ \to Y$	(LH)	0.150	0.140	0.190	0.033	0.068	0.022		2.1		
	$C \rightarrow Y$	(HL)	0.101	0.141	0.198	0.009	0.000	0.022				
	0 7 1	(LH)	0.156	0.298	0.493	0.033	0.068	0.113				
F223	A → Y	(HL)	0.093	0.138	0.187	0.004	0.007	0.011	Α	4.2	Υ	12
		(LH)	0.145	0.282	0.457	0.017	0.034	0.057	В	4.2		
	$B \ \to Y$	(HL)	0.095	0.141	0.189	0.004	0.007	0.011	С	4.2		
		(LH)	0.139	0.276	0.461	0.017	0.034	0.057				
	$C \ \to \ Y$	(HL)	0.093	0.138	0.186	0.004	0.007	0.011				
		(LH)	0.145	0.282	0.455	0.017	0.034	0.057				
L203N1	$A \ \to Y$	(HL)	0.082	0.124	0.175	0.017	0.026	0.043	Α	1.0	Y	3
		(LH)	0.134	0.225	0.359	0.066	0.135	0.226	В	1.0		
	$B \ \to Y$	(HL)	0.096	0.141	0.192	0.017	0.027	0.045	С	1.0		
		(LH)	0.140	0.281	0.472	0.066	0.135	0.226				
	$C \ \to \ Y$	(HH)	0.217	0.437	0.725	0.066	0.134	0.225				
		(LL)	0.158	0.263	0.419	0.017	0.028	0.045				
F203N1	$A \ \to \ Y$	(HL)	0.086	0.129	0.176	0.009	0.014	0.022	Α	2.0	Y	6
		(LH)	0.126	0.242	0.390	0.032	0.067	0.113	В	2.1		
	$B \ \to Y$	(HL)	0.094 0.140	0.140 0.292	0.190 0.479	0.009	0.014 0.067	0.022 0.112	С	1.0		
	0 V	(LH) (HH)	0.140	0.406	0.479	0.033 0.033	0.067	0.112				
	$C \rightarrow Y$	(LL)	0.186	0.400	0.517	0.009	0.007	0.112				
F223N1	A → Y	(HL)	0.086	0.135	0.190	0.003	0.007	0.011	Α	4.2	Y	11
1 225111	A -> 1	(LH)	0.151	0.288	0.467	0.017	0.034	0.057	В	4.2	· '	
	$B \to Y$	(HL)	0.088	0.139	0.196	0.004	0.007	0.011	c	1.0		
	2 , .	(LH)	0.144	0.282	0.474	0.017	0.034	0.057	_			
	$C \rightarrow Y$	(HH)	0.293	0.515	0.816	0.017	0.034	0.057				
		(LL)	0.245	0.435	0.738	0.005	0.007	0.012				
L203N2	$A \ \to Y$	(HL)	0.082	0.124	0.175	0.017	0.026	0.043	Α	1.0	Υ	3
		(LH)	0.133	0.225	0.359	0.066	0.135	0.226	В	1.0		
	$B \ \to Y$	(HH)	0.209	0.408	0.668	0.066	0.135	0.226	С	1.0		
		(LL)	0.154	0.257	0.408	0.017	0.027	0.045				
	$C \ \to \ Y$	(HH)	0.246	0.476	0.775	0.066	0.135	0.226				
		(LL)	0.167	0.276	0.443	0.017	0.028	0.045		0.0	L	
F203N2	$A \ \to Y$	(HL)	0.085	0.128	0.176	0.009	0.014	0.022	A	2.0	Υ	6
		(LH)	0.127	0.243	0.393	0.032	0.067	0.113	В	1.0		
	$B \ \to Y$	(HH) (LL)	0.245 0.192	0.460 0.327	0.733 0.533	0.033	0.067 0.014	0.112 0.023	С	1.0		
	$C \rightarrow Y$	(LL) (HH)	0.192	0.327	0.533	0.009	0.014	0.023				
	U → Y	(HH) (LL)	0.223	0.409	0.547	0.033	0.067	0.113				
F223N2	A → Y	(HL)	0.183	0.313	0.312	0.009	0.007	0.023	Α	4.2	Y	11
1 220142	7 7 1	(LH)	0.152	0.290	0.470	0.017	0.034	0.057	В	1.0	'	l ''
	$B \to Y$	(HH)	0.284	0.513	0.815	0.017	0.034	0.057	c	1.0		
		(LL)	0.244	0.430	0.729	0.004	0.007	0.012				1
	$C \rightarrow Y$	(HH)	0.295	0.521	0.823	0.017	0.034	0.057				
		(LL)	0.245	0.434	0.738	0.005	0.007	0.012				
		()				2.300	2.50.	2.2.2				

Function	4-IN	IPUT	NOR							SSI Fa	mily		
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter			
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells			
Low Power	L204	2	L204N1	3	L204N2	3							
x1	F204	4	F204N1	5	F204N2	5							
x2	F224	8	F224N1	9	F224N2	9							
х4													
x8													
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter			
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells			
Low Power													
x1													
x2													
x4													
x8													
A H01 B H02 C H03 D H04	am mal type"	→ N01	A	C H03 ←								ype" N01	Y
Logic Diagra for "with	am 1 3 inverter	type"			Diagram r *with 4 in\	verter (ype"						

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L204	$A \rightarrow Y$	(HL)	0.096	0.138	0.195	0.017	0.027	0.045	Α	1.0	Y	1
		(LH)	0.177	0.319	0.541	0.084	0.177	0.299	В	1.0		
	$B \rightarrow Y$	(HL)	0.107	0.152	0.210	0.017	0.027	0.045	С	1.0		
		(LH)	0.200	0.407	0.712	0.084	0.177	0.298	D	1.0		
	$C \rightarrow Y$	(HL)	0.116	0.162	0.230	0.017	0.027	0.045				
	$D \rightarrow Y$	(LH) (HL)	0.249 0.113	0.536 0.160	0.923 0.227	0.085 0.016	0.177 0.026	0.298 0.044				
	$D \rightarrow Y$	(LH)	0.113	0.160	0.227	0.016	0.020	0.044				
F204	A → Y	(HL)	0.244	0.445	0.722	0.009	0.014	0.023	A	1.0	Y	22
1204	Λ -> 1	(LH)	0.338	0.638	1.093	0.012	0.023	0.036	В	1.0		
	$B \to Y$	(HL)	0.256	0.457	0.739	0.009	0.014	0.023	С	1.0		
		(LH)	0.325	0.645	1.130	0.012	0.023	0.036	D	1.0		
	$C \rightarrow Y$	(HL)	0.255	0.473	0.766	0.009	0.014	0.023				
		(LH)	0.322	0.599	1.033	0.012	0.023	0.036				
	$D \rightarrow Y$	(HL)	0.266	0.485	0.787	0.009	0.014	0.023				
		(LH)	0.309	0.605	1.070	0.012	0.023	0.036				
F224	$A \rightarrow Y$	(HL)	0.100	0.144	0.200	0.004	0.007	0.011	Α	4.3	Y	7
		(LH)	0.196	0.392	0.667	0.021	0.044	0.075	В	4.3		
	$B \rightarrow Y$	(HL)	0.104	0.152	0.208	0.004	0.007	0.011	С	4.3		
		(LH)	0.205	0.430	0.738	0.021	0.044	0.075	D	4.3		
	$C \rightarrow Y$	(HL)	0.104	0.152	0.208	0.004	0.007	0.011				
		(LH)	0.206	0.429	0.738	0.021	0.044	0.075				
	$D \rightarrow Y$	(HL)	0.100	0.144	0.200	0.004	0.007	0.011				
L204N1	A 1/	(LH) (HL)	0.196	0.393 0.124	0.667 0.175	0.021	0.044	0.075 0.043	A	1.0	Y	2
L204N1	$A \rightarrow Y$	(HL)	0.063	0.124	0.175	0.017	0.026	0.043	В	1.0	1	-
	$B \to Y$	(LII) (HL)	0.097	0.242	0.394	0.004	0.027	0.299	C	1.0		
		(LH)	0.164	0.335	0.130	0.085	0.027	0.299	D	1.0		
	C → Y	(HL)	0.105	0.151	0.207	0.017	0.027	0.045		1.0		
		(LH)	0.207	0.457	0.775	0.085	0.177	0.299				
	$D \rightarrow Y$	(HH)	0.296	0.602	1.009	0.085	0.176	0.299				
		(LL)	0.158	0.262	0.418	0.017	0.026	0.044				
F204N1	$A \rightarrow Y$	(HL)	0.204	0.379	0.623	0.009	0.014	0.024	Α	1.0	Y	22
		(LH)	0.281	0.514	0.878	0.013	0.023	0.037	В	1.0		
	$B \rightarrow Y$	(HL)	0.216	0.393	0.642	0.009	0.014	0.024	С	1.0		
		(LH)	0.268	0.526	0.916	0.013	0.023	0.037	D	1.0		
	$C \rightarrow Y$	(HL)	0.220	0.413	0.683	0.009	0.015	0.024				
		(LH)	0.285	0.518	0.893	0.013	0.023	0.037				
	$D \rightarrow Y$	(HH)	0.330	0.648	1.119	0.013	0.023	0.037				
F224N1	A → Y	(LL) (HL)	0.298	0.539 0.139	0.908	0.009	0.014	0.024	A	4.3	Y	8
FZZ4INI	$A \rightarrow Y$	(HL) (LH)	0.091	0.139	0.193	0.005	0.007	0.011	В	4.3	'	
	$B \to Y$	(HL)	0.102	0.302	0.204	0.021	0.007	0.073	C	4.3		
		(LH)	0.189	0.397	0.678	0.021	0.045	0.075	D	1.0		
	C → Y	(HL)	0.096	0.147	0.205	0.005	0.007	0.011		"		
	• • •	(LH)	0.188	0.399	0.681	0.021	0.044	0.075				
	$D \rightarrow Y$	(HH)	0.326	0.595	0.961	0.021	0.045	0.075				
		(LL)	0.251	0.447	0.754	0.005	0.008	0.013				
L204N2	$A \rightarrow Y$	(HL)	0.083	0.124	0.175	0.017	0.026	0.043	Α	1.0	Y	2
		(LH)	0.141	0.242	0.394	0.084	0.177	0.299	В	1.0		
	$B \rightarrow Y$	(HL)	0.097	0.142	0.196	0.017	0.027	0.045	C	1.0		
		(LH)	0.164	0.334	0.575	0.085	0.177	0.299	D	1.0		
	$C \rightarrow Y$	(HH)	0.293	0.588	0.979	0.085	0.177	0.299				
	,	(LL)	0.163	0.268	0.428	0.017	0.028 0.177	0.045				
	$D \rightarrow Y$	(HH) (LL)	0.307 0.164	0.616 0.273	1.024 0.437	0.085 0.017	0.177	0.299 0.044				
		(LL)	U. 104	0.213	0.437	0.017	0.027	0.044	1			

			Swite	ching sp	eed							
Block	Pat	า	t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F204N2	$A \rightarrow Y$	(HL)	0.204	0.379	0.623	0.009	0.014	0.024	Α	1.0	Y	22
		(LH)	0.281	0.514	0.878	0.013	0.023	0.037	В	1.0		
	$B \rightarrow Y$	(HL)	0.216	0.393	0.642	0.009	0.014	0.024	С	1.0		
		(LH)	0.269	0.526	0.916	0.013	0.023	0.037	D	1.0		
	C → Y	(HH)	0.329	0.629	1.081	0.013	0.023	0.037				
		(LL)	0.293	0.533	0.895	0.009	0.014	0.024				
	$D \rightarrow Y$	(HH)	0.344	0.664	1.139	0.013	0.023	0.037				
		(LL)	0.304	0.551	0.926	0.009	0.015	0.024				
F224N2	$A \rightarrow Y$	(HL)	0.090	0.138	0.192	0.005	0.007	0.011	Α	4.3	Y	8
		(LH)	0.183	0.363	0.609	0.021	0.045	0.075	В	4.3		
	$B \rightarrow Y$	(HL)	0.096	0.147	0.203	0.005	0.007	0.011	С	1.0		
		(LH)	0.189	0.399	0.682	0.021	0.045	0.075	D	1.0		
	$C \rightarrow Y$	(HH)	0.338	0.634	1.026	0.021	0.044	0.075				
		(LL)	0.252	0.444	0.753	0.005	0.008	0.012				
	$D \rightarrow Y$	(HH)	0.331	0.601	0.969	0.021	0.045	0.075				
		(LL)	0.251	0.444	0.753	0.005	0.008	0.013				

[MEMO]

Function	5-IN	IPUT	NOR							SSI Fa	mily	
Block type	Norma	al	with 1 in	verter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L205	4	L205N1	5	L205N2	5	L205N3	6				
x1	F205	5	F205N1	5	F205N2	6	F205N3	6				
x2	F225	6	F225N1	6	F225N2	7	F225N3	7				
x4												
x8												
Block type	Norma	al	with 1 in	verter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
Logic Diagra for "Nor A H01 B H02 C H03 D H04 E H05	rmal type"	→ N01	A B Y C D E	B H02 ←								Y
Logic Diagrafor "with A H01 B H02 C H03 D H04 E H05 C	am n 3 inverter	type" → N01	Y		Diagram r *with 4 inv	verter t	type"					

- I			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L205	$A \ \to \ Y$	(HL)	0.211	0.386	0.629	0.017	0.026	0.044	Α	1.0	Y	11
		(LH)	0.267	0.485	0.828	0.025	0.045	0.073	В	1.0		
	$B \to Y$	(HL)	0.218	0.397	0.642	0.017	0.027	0.044	С	1.0		
	$C \rightarrow Y$	(LH) (HL)	0.255 0.200	0.495 0.365	0.865 0.588	0.025 0.016	0.045 0.026	0.073 0.044	D E	1.0 1.0		
	C → Y	(HL) (LH)	0.200	0.646	1.128	0.016	0.026	0.044	-	1.0		
	$D \rightarrow Y$	(HL)	0.217	0.384	0.612	0.016	0.026	0.044				
	D - 1	(LH)	0.347	0.699	1.238	0.025	0.045	0.073				
	$E \to Y$	(HL)	0.223	0.391	0.621	0.017	0.027	0.044				
		(LH)	0.359	0.759	1.333	0.025	0.045	0.073				
F205	$A \ \to Y$	(HL)	0.253	0.470	0.768	0.009	0.014	0.023	Α	1.0	Y	22
		(LH)	0.319	0.592	1.024	0.012	0.023	0.036	В	1.0		
	$B \ \to Y$	(HL)	0.262	0.481	0.781	0.009	0.014	0.023	С	1.0		
		(LH)	0.307	0.600	1.061	0.012	0.023	0.036	D	1.0		
	$C \rightarrow Y$	(HL)	0.251	0.453	0.736	0.009	0.014	0.023	E	1.0		
	$D \ \to Y$	(LH) (HL)	0.411 0.260	0.799 0.467	1.405 0.755	0.012 0.009	0.023 0.014	0.036 0.023				
	$D \rightarrow Y$	(LH)	0.416	0.467	1.515	0.009	0.014	0.023				
	E o Y	(HL)	0.267	0.477	0.769	0.009	0.023	0.030				
		(LH)	0.432	0.915	1.618	0.012	0.023	0.036				
F225	$A \rightarrow Y$	(HL)	0.279	0.525	0.888	0.005	0.007	0.012	Α	1.0	Y	44
		(LH)	0.339	0.617	1.071	0.006	0.012	0.019	В	1.0		
	$B \ \to \ Y$	(HL)	0.286	0.537	0.903	0.005	0.007	0.012	С	1.0		
		(LH)	0.327	0.629	1.110	0.006	0.012	0.019	D	1.0		
	$C \ \to \ Y$	(HL)	0.268	0.504	0.847	0.004	0.007	0.012	E	1.0		
		(LH)	0.428	0.812	1.425	0.006	0.012	0.019				
	$D \ \to \ Y$	(HL)	0.285	0.524	0.872	0.004	0.007	0.012				
		(LH)	0.433 0.290	0.864 0.532	1.535	0.006	0.012 0.007	0.019 0.012				
	$E \to Y$	(HL) (LH)	0.290	0.532	0.884 1.630	0.005 0.006	0.007	0.012				
L205N1	A → Y	(HL)	0.443	0.324	0.631	0.006	0.012	0.019	Α	1.0	Y	11
LZOSIVI	A 7 1	(LH)	0.267	0.485	0.827	0.025	0.045	0.073	В	1.0		
	$B \ \to Y$	(HL)	0.218	0.396	0.643	0.017	0.026	0.044	С	1.0		
		(LH)	0.255	0.495	0.866	0.025	0.045	0.073	D	1.0		
	$C \ \to \ Y$	(HL)	0.200	0.364	0.584	0.016	0.026	0.044	E	1.0		
		(LH)	0.343	0.646	1.128	0.025	0.045	0.073				
	$D \ \to Y$	(HL)	0.217	0.384	0.612	0.016	0.026	0.044				
		(LH)	0.347	0.700	1.238	0.025	0.045	0.073				
	$E \to Y$	(HH)	0.445	0.891	1.538	0.025	0.045	0.073				
F205N1	$A \rightarrow Y$	(LL) (HL)	0.294	0.515 0.415	0.854 0.689	0.016	0.027 0.014	0.044	Α	1.0	Y	22
1 200111	^ → [(LH)	0.283	0.413	0.877	0.009	0.014	0.023	В	1.0	Ι΄.	
	$B \ \to Y$	(HL)	0.232	0.429	0.710	0.009	0.014	0.023	c	1.0		
		(LH)	0.270	0.519	0.915	0.012	0.023	0.037	D	1.0		
	$C \ \to Y$	(HL)	0.217	0.402	0.657	0.009	0.014	0.023	E	1.0		
		(LH)	0.366	0.692	1.216	0.012	0.023	0.037				
	$D \ \to \ Y$	(HL)	0.234	0.421	0.683	0.009	0.014	0.023				
		(LH)	0.371	0.745	1.326	0.012	0.023	0.037				
	$E \ \to Y$	(HH)	0.450	0.912	1.595	0.012	0.023	0.037				
F225N1	A → Y	(LL) (HL)	0.304	0.543 0.525	0.908 0.887	0.009	0.014	0.023 0.012	A	1.0	Y	44
F∠Z5INT	$A \rightarrow Y$	(HL) (LH)	0.279	0.525	1.071	0.005	0.007	0.012	B	1.0	'	44
	$B \ \to Y$	(LFI)	0.339	0.517	0.903	0.005	0.012	0.019	C	1.0		
	D → 1	(LH)	0.327	0.629	1.110	0.006	0.012	0.012	D	1.0		
	$C \rightarrow Y$	(HL)	0.268	0.504	0.848	0.004	0.007	0.012	E	1.0		
		(LH)	0.429	0.814	1.427	0.006	0.012	0.019			<u> </u>	
								_				

Bleed			Swite	ching sp	eed				Ι.			
Block	Path		t I	LD0 (ns))		t 1		l in	put	Ou	itput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$D \ \to Y$	(HL)	0.285	0.524	0.872	0.004	0.007	0.012				
		(LH)	0.435	0.867	1.538	0.006	0.012	0.019				
	$E \ \to Y$	(HH)	0.514	1.033	1.806	0.006	0.012	0.019				
L205N2	A → Y	(LL) (HL)	0.357 0.214	0.649 0.389	1.101 0.635	0.005 0.017	0.007 0.028	0.012 0.045	A	1.0	Y	11
LZUSINZ	$A \rightarrow Y$	(HL)	0.214	0.369	0.831	0.017	0.028	0.043	В	1.0	'	- ''
	$B \to Y$	(HL)	0.220	0.399	0.648	0.023	0.028	0.075	C	1.0		
	, , ,	(LH)	0.257	0.498	0.872	0.025	0.045	0.073	D	1.0		
	$C \rightarrow Y$	(HL)	0.202	0.367	0.590	0.017	0.028	0.046	E	1.0		
		(LH)	0.344	0.648	1.133	0.025	0.045	0.073				
	$D \ \to Y$	(HH)	0.413	0.833	1.445	0.025	0.045	0.073				
		(LL)	0.285	0.503	0.831	0.017	0.028	0.046				
	$E \to Y$	(HH)	0.449	0.897	1.546	0.025	0.045	0.073				
F205N2	Δ	(LL)	0.298	0.523	0.864	0.018	0.028	0.046	_	1.0	Y	22
F205N2	$A \ \to Y$	(HL) (LH)	0.221 0.283	0.415 0.510	0.689 0.877	0.009	0.014 0.023	0.023 0.037	A B	1.0 1.0	^r	22
	$B \ \to Y$	(Ln) (HL)	0.232	0.510	0.877	0.012	0.023	0.037	C	1.0		
	B → I	(LH)	0.270	0.520	0.915	0.012	0.023	0.023	D	1.0		
	$C \rightarrow Y$	(HL)	0.217	0.402	0.657	0.009	0.014	0.023	E	1.0		
		(LH)	0.366	0.692	1.216	0.012	0.023	0.037				
	$D \ \to Y$	(HH)	0.444	0.886	1.543	0.012	0.023	0.037				
		(LL)	0.310	0.557	0.931	0.009	0.014	0.023				
	$E \to Y$	(HH)	0.451	0.914	1.598	0.012	0.023	0.037				
		(LL)	0.304	0.544	0.908	0.009	0.014	0.023				
F225N2	$A \ \to \ Y$	(HL)	0.279	0.525	0.887	0.005	0.007	0.012 0.019	A	1.0	Y	44
	$B \ \to Y$	(LH) (HL)	0.340 0.285	0.618 0.536	1.071 0.901	0.006 0.005	0.012 0.007	0.019	B C	1.0 1.0		
	D → 1	(LH)	0.283	0.629	1.109	0.003	0.007	0.012	D	1.0		
	$C \rightarrow Y$	(HL)	0.268	0.504	0.851	0.004	0.007	0.012	E	1.0		
	, ,	(LH)	0.429	0.815	1.427	0.006	0.012	0.019		-		
	$D \ \to Y$	(HH)	0.497	0.995	1.736	0.006	0.012	0.019				
		(LL)	0.350	0.640	1.081	0.004	0.007	0.012				
	$E \to Y$	(HH)	0.534	1.063	1.844	0.006	0.012	0.019				
		(LL)	0.367	0.662	1.126	0.005	0.007	0.012				
L205N3	$A \ \to \ Y$	(HL)	0.213	0.389	0.634 0.833	0.018	0.028 0.045	0.046	A B	1.0	Y	11
	$B \ \to Y$	(LH) (HL)	0.269 0.220	0.488 0.399	0.833	0.025 0.018	0.045	0.073 0.046	C	1.0 1.0		
	b → f	(LH)	0.257	0.399	0.871	0.018	0.028	0.040	D	1.0		
	$C \rightarrow Y$	(HH)	0.391	0.772	1.335	0.025	0.045	0.073	E	1.0		
		(LL)	0.280	0.494	0.825	0.017	0.028	0.045				
	$D \ \to Y$	(HH)	0.411	0.830	1.442	0.025	0.045	0.073				
		(LL)	0.284	0.500	0.829	0.017	0.028	0.046				
	$E \ \to Y$	(HH)	0.452	0.901	1.552	0.025	0.045	0.073				
FOOFNIS		(LL)	0.301	0.526	0.865	0.017	0.028	0.046	_	4.0	L	- 00
F205N3	$A \rightarrow Y$	(HL) (LH)	0.221 0.283	0.415 0.509	0.689 0.877	0.009	0.014 0.023	0.023 0.037	A B	1.0 1.0	Y	22
	$B \ \to Y$	(LH) (HL)	0.283	0.509	0.877	0.012	0.023	0.037	C	1.0		
		(LH)	0.232	0.429	0.710	0.009	0.014	0.023	D	1.0		1
	C → Y	(HH)	0.416	0.818	1.424	0.012	0.023	0.037	E	1.0		
		(LL)	0.297	0.534	0.897	0.009	0.014	0.023				
	$D \ \to Y$	(HH)	0.447	0.889	1.546	0.012	0.023	0.037				
		(LL)	0.310	0.553	0.928	0.009	0.014	0.023				
	$E \ \to Y$	(HH)	0.453	0.917	1.602	0.012	0.023	0.037				
		(LL)	0.303	0.544	0.908	0.009	0.014	0.023				

			Swite	ching sp	eed							
Block	Path	1	t ı	D0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F225N3	$A \rightarrow Y$	(HL)	0.279	0.525	0.887	0.005	0.007	0.012	Α	1.0	Υ	44
		(LH)	0.340	0.618	1.071	0.006	0.012	0.019	В	1.0		
	$B \to Y$	(HL)	0.286	0.536	0.901	0.005	0.007	0.012	С	1.0		
		(LH)	0.327	0.629	1.109	0.006	0.012	0.019	D	1.0		
	$C \rightarrow Y$	(HH)	0.471	0.930	1.625	0.006	0.012	0.019	E	1.0		
		(LL)	0.340	0.623	1.061	0.004	0.007	0.012				
	$D \rightarrow Y$	(HH)	0.504	1.006	1.754	0.006	0.012	0.019				
		(LL)	0.356	0.648	1.100	0.004	0.007	0.012				
	$E \to Y$	(HH)	0.538	1.069	1.852	0.006	0.012	0.019				
		(LL)	0.363	0.661	1.120	0.004	0.007	0.012				

Function	6-11	IPUT	NOR						(SSI Fa	ımily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter/		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1	F206	5	F206N1	6	F206N2	6	F206N3	7				
x2	F226	6	F226N1	7	F226N2	7	F226N3	8				
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter/		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01	rmal type"	→ N01 ttype"	A B C Y D E F	H01 • H02 • H03 • H04 • H05 • H06 •		> -	• N01 Y	A B C D	ogic Diagram for "with H01 + H02 + H03 + H04 + H05 + H06 + C		erter type" → N01	Y

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1] In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F206	$A \ \to Y$	(HL)	0.246	0.451	0.724	0.010	0.015	0.025	Α	1.0	Y	22
		(LH)	0.406	0.790	1.388	0.012	0.023	0.036	В	1.0		
	$B \to Y$	(HL)	0.257	0.463	0.740	0.010	0.015	0.025	С	1.0		
	o v	(LH)	0.411	0.839	1.499	0.012	0.023	0.036	D	1.0		
	$C \rightarrow Y$	(HL) (LH)	0.268 0.427	0.480 0.906	0.757 1.603	0.010 0.012	0.015 0.023	0.025 0.036	E F	1.0 1.0		
	$D \ \to Y$	(HL)	0.427	0.465	0.755	0.012	0.023	0.036	'	1.0		
	D 7 1	(LH)	0.380	0.718	1.268	0.012	0.023	0.036				
	$E \ \to Y$	(HL)	0.268	0.485	0.781	0.010	0.015	0.025				
		(LH)	0.383	0.771	1.381	0.012	0.023	0.036				
	$F \ \to Y$	(HL)	0.280	0.501	0.803	0.010	0.015	0.025				
		(LH)	0.396	0.832	1.480	0.012	0.023	0.036				
F226	$A \rightarrow Y$	(HL)	0.267	0.501	0.842	0.005	0.007	0.012	A	1.0	Y	44
		(LH)	0.426	0.809	1.420	0.006	0.012	0.019	В	1.0		
	$B \ \to Y$	(HL) (LH)	0.283 0.431	0.521 0.861	0.865 1.529	0.005 0.006	0.007 0.012	0.012 0.019	C	1.0 1.0		
	$C \rightarrow Y$	(LH) (HL)	0.431	0.861	0.874	0.006	0.012	0.019	E	1.0		
	U → I	(LH)	0.445	0.924	1.630	0.006	0.012	0.012	F	1.0		
	$D \ \to Y$	(HL)	0.288	0.540	0.909	0.005	0.007	0.012				
		(LH)	0.425	0.801	1.427	0.006	0.012	0.019				
	$E \ \to Y$	(HL)	0.304	0.560	0.931	0.005	0.007	0.012				
		(LH)	0.430	0.857	1.541	0.006	0.012	0.019				
	$F \ \to Y$	(HL)	0.311	0.567	0.944	0.005	0.007	0.012				
		(LH)	0.443	0.917	1.635	0.006	0.012	0.018				
F206N1	$A \ \to \ Y$	(HL)	0.219	0.403	0.656	0.009	0.014	0.023	A	1.0	Y	22
	$B \ \to Y$	(LH) (HL)	0.377 0.237	0.720 0.423	1.263 0.680	0.013 0.009	0.023 0.014	0.037 0.023	B C	1.0 1.0		
	$B \ \to Y$	(LH)	0.237	0.423	1.374	0.009	0.014	0.023	D	1.0		
	$C \rightarrow Y$	(HL)	0.241	0.429	0.689	0.009	0.014	0.023	E	1.0		
	0 -> 1	(LH)	0.394	0.831	1.469	0.013	0.023	0.037	F	1.0		
	$D \ \to Y$	(HL)	0.229	0.426	0.699	0.009	0.014	0.023				
		(LH)	0.352	0.659	1.169	0.013	0.023	0.037				
	$E \ \to Y$	(HL)	0.246	0.447	0.726	0.009	0.014	0.023				
		(LH)	0.357	0.712	1.276	0.013	0.023	0.037				
	$F \rightarrow Y$	(HH)	0.460	0.913	1.589	0.013	0.023	0.037				
F226N1	A → Y	(LL) (HL)	0.325 0.266	0.586 0.500	0.983	0.009	0.014	0.023	A	1.0	Y	44
FZZOIN I	$A \rightarrow Y$	(LH)	0.425	0.808	1.419	0.005	0.007	0.012	В	1.0	1	44
	$B \ \to Y$	(HL)	0.423	0.521	0.864	0.005	0.007	0.013	c	1.0		
	,	(LH)	0.430	0.860	1.529	0.006	0.012	0.019	D	1.0		
	$C \ \to \ Y$	(HL)	0.289	0.528	0.876	0.005	0.007	0.012	E	1.0		
		(LH)	0.444	0.924	1.628	0.006	0.012	0.019	F	1.0		
	$D \ \to \ Y$	(HL)	0.288	0.539	0.904	0.005	0.007	0.012				
	_	(LH)	0.426	0.804	1.428	0.006	0.012	0.019				
	$E \to Y$	(HL)	0.305	0.560	0.932	0.005	0.007	0.012				
	F o Y	(LH) (HH)	0.431 0.531	0.858 1.052	1.541 1.844	0.006	0.012 0.012	0.019 0.018				
	Γ → Ϊ	(LL)	0.379	0.695	1.183	0.005	0.012	0.018				
F206N2	A → Y	(HL)	0.219	0.403	0.656	0.009	0.014	0.023	Α	1.0	Y	22
		(LH)	0.377	0.720	1.263	0.013	0.023	0.037	В	1.0		
	$B \ \to Y$	(HL)	0.237	0.423	0.680	0.009	0.014	0.023	С	1.0		
		(LH)	0.382	0.772	1.374	0.013	0.023	0.037	D	1.0		
	$C \ \to \ Y$	(HL)	0.241	0.429	0.689	0.009	0.014	0.023	E	1.0		
		(LH)	0.394	0.831	1.469	0.013	0.023	0.037	F	1.0		
	$D \ \to Y$	(HL)	0.227	0.426	0.702	0.009	0.014	0.023				
		(LH)	0.353	0.659	1.167	0.013	0.023	0.037	l			

			Swite	ching sp	eed							
Block	Path		t ı	_D0 (ns))		t 1] In	put	Ou	tput
type	IN → C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$E \to Y$	(HH)	0.427	0.850	1.489	0.013	0.023	0.037				
		(LL)	0.319	0.575	0.964	0.009	0.014	0.023				
	$F \ \to Y$	(HH)	0.462	0.915	1.590	0.013	0.023	0.037				
		(LL)	0.323	0.581	0.977	0.009	0.014	0.023				
F226N2	$A \ \to \ Y$	(HL)	0.266	0.500	0.840	0.005	0.007	0.012	Α	1.0	Y	44
		(LH)	0.425	0.808	1.419	0.006	0.012	0.019	В	1.0		
	$B \ \to Y$	(HL)	0.283	0.521	0.864	0.005	0.007	0.012	С	1.0		
		(LH)	0.430	0.860	1.529	0.006	0.012	0.019	D	1.0		
	$C \rightarrow Y$	(HL)	0.289	0.528	0.876	0.005	0.007	0.012	E	1.0		
		(LH)	0.444	0.924	1.628	0.006	0.012	0.019	F	1.0		
	$D \ \to Y$	(HL)	0.288	0.539	0.906	0.005	0.007	0.012				
		(LH)	0.426	0.805	1.430	0.006	0.012	0.018				
	$E \ \to Y$	(HH)	0.500	0.993	1.746	0.006	0.012	0.019				
		(LL)	0.374	0.680	1.160	0.005	0.007	0.012				
	$F \ \to Y$	(HH)	0.531	1.053	1.844	0.006	0.012	0.018				
		(LL)	0.377	0.690	1.172	0.005	0.007	0.012				
F206N3	$A \ \to \ Y$	(HL)	0.220	0.403	0.657	0.009	0.014	0.023	Α	1.0	Y	22
		(LH)	0.379	0.724	1.271	0.013	0.023	0.037	В	1.0		
	$B \ \to Y$	(HL)	0.236	0.425	0.683	0.009	0.014	0.023	С	1.0		
		(LH)	0.383	0.776	1.384	0.013	0.023	0.037	D	1.0		
	$C \rightarrow Y$	(HL)	0.241	0.432	0.693	0.009	0.014	0.023	E	1.0		
		(LH)	0.396	0.836	1.479	0.013	0.023	0.037	F	1.0		
	$D \ \to Y$	(HH)	0.400	0.782	1.372	0.013	0.023	0.037				
		(LL)	0.306	0.552	0.932	0.009	0.014	0.023				
	$E \ \to Y$	(HH)	0.431	0.854	1.494	0.013	0.023	0.037				
		(LL)	0.317	0.576	0.963	0.009	0.014	0.023				
	$F \ \to Y$	(HH)	0.461	0.915	1.591	0.013	0.023	0.037				
		(LL)	0.323	0.583	0.976	0.009	0.014	0.023				
F226N3	$A \ \to \ Y$	(HL)	0.267	0.501	0.842	0.005	0.007	0.012	Α	1.0	Y	44
l		(LH)	0.426	0.809	1.420	0.006	0.012	0.019	В	1.0		
	$B \ \to Y$	(HL)	0.283	0.521	0.865	0.005	0.007	0.012	С	1.0		
		(LH)	0.431	0.861	1.529	0.006	0.012	0.019	D	1.0		
	$C \ \to \ Y$	(HL)	0.289	0.528	0.874	0.005	0.007	0.012	E	1.0		
		(LH)	0.445	0.924	1.629	0.006	0.012	0.019	F	1.0		
	$D \ \to Y$	(HH)	0.473	0.925	1.633	0.006	0.012	0.019				
		(LL)	0.364	0.667	1.140	0.005	0.007	0.012				
	$E \ \to Y$	(HH)	0.502	0.996	1.753	0.006	0.012	0.019				
		(LL)	0.376	0.685	1.168	0.005	0.007	0.012				
	$F \ \to Y$	(HH)	0.530	1.050	1.843	0.006	0.012	0.018				
		(LL)	0.374	0.682	1.162	0.005	0.007	0.012				

[MEMO]

Function	8-IN	IPUT	NOR						5	SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1	F208	7	F208N1	8	F208N2	8	F208N3	9	F208N4	9		
x2	F228	8	F228N1	9	F228N2	9	F228N3	10	F228N4	10		
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 B H02 C H03 D H04 E H05 F H06 G H07 H H08 Logic Diagra	am and sinverter	type"	A B C D A A B C D D E E F G G	fo H01 ← H02 ← H03 ← H04 ← H05 ← H06 ← H07 ← H08 ← Logic	Diagram r "with 4 inv	iO→ N	01 Y yype"	A B C D E F	ogic Diagra for *with	n 2 inv	erter ty	

Dlook			Swite	ching sp	eed				l n	n t	0	40.14
Block type	Path		t I	LDO (ns)			t 1		ın	put	Ou	tput
7.		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F208	$A \ \to \ Y$	(HL)	0.255	0.468	0.768 1.400	0.010	0.016 0.023	0.025 0.037	A B	1.0 1.0	Y	21
	$B \ \to Y$	(LH) (HL)	0.441 0.266	0.826 0.481	0.784	0.013 0.010	0.023	0.037	C	1.0		
	B → 1	(LH)	0.428	0.834	1.441	0.013	0.023	0.037	D	1.0		
	$C \ \to \ Y$	(HL)	0.278	0.515	0.842	0.010	0.016	0.025	E	1.0		
		(LH)	0.463	0.869	1.480	0.013	0.023	0.037	F	1.0		
	$D \ \to \ Y$	(HL)	0.288	0.526	0.860	0.010	0.016	0.025	G	1.0		
		(LH)	0.449 0.295	0.877	1.515	0.013 0.010	0.023	0.037	Н	1.0		
	$E \to Y$	(HL) (LH)	0.295	0.556 0.885	0.912 1.514	0.010	0.016 0.023	0.026 0.037				
	$F \ \to Y$	(HL)	0.308	0.569	0.928	0.010	0.023	0.026				
	. 7.	(LH)	0.454	0.895	1.552	0.013	0.023	0.037				
	$G \ \to Y$	(HL)	0.315	0.584	0.958	0.010	0.016	0.026				
		(LH)	0.478	0.905	1.559	0.013	0.023	0.037				
	$H \ \to Y$	(HL)	0.324	0.599	0.974	0.010	0.016	0.026				
F000		(LH)	0.465	0.915	1.596	0.013	0.023	0.037	_	1.0	Y	43
F228	$A \ \to Y$	(HL) (LH)	0.274 0.480	0.519 0.885	0.876 1.507	0.005 0.006	0.007 0.012	0.012 0.019	A B	1.0 1.0		43
	$B \ \to Y$	(LII) (HL)	0.480	0.527	0.888	0.005	0.012	0.019	c	1.0		
	D - 1	(LH)	0.468	0.896	1.543	0.006	0.012	0.019	D	1.0		
	$C \ \to \ Y$	(HL)	0.287	0.549	0.935	0.005	0.007	0.012	E	1.0		
		(LH)	0.498	0.920	1.571	0.006	0.012	0.019	F	1.0		
	$D \ \to \ Y$	(HL)	0.299	0.564	0.955	0.005	0.007	0.012	G	1.0		
		(LH)	0.485	0.930	1.606	0.006	0.012	0.019	Н	1.0		
	$E \to Y$	(HL) (LH)	0.317 0.525	0.605 0.982	1.027 1.685	0.005 0.006	0.007 0.012	0.012 0.019				
	F o Y	(LH)	0.328	0.962	1.065	0.005	0.012	0.019				
	1 7 1	(LH)	0.513	0.991	1.722	0.006	0.012	0.012				
	$G \ \to Y$	(HL)	0.334	0.636	1.079	0.005	0.007	0.012				
		(LH)	0.535	0.998	1.721	0.006	0.012	0.019				
	$H \ \to Y$	(HL)	0.341	0.646	1.091	0.005	0.007	0.012				
FOODNIA		(LH)	0.521	1.007	1.759	0.006	0.012	0.019	_	1.0	Y	21
F208N1	$A \ \to \ Y$	(HL) (LH)	0.219	0.408 0.689	0.673 1.166	0.009 0.013	0.014 0.024	0.023 0.038	A B	1.0	, T	21
	$B \ \to Y$	(HL)	0.227	0.418	0.689	0.009	0.014	0.023	c	1.0		
	5 - 7 1	(LH)	0.363	0.700	1.202	0.013	0.024	0.038	D	1.0		
	$C \ \to \ Y$	(HL)	0.246	0.456	0.751	0.009	0.014	0.023	E	1.0		
		(LH)	0.404	0.746	1.267	0.013	0.024	0.038	F	1.0		
	$D \ \to \ Y$	(HL)	0.257	0.470	0.772	0.009	0.014	0.023	G	1.0		
	E . V	(LH) (HL)	0.392 0.265	0.756 0.498	1.305 0.827	0.013 0.009	0.024 0.015	0.038 0.024	Н	1.0		
	$E \to Y$	(HL) (LH)	0.265	0.498	1.331	0.009	0.015	0.024				
	$F \ \to Y$	(HL)	0.410	0.508	0.839	0.009	0.024	0.024				
		(LH)	0.405	0.789	1.369	0.013	0.024	0.038				
	$G \ \to Y$	(HL)	0.282	0.529	0.877	0.009	0.015	0.024				
		(LH)	0.435	0.810	1.392	0.013	0.024	0.038				
	$H \rightarrow Y$	(HH)	0.485 0.355	0.945 0.655	1.623 1.103	0.013 0.009	0.024 0.015	0.038 0.024				
F228N1	A → Y	(LL) (HL)	0.355	0.655	0.876	0.009	0.015	0.024	A	1.0	Y	43
I ZZOINI	A → 1	(LH)	0.480	0.885	1.507	0.003	0.007	0.012	В	1.0	'	75
	$B \ \to Y$	(HL)	0.282	0.527	0.888	0.005	0.007	0.012	c	1.0		
		(LH)	0.468	0.896	1.543	0.006	0.012	0.019	D	1.0		
	$C \ \to \ Y$	(HL)	0.287	0.549	0.935	0.005	0.007	0.012	E	1.0		
		(LH)	0.498	0.920	1.571	0.006	0.012	0.019	F	1.0		
	$D \ \to \ Y$	(HL)	0.299	0.564	0.955	0.005	0.007	0.012	G	1.0		
		(LH)	0.485	0.930	1.606	0.006	0.012	0.019	Н	1.0	<u> </u>	

Divid			Swite	ching sp	eed							
Block	Path		t	LDO (ns)			t 1		l in	put	00	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
1	$E \to Y$	(HL)	0.317	0.605	1.027	0.005	0.007	0.012				
1		(LH)	0.525	0.982	1.685	0.006	0.012	0.019				
1	$F \rightarrow Y$	(HL)	0.328	0.623	1.047	0.005	0.007	0.012				
1		(LH)	0.513 0.328	0.991 0.629	1.722 1.070	0.006 0.005	0.012 0.007	0.019 0.012				
1	$G \rightarrow Y$	(HL) (LH)	0.526	0.029	1.708	0.005	0.007	0.012				
1	$H \rightarrow Y$	(HH)	0.578	1.121	1.937	0.006	0.012	0.019				
1	" - ' '	(LL)	0.406	0.757	1.296	0.005	0.007	0.012				
F208N2	$A \rightarrow Y$	(HL)	0.219	0.408	0.673	0.009	0.014	0.023	А	1.0	Y	21
1		(LH)	0.376	0.689	1.166	0.013	0.024	0.038	В	1.0		
	$B \rightarrow Y$	(HL)	0.227	0.418	0.689	0.009	0.014	0.023	С	1.0		
		(LH)	0.363	0.700	1.202	0.013	0.024	0.038	D	1.0		
1	$C \rightarrow Y$	(HL)	0.246	0.456	0.751	0.009	0.014	0.023	E	1.0		
1		(LH)	0.404	0.746	1.266	0.013	0.024	0.038	F	1.0		
	$D \rightarrow Y$	(HL)	0.257	0.470	0.772	0.009	0.014	0.023	G	1.0		
1		(LH)	0.392	0.756	1.305	0.013	0.024	0.038	H	1.0		
	E → Y	(HL) (LH)	0.265 0.418	0.498 0.780	0.827 1.331	0.009 0.013	0.015 0.024	0.024 0.038				
		(LH)	0.416	0.760	0.839	0.013	0.024	0.036				
1	$F \rightarrow Y$	(LH)	0.405	0.789	1.369	0.009	0.013	0.024				
	$G \rightarrow Y$	(HH)	0.479	0.922	1.577	0.013	0.024	0.038				
]	(LL)	0.351	0.646	1.087	0.009	0.015	0.024				
1	$H \rightarrow Y$	(HH)	0.495	0.959	1.635	0.013	0.024	0.038				
1		(LL)	0.363	0.664	1.119	0.009	0.015	0.024				
F228N2	$A \rightarrow Y$	(HL)	0.274	0.519	0.876	0.005	0.007	0.012	Α	1.0	Y	43
1		(LH)	0.480	0.885	1.507	0.006	0.012	0.019	В	1.0		
	$B \rightarrow Y$	(HL)	0.282	0.527	0.888	0.005	0.007	0.012	С	1.0		
1		(LH)	0.468	0.896	1.543	0.006	0.012	0.019	D	1.0		
	$C \rightarrow Y$	(HL)	0.287	0.549	0.935	0.005	0.007	0.012	E	1.0		
		(LH)	0.498	0.920	1.571	0.006	0.012	0.019	F G	1.0		
1	$D \rightarrow Y$	(HL) (LH)	0.299 0.485	0.564 0.930	0.955 1.606	0.005 0.006	0.007 0.012	0.012 0.019	H	1.0 1.0		
1	E → Y	(LIT) (HL)	0.465	0.605	1.027	0.005	0.012	0.019	''	1.0		
1	'	(LH)	0.525	0.982	1.685	0.006	0.012	0.019				
1	$F \rightarrow Y$	(HL)	0.328	0.623	1.047	0.005	0.007	0.012				
1		(LH)	0.513	0.992	1.722	0.006	0.012	0.019				
	$G \rightarrow Y$	(HH)	0.582	1.111	1.907	0.006	0.012	0.019				
		(LL)	0.407	0.759	1.299	0.005	0.007	0.012				
1	$H \rightarrow Y$	(HH)	0.591	1.136	1.954	0.006	0.012	0.019			1	
Footble		(LL)	0.408	0.761	1.302	0.005	0.007	0.012	.	4.0	L	0.4
F208N3	$A \rightarrow Y$	(HL)	0.219	0.408	0.673	0.009	0.014	0.023	A	1.0	Y	21
1	$B \rightarrow Y$	(LH) (HL)	0.376 0.226	0.689 0.418	1.166 0.689	0.013 0.009	0.024 0.014	0.038 0.023	B C	1.0 1.0		
1	B → Y	(LH)	0.363	0.700	1.202	0.009	0.014	0.023	D	1.0		
1	C → Y	(HL)	0.303	0.449	0.747	0.009	0.024	0.033	E	1.0		
1] " "	(LH)	0.398	0.734	1.243	0.013	0.024	0.038	F	1.0		
1	$D \rightarrow Y$	(HL)	0.248	0.460	0.760	0.009	0.014	0.023	G	1.0		
1		(LH)	0.386	0.744	1.280	0.013	0.024	0.038	Н	1.0	1	
1	$E \to Y$	(HL)	0.269	0.504	0.832	0.009	0.015	0.024				
1		(LH)	0.423	0.791	1.353	0.013	0.024	0.038				
1	$F \rightarrow Y$	(HH)	0.477	0.924	1.584	0.013	0.024	0.038			1	
1	_	(LL)	0.344	0.630	1.061	0.009	0.015	0.024				
1	$G \rightarrow Y$	(HH)	0.480	0.921	1.578	0.013	0.024	0.038			1	
1	,, ,,	(LL)	0.355	0.650	1.099	0.009	0.015 0.024	0.024				
1	H → Y	(HH)	0.493	0.956	1.635	0.013		0.038			1	
<u> </u>	l	(LL)	0.366	0.669	1.128	0.009	0.015	0.024				

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F228N3	$A \rightarrow Y$	(HL)	0.274	0.519	0.876	0.005	0.007	0.012	Α	1.0	Y	43
		(LH)	0.480	0.885	1.507	0.006	0.012	0.019	В	1.0		
	$B \rightarrow Y$	(HL)	0.282	0.527	0.888	0.005	0.007	0.012	С	1.0		
		(LH)	0.468	0.896	1.543	0.006	0.012	0.019	D	1.0		
	$C \rightarrow Y$	(HL)	0.287	0.549	0.935	0.005	0.007	0.012	E	1.0		
		(LH)	0.498	0.920	1.571	0.006	0.012	0.019	F	1.0		
	$D \rightarrow Y$	(HL)	0.299	0.564	0.955	0.005	0.007	0.012	G	1.0		
		(LH)	0.485	0.930	1.606	0.006	0.012	0.019	Н	1.0		
	E → Y	(HL)	0.316	0.605	1.031	0.005	0.007	0.012				
		(LH)	0.525	0.982	1.685	0.006	0.012	0.019				
	$F \rightarrow Y$	(HH)	0.579 0.397	1.116 0.738	1.919 1.262	0.006 0.005	0.012 0.007	0.019 0.012				
	$G \rightarrow Y$	(LL) (HH)	0.582	1.112	1.909	0.005	0.007	0.012				
	$G \rightarrow Y$	(HH)	0.362	0.762	1.305	0.005	0.012	0.019				
	$H \rightarrow Y$	(HH)	0.409	1.140	1.959	0.005	0.007	0.012				
	Π → 1	(LL)	0.393	0.774	1.323	0.005	0.012	0.019				
F208N4	A → Y	(HL)	0.219	0.408	0.673	0.009	0.007	0.012	А	1.0	Y	21
1 200144		(LH)	0.376	0.689	1.166	0.013	0.024	0.038	В	1.0		
	$B \rightarrow Y$	(HL)	0.226	0.418	0.689	0.009	0.014	0.023	c	1.0		
		(LH)	0.363	0.700	1.202	0.013	0.024	0.038	D	1.0		
	C → Y	(HL)	0.242	0.449	0.747	0.009	0.014	0.023	E	1.0		
		(LH)	0.398	0.734	1.243	0.013	0.024	0.038	F	1.0		
	$D \rightarrow Y$	(HL)	0.248	0.460	0.760	0.009	0.014	0.023	G	1.0		
		(LH)	0.386	0.744	1.280	0.013	0.024	0.038	Н	1.0		
	$E \to Y$	(HH)	0.474	0.911	1.550	0.013	0.024	0.038				
		(LL)	0.342	0.627	1.055	0.009	0.014	0.023				
	$F \rightarrow Y$	(HH)	0.482	0.933	1.592	0.013	0.024	0.038				
		(LL)	0.345	0.630	1.062	0.009	0.015	0.023				
	$G \rightarrow Y$	(HH)	0.483	0.926	1.581	0.013	0.024	0.038				
		(LL)	0.355	0.653	1.099	0.009	0.015	0.024				
	$H \rightarrow Y$	(HH)	0.496	0.958	1.634	0.013	0.024	0.038				
		(LL)	0.365	0.667	1.119	0.009	0.015	0.024				
F228N4	$A \rightarrow Y$	(HL)	0.274	0.519	0.876	0.005	0.007	0.012	A	1.0	Y	43
		(LH)	0.480	0.885	1.507	0.006	0.012	0.019	В	1.0		
	$B \rightarrow Y$	(HL)	0.282	0.527	0.888	0.005	0.007	0.012	С	1.0		
		(LH)	0.468	0.896	1.543	0.006	0.012	0.019	D	1.0		
	$C \rightarrow Y$	(HL)	0.287	0.549	0.935	0.005	0.007	0.012	E F	1.0		
	5 ,	(LH)	0.498 0.299	0.920 0.564	1.571 0.955	0.006	0.012	0.019	G	1.0 1.0		
	$D \rightarrow Y$	(HL) (LH)	0.299	0.564	1.606	0.005	0.007 0.012	0.012 0.019	H	1.0		
	$E \to Y$	(Ln) (HH)	0.465	1.102	1.880	0.006	0.012	0.019	''	1.0		
		(HH)	0.376	0.736	1.257	0.005	0.012	0.019				
	$F \rightarrow Y$	(HH)	0.583	1.125	1.927	0.005	0.007	0.012				
		(LL)	0.397	0.739	1.263	0.005	0.012	0.013				
	$G \rightarrow Y$	(HH)	0.581	1.111	1.907	0.006	0.007	0.012		1		1
		(LL)	0.408	0.760	1.301	0.005	0.007	0.013				
	$H \rightarrow Y$	(HH)	0.596	1.143	1.964	0.006	0.012	0.019				
		(LL)	0.414	0.773	1.323	0.005	0.007	0.012				

Norma Name L212 F212 F232 F252	cells 2 2 3	with 1 inv	cells	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
L212 F212 F232	2	Name	cells	Nama					01101		
F212 F232	2			ivame	cells	Name	cells	Name	cells		
F232											
	3										
F252											
	6										
Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter/		
Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
nverter f		Y	fo	r "with 1 inv						erter type"	
ty	rpe"	me cells	me cells Name	me cells Name cells Logic I fo	me cells Name cells Name Logic Diagram for "with 1 inv No1 Y Logic Diagram	me cells Name cells Name cells Logic Diagram for "with 1 inverter to the coll of the cells Name cells Logic Diagram for Diagram for The cells Name cells	me cells Name cells Name cells Name Logic Diagram for "with 1 inverter type" Logic Diagram	me cells Name cells Name cells Name cells Logic Diagram for "with 1 inverter type" Logic Diagram	me cells Name cells Name cells Name Logic Diagram for "with 1 inverter type" Logic Diagram for "with 2 inverter type" Logic Diagram	me cells Name cells Name cells Name cells Name cells Logic Diagram for "with 1 inverter type" Logic Diagram for "with 2 inverter type" Logic Diagram for "with 2 inverter type"	me cells Name cells Name cells Name cells Name cells Logic Diagram for "with 1 inverter type" Logic Diagram for "with 2 inverter type" Logic Diagram for "with 2 inverter type"

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FUNCTION BLOCK

				Swite	ching sp	eed						_	
Block	F	ath		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN -	\rightarrow	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L212	Α -	→ Y	(HH)	0.143	0.239	0.362	0.025	0.046	0.073	Α	1.0	Υ	11
			(LL)	0.223	0.410	0.705	0.017	0.027	0.045	В	1.0		
	В –	→ Y	(HH)	0.154	0.250	0.380	0.025	0.046	0.073				
			(LL)	0.211	0.416	0.738	0.017	0.027	0.045				
F212	Α –	→ Y	(HH)	0.160	0.267	0.397	0.012	0.023	0.036	Α	1.0	Υ	22
			(LL)	0.265	0.500	0.874	0.011	0.017	0.027	В	1.0		
	В –	→ Y	(HH)	0.169	0.277	0.411	0.012	0.023	0.037				
			(LL)	0.251	0.507	0.909	0.011	0.017	0.027				
F232	Α -	→ Y	(HH)	0.218	0.343	0.518	0.006	0.011	0.018	Α	1.0	Y	45
			(LL)	0.366	0.724	1.306	0.005	0.008	0.013	В	1.0		
	В –	→ Y	(HH)	0.225	0.353	0.533	0.006	0.011	0.018				
			(LL)	0.354	0.737	1.340	0.005	0.008	0.013				
F252	Α -	→ Y	(HH)	0.196	0.306	0.458	0.003	0.006	0.009	Α	2.0	Y	89
			(LL)	0.292	0.582	1.058	0.003	0.004	0.007	В	2.0		
	В –	→ Y	(HH)	0.193	0.302	0.453	0.003	0.006	0.009				
			(LL)	0.291	0.584	1.053	0.003	0.005	0.008				

Norma Name L213 F213 F233 Norma Name	cells 2 3 4	with 1 inv	cells	with 2 inv	cells	with 3 inv Name	erter cells	with 4 inv	cells		
L213 F213 F233 Norma	2 3 4	Name	cells	Name	cells	Name	cells	Name	cells		
F213 F233 Norma	3 4										
F233	4										
Norma											
	al										
	al										
	al										
Name		with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
	cells	Name	cells	Name	cells	Name	cells	Name	cells		
m nal type" m 3 inverter		Y	fo	r "with 1 inv						erter type"	
r	nal type"	nal type" N01	nal type" → N01 Y	nal type" fo N01 Y Logic I	nal type" for "with 1 inv	nal type" for "with 1 inverter t	nal type" for "with 1 inverter type" N01 Y Logic Diagram	nal type" for "with 1 inverter type" N01 Y Logic Diagram	nal type" for "with 1 inverter type" for "with N01 Y Logic Diagram	for "with 1 inverter type" for "with 2 inverter type" N01 Y Logic Diagram	nal type" for "with 1 inverter type" for "with 2 inverter type" N01 Y Logic Diagram

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L213	$A \rightarrow Y$	(HH)	0.157	0.258	0.390	0.025	0.046	0.073	Α	1.0	Υ	11
		(LL)	0.315	0.612	1.084	0.018	0.030	0.049	В	1.0		
	$B \rightarrow Y$	(HH)	0.167	0.271	0.406	0.025	0.046	0.073	С	1.0		
		(LL)	0.320	0.660	1.197	0.018	0.030	0.049				
	$C \rightarrow Y$	(HH)	0.163	0.267	0.403	0.025	0.045	0.073				
		(LL)	0.341	0.733	1.304	0.018	0.030	0.049				
F213	$A \rightarrow Y$	(HH)	0.177	0.288	0.429	0.012	0.023	0.037	Α	1.0	Y	22
		(LL)	0.375	0.733	1.321	0.011	0.018	0.029	В	1.0		
	$B \rightarrow Y$	(HH)	0.186	0.298	0.444	0.013	0.023	0.037	С	1.0		
		(LL)	0.381	0.794	1.437	0.011	0.018	0.029				
	$C \rightarrow Y$	(HH)	0.190	0.304	0.452	0.012	0.023	0.036				
		(LL)	0.395	0.851	1.534	0.011	0.018	0.029				
F233	$A \rightarrow Y$	(HH)	0.215	0.337	0.506	0.006	0.012	0.019	Α	1.0	Υ	45
		(LL)	0.458	0.929	1.702	0.006	0.011	0.018	В	1.0		
I	$B \rightarrow Y$	(HH)	0.224	0.348	0.525	0.006	0.012	0.019	С	1.0		
		(LL)	0.465	0.985	1.812	0.006	0.011	0.018				
	$C \rightarrow Y$	(HH)	0.226	0.351	0.532	0.006	0.012	0.019				
		(LL)	0.481	1.051	1.908	0.006	0.011	0.018				

Function	4-IN	IPUT	OR						5	SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L214	3	L214N1	3								
x1	F214	3	F214N1	4								
x2	F234	4	F234N1	5								
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 B H02 C H03 D H04 Logic Diagra	rmal type"		Y B C D	H01 • H02 • H03 • H04 •] _	<u></u>	• N01 Y		ogic Diagra for *witt		erter type	

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L214	$A \rightarrow Y$	(HH)	0.158	0.259	0.386	0.025	0.045	0.073	Α	1.0	Υ	11
		(LL)	0.371	0.733	1.339	0.018	0.030	0.050	В	1.0		
	$B \rightarrow Y$	(HH)	0.168	0.272	0.408	0.025	0.045	0.073	С	1.0		
		(LL)	0.389	0.825	1.517	0.018	0.030	0.050	D	1.0		
	$C \rightarrow Y$	(HH)	0.179	0.286	0.426	0.025	0.045	0.072				
		(LL)	0.434	0.953	1.724	0.018	0.030	0.050				
	$D \rightarrow Y$	(HH)	0.174	0.280	0.420	0.025	0.045	0.072				
		(LL)	0.435	0.963	1.758	0.018	0.030	0.050		4.0		
F214	$A \rightarrow Y$	(HH)	0.177	0.289	0.429	0.012	0.023	0.037	A	1.0	Y	22
		(LL)	0.438	0.880	1.607	0.012	0.019	0.031	В	1.0		
	$B \rightarrow Y$	(HH) (LL)	0.187 0.457	0.300 0.976	0.445 1.788	0.012 0.012	0.023 0.019	0.037 0.031	C D	1.0 1.0		
	C → Y	(LL) (HH)	0.457	0.976	0.465	0.012	0.019	0.037	0	1.0		
	$C \rightarrow Y$	(HH)	0.196	1.099	2.000	0.013	0.023	0.037				
	$D \to Y$	(LL)	0.193	0.309	0.458	0.012	0.013	0.037				
	□ → 1	(LL)	0.503	1.119	2.027	0.012	0.023	0.031				
F234	A → Y	(HH)	0.225	0.354	0.534	0.006	0.013	0.031	Α	1.0	Y	44
1 254	A 7 1	(LL)	0.597	1.259	2.328	0.006	0.010	0.017	В	1.0		''
	$B \rightarrow Y$	(HH)	0.234	0.365	0.553	0.006	0.011	0.018	C	1.0		
	,	(LL)	0.619	1.355	2.501	0.006	0.010	0.017	D	1.0		
	$C \rightarrow Y$	(HH)	0.245	0.379	0.575	0.006	0.011	0.018				
		(LL)	0.670	1.476	2.708	0.006	0.010	0.017				
	$D \rightarrow Y$	(HH)	0.239	0.372	0.566	0.006	0.011	0.018				
		(LL)	0.670	1.492	2.750	0.006	0.010	0.017				
L214N1	$A \rightarrow Y$	(HH)	0.136	0.237	0.354	0.025	0.045	0.073	Α	1.0	Y	11
		(LL)	0.324	0.621	1.120	0.018	0.029	0.049	В	1.0		
	$B \rightarrow Y$	(HH)	0.152	0.256	0.378	0.025	0.045	0.073	С	1.0		
		(LL)	0.341	0.707	1.296	0.018	0.029	0.049	D	1.0		
	$C \rightarrow Y$	(HH)	0.164	0.269	0.397	0.025	0.045	0.073				
		(LL)	0.382	0.833	1.494	0.018	0.029	0.049				
	$D \rightarrow Y$	(HL)	0.469	0.976	1.741	0.018	0.029	0.049				
F044NI4	,	(LH) (HH)	0.222	0.375 0.248	0.602	0.025	0.045	0.073	A	1.0	Y	22
F214N1	$A \rightarrow Y$. ,	0.150	0.248	0.366 1.352	0.013	0.023	0.037	В	1.0	Y	22
	В. У	(LL) (HH)	0.368	0.734	0.396	0.010	0.017	0.028	С	1.0		
	$B \to Y$	(HH)	0.165	0.267	1.526	0.013	0.023	0.037	D	1.0		
	C → Y	(LL) (HH)	0.369	0.828	0.412	0.010	0.017	0.028		1.0		
		(LL)	0.433	0.953	1.736	0.010	0.023	0.028				
	$D \rightarrow Y$	(HL)	0.524	1.105	1.979	0.010	0.017	0.028				
	- ' '	(LH)	0.229	0.389	0.626	0.013	0.023	0.037				
F234N1	$A \rightarrow Y$	(HH)	0.201	0.317	0.474	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.515	1.077	2.003	0.006	0.009	0.016	В	1.0		
	$B \rightarrow Y$	(HH)	0.211	0.329	0.495	0.006	0.011	0.018	С	1.0		
		(LL)	0.538	1.174	2.174	0.006	0.009	0.016	D	1.0		
	$C \rightarrow Y$	(HH)	0.222	0.344	0.517	0.006	0.011	0.018				
		(LL)	0.584	1.299	2.381	0.006	0.009	0.016				
	$D \rightarrow Y$	(HL)	0.671	1.442	2.617	0.006	0.009	0.016				
		(LH)	0.265	0.447	0.725	0.006	0.011	0.018				

Function	5-IN	IPUT	OR	_		_		_		SSI Fa	mily	_
Block type	Norma	al	with 1 inv	/erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter/		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L215	4	L215N1	4								
x1	F215	5	F215N1	5								
x2	F235	7	F235N1	7								
x4												
x8												
Block type	Norma	al	with 1 inv	erter/	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter/		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01	rmal type"	→ N01	A B Y C D E	H01 • H02 • H03 • H04 • H05 •		<u></u>	> N01 Y	L	.ogic Diagr. for "with		erter type	•

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L215	$A \ \to \ Y$	(HH)	0.121	0.217	0.332	0.025	0.045	0.072	A	1.0	Y	11
	5 1/	(LL) (HH)	0.192 0.133	0.351 0.230	0.587 0.348	0.025 0.025	0.044 0.045	0.077 0.073	B C	1.0 1.0		
	$B \ \to Y$	(HH)	0.133	0.230	0.629	0.025	0.045	0.073	D	1.0		
	$C \rightarrow Y$	(LL)	0.150	0.365	0.029	0.025	0.044	0.077	E	1.0		
	0 -> 1	(LL)	0.281	0.525	0.937	0.024	0.044	0.072	-	1.0		
	$D \ \to Y$	(HH)	0.167	0.285	0.432	0.024	0.045	0.072				
	5 / .	(LL)	0.284	0.579	1.051	0.025	0.044	0.078				
	$E \ \to Y$	(HH)	0.173	0.293	0.442	0.024	0.045	0.072				
		(LL)	0.295	0.638	1.145	0.024	0.044	0.078				
F215	$A \ \to \ Y$	(HH)	0.171	0.283	0.423	0.012	0.023	0.037	Α	1.0	Y	21
		(LL)	0.270	0.513	0.891	0.013	0.023	0.040	В	1.0		
	$B \ \to Y$	(HH)	0.180	0.293	0.438	0.013	0.023	0.037	С	1.0		
		(LL)	0.257	0.521	0.927	0.013	0.023	0.040	D	1.0		
	$C \ \to \ Y$	(HH)	0.180	0.305	0.465	0.012	0.023	0.036	E	1.0		
	5 1/	(LL) (HH)	0.351 0.196	0.682 0.324	1.229 0.491	0.013 0.012	0.023 0.023	0.040 0.036				
	$D \ \to \ Y$	(HH)	0.196	0.324	1.343	0.012	0.023	0.036				
	$E \ \to Y$	(HH)	0.200	0.730	0.500	0.013	0.023	0.036				
	L → I	(LL)	0.370	0.794	1.440	0.012	0.023	0.040				
F235	A → Y	(HH)	0.294	0.542	0.900	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.365	0.678	1.188	0.004	0.007	0.011	В	1.0		
	$B \ \to Y$	(HH)	0.302	0.552	0.913	0.006	0.011	0.018	С	1.0		
		(LL)	0.353	0.690	1.222	0.004	0.007	0.011	D	1.0		
	$C \ \to \ Y$	(HH)	0.283	0.519	0.855	0.006	0.011	0.018	E	1.0		
		(LL)	0.446	0.855	1.513	0.004	0.007	0.011				
	$D \ \to \ Y$	(HH)	0.299	0.539	0.881	0.006	0.011	0.018				
		(LL)	0.449	0.908	1.623	0.004	0.007	0.011				
	$E \ \to Y$	(HH)	0.304	0.547	0.890	0.006	0.011	0.018				
L215N1	$A \rightarrow Y$	(LL) (HH)	0.462 0.121	0.967 0.217	1.719 0.332	0.004	0.007 0.045	0.011 0.072	A	1.0	Y	11
LZIONI	A → Y	(LL)	0.121	0.217	0.587	0.025 0.025	0.045	0.072	В	1.0	1	'''
	$B \ \to Y$	(HH)	0.132	0.230	0.348	0.025	0.045	0.077	C	1.0		
	<i>D</i> -> 1	(LL)	0.180	0.360	0.629	0.025	0.044	0.077	D	1.0		
	$C \ \to \ Y$	(HH)	0.149	0.265	0.406	0.025	0.045	0.072	E	1.0		
		(LL)	0.281	0.527	0.934	0.025	0.044	0.078				
	$D \ \to \ Y$	(HH)	0.167	0.285	0.432	0.024	0.045	0.072				
		(LL)	0.287	0.584	1.053	0.024	0.044	0.078				
	$E \ \to Y$	(HL)	0.366	0.747	1.317	0.024	0.044	0.078				
		(LH)	0.238	0.409	0.660	0.025	0.045	0.072				
F215N1	$A \ \to \ Y$	(HH)	0.157	0.270	0.408	0.012	0.023	0.036	A	1.0	Y	21
[D 1/	(LL) (HH)	0.241 0.168	0.449 0.282	0.782 0.425	0.013 0.012	0.023 0.023	0.040 0.036	B C	1.0 1.0		
I	$B \ \to Y$	(HH) (LL)	0.168	0.282	0.425	0.012	0.023	0.036	D	1.0		
	$C \ \to Y$	(HH)	0.173	0.430	0.441	0.013	0.023	0.037	E	1.0		
[U → 1	(LL)	0.356	0.695	1.241	0.013	0.023	0.037		1.0		
I	$D \ \to Y$	(HH)	0.189	0.311	0.468	0.013	0.023	0.037				
I	•	(LL)	0.362	0.751	1.355	0.013	0.023	0.041				
[$E \ \to Y$	(HL)	0.439	0.911	1.617	0.013	0.023	0.041				
		(LH)	0.254	0.435	0.702	0.013	0.023	0.037				
F235N1	$A \ \to Y$	(HH)	0.288	0.535	0.891	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.363	0.672	1.177	0.004	0.007	0.011	В	1.0		
	$B \ \to \ Y$	(HH)	0.300	0.550	0.910	0.006	0.011	0.018	С	1.0		
		(LL)	0.350	0.683	1.212	0.004	0.007	0.011	D	1.0		
	$C \ \to \ Y$	(HH)	0.283	0.520	0.856	0.006	0.011	0.018	E	1.0		
		(LL)	0.447	0.857	1.518	0.004	0.007	0.011	l			l

Γ					Swite	ching sp	eed							
ı	Block		Path	1	t	LD0 (ns))		t 1] In	put	Ou	tput
L	type	IN	\rightarrow	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
Γ		D	\rightarrow Y	(HH)	0.300	0.539	0.882	0.006	0.011	0.018				
ı				(LL)	0.452	0.911	1.628	0.004	0.007	0.011				
ı		Е	$\to \ Y$	(HL)	0.531	1.076	1.894	0.004	0.007	0.011				
L				(LH)	0.370	0.663	1.107	0.006	0.011	0.018				

[MEMO]

Function	6-IN	IPUT	OR						(SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	/erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1	F216	5	F216N1	6	F216N2	6						
x2	F236	7	F236N1	8	F236N2	8						
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter/		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
х4												
x8												
Logic Diagra for "Nor A H01 → B H02 → C H03 → D H04 ← E H05 → F H06 ←	am mal type"	→ N01	A B C Y D				ype"	A B C D	H01 H02 H03 H04 H05 H06 + C		erter type" N01	Y
Logic Diagra for "with	am n 3 inverter	type"			Diagram r "with 4 inv	verter t	ype"					

Block Path t LD0 (ns)						
		t 1	In	put	Ou	tput
	AX. MIN.	TYP. MAX.	Symbol	Fanin	Symbol	Fanout
	.448 0.013	0.023 0.037	Α	1.0	Y	21
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	.365 0.013	0.024 0.042	В	1.0		
	.463 0.013 .473 0.013	0.023 0.037 0.024 0.042	C	1.0 1.0		
	.473 0.013 .482 0.013	0.024 0.042	E	1.0		
1 ''I I I	.581 0.013	0.023 0.037	F	1.0		
	466 0.012	0.023 0.036	i .	1.0		
	.245 0.013	0.023 0.041				
	.492 0.012	0.023 0.036				
(LL) 0.358 0.741 1.	.353 0.013	0.023 0.041				
	.511 0.012	0.023 0.036				
` /	.456 0.013	0.023 0.041				
1	.853 0.006	0.011 0.018	A	1.0	Y	45
	.562 0.004	0.007 0.011	В	1.0		
	.879 0.006 .674 0.004	0.011 0.018 0.007 0.011	C	1.0 1.0		
	.887 0.004	0.007 0.011	E	1.0		
	.771 0.004	0.007 0.011	F	1.0		
	900 0.006	0.011 0.018				
	.469 0.004	0.007 0.011				
E → Y (HH) 0.314 0.566 0.	.926 0.006	0.011 0.018				
	.578 0.004	0.007 0.011				
	.936 0.006	0.011 0.018				
	.678 0.004	0.007 0.011				
1	413 0.013	0.023 0.037	A	1.0	Y	21
	.260 0.016 .438 0.013	0.027 0.044 0.023 0.037	В	1.0		
	.438 0.013 .371 0.016	0.023 0.037 0.027 0.044	C	1.0 1.0		
	.439 0.012	0.027 0.044	E	1.0		
	465 0.016	0.027 0.044	F	1.0		
	483 0.012	0.023 0.036				
	.238 0.015	0.026 0.044				
E → Y (HH) 0.201 0.336 0.	.510 0.012	0.023 0.036				
	.351 0.015	0.026 0.044				
	.658 0.015	0.026 0.044				
	.758 0.012	0.023 0.036			.,	
	853 0.006	0.011 0.018 0.007 0.011	A B	1.0	Y	45
	.561 0.004 .878 0.006	0.007 0.011	C	1.0 1.0		
	.675 0.004	0.007 0.010	D	1.0		
	.887 0.006	0.011 0.018	E	1.0		
	770 0.004	0.007 0.011	F	1.0		
	.899 0.006	0.011 0.018				
	.471 0.004	0.007 0.011				
	.925 0.006	0.011 0.018				
1 ' ' 1 1 1	.578 0.004	0.007 0.011				
	.183 0.004 0.006	0.007 0.011 0.011 0.018				
` '	.183 0.006 .413 0.013	0.011 0.018 0.023 0.037	A	1.0	Y	21
	.260 0.016	0.023 0.037	В	1.0	'	41
	438 0.013	0.027 0.044	C	1.0		
	371 0.016	0.027 0.044	D	1.0		
	.439 0.012	0.023 0.037	E	1.0		
	465 0.016	0.027 0.044	F	1.0		
	.485 0.012	0.023 0.036				
(LL) 0.351 0.685 1.	.241 0.015	0.026 0.044				

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow $	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$E \to Y$	(HL)	0.426	0.874	1.562	0.015	0.026	0.044				
		(LH)	0.259	0.449	0.734	0.012	0.023	0.036				
	$F \rightarrow Y$	(HL)	0.462	0.940	1.664	0.015	0.026	0.044				
		(LH)	0.263	0.460	0.752	0.012	0.023	0.036				
F236N2	$A \ \to Y$	(HH)	0.286	0.521	0.853	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.458	0.882	1.563	0.005	0.007	0.012	В	1.0		
	$B \ \to Y$	(HH)	0.303	0.541	0.879	0.006	0.011	0.018	С	1.0		
		(LL)	0.462	0.936	1.676	0.005	0.007	0.012	D	1.0		
	$C \rightarrow Y$	(HH)	0.307	0.547	0.888	0.006	0.011	0.018	E	1.0		
		(LL)	0.476	0.996	1.772	0.005	0.007	0.012	F	1.0		
	$D \rightarrow Y$	(HH)	0.296	0.547	0.900	0.006	0.011	0.018				
		(LL)	0.436	0.824	1.469	0.005	0.007	0.012				
	$E \to Y$	(HL)	0.510	1.015	1.791	0.005	0.007	0.012				
		(LH)	0.387	0.695	1.161	0.006	0.011	0.018				
	$F \rightarrow Y$	(HL)	0.544	1.079	1.892	0.005	0.007	0.012				
		(LH)	0.391	0.701	1.176	0.006	0.011	0.018				

[MEMO]

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Function	8-IN	IPUT	OR							SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1	F218	8	F218N1	9	F218N2	9	F218N3	10				
x2	F238	9	F238N1	10	F238N2	10	F238N3	11				
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	verter		
Drivability Low Power	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
x1												
x2												
x4												
x8												
Logic Diagra for "Nor	am "mal type"				Diagram r "with 1 inv	erter t	ype"	L	ogic Diagr. for "wit		erter type"	
A H01 B H02 C H03 D H04 E H05 G H07 H H08		N01 Y	B C D E F G	H01 ← H02 ← H03 ← H04 ← H05 ← H06 ← H07 ← H08 ←		→ N	01 Y	B C D E F	H01		N01 Y	
Logic Diagra for "with A H01	3 inverter	ttype"			Diagram r "with 4 inv	verter t	type"					

F F F F F F F F F F	Dlook			Swite	ching sp	eed				l n	n t	0	4m.ut
F218	Block			t I	LD0 (ns)			t 1		ın	put	Ou	tput
B → Y	7.									Symbol		Symbol	
B → Y	F218	$A \rightarrow Y$										Y	23
C → Y		в. V											
C → Y		D → f											
D → Y HH 0.299 0.545 0.898 0.012 0.023 0.037 G 1.0		C → Y											
E → Y				0.464	0.865	1.492	0.009	0.014	0.022	F	1.0		
E → Y		$D \ \to \ Y$	(HH)			0.899							
F → Y										н	1.0		
F → Y		$E \to Y$		1									
C		- V											
F238N1		F → Y											
H → Y		G → Y											
H → Y		0 -> 1		1			ı						
F238		$H \ \to Y$											
C													
B → Y	F238	$A \ \to Y$		1								Y	45
C → Y (HH) 0.348 0.874 1.524 0.004 0.007 0.011 D 1.0													
C → Y		B → Y											
C		C → A											
D → Y		0 - 1											
E → Y (HH) 0.338 0.626 1.038 0.006 0.011 0.018		$D \ \to Y$								G			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			(LL)	0.472	0.917	1.602	0.004	0.007	0.011	Н	1.0		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$E \ \to Y$	(HH)	1		1.038	0.006						
C C C C C C C C													
G → Y		$F \rightarrow Y$											
H → Y		C . V		1			ı						
H → Y (HH) 0.358 0.661 1.092 0.006 0.011 0.018		G → f											
F218N1		$H \to Y$											
(LL) 0.427 0.790 1.360 0.009 0.014 0.022 B 1.0 1.0 B → Y (HH) 0.269 0.494 0.815 0.012 0.023 0.037 C 1.0 (LL) 0.415 0.802 1.397 0.009 0.014 0.022 D 1.0 C → Y (HH) 0.283 0.525 0.870 0.012 0.023 0.037 E 1.0 (LL) 0.450 0.835 1.438 0.009 0.014 0.022 F 1.0 D → Y (HH) 0.291 0.535 0.884 0.012 0.023 0.037 G 1.0 (LL) 0.438 0.845 1.475 0.009 0.014 0.022 H 1.0 E → Y (HH) 0.310 0.577 0.958 0.012 0.023 0.037 G 1.0 (LL) 0.475 0.892 1.545 0.009 0.014 0.022 H 1.0 E → Y (HH) 0.322 0.592 0.976 0.012 0.023 0.037 (LL) 0.462 0.902 1.584 0.009 0.014 0.022 F 1.0 G → Y (HH) 0.324 0.602 1.000 0.012 0.023 0.037 (LL) 0.487 0.911 1.587 0.009 0.014 0.022 G → Y (HH) 0.324 0.602 1.000 0.012 0.023 0.036 (LL) 0.487 0.911 1.587 0.009 0.014 0.022 H → Y (HL) 0.541 1.055 1.829 0.009 0.014 0.022 (LH) 0.404 0.739 1.245 0.012 0.023 0.037 (LL) 0.460 0.863 1.488 0.004 0.007 0.011 B 1.0 B → Y (HH) 0.296 0.539 0.888 0.006 0.011 0.018 C 1.0 (LL) 0.483 0.906 0.551 0.947 0.006 0.011 0.018 C 1.0 (LL) 0.483 0.906 0.551 0.947 0.006 0.011 0.018 E 1.0 D → Y (HH) 0.318 0.581 0.961 0.006 0.011 0.018 G 1.0 0.014 0.022 0.037 0.037 0.037 0.038 0.037 0.038 0.038 0.039				0.506	0.993	1.753	0.004	0.007	0.011				
B → Y (HH) 0.269 0.494 0.815 0.012 0.023 0.037 C 1.0 (LL) 0.415 0.802 1.397 0.009 0.014 0.022 D 1.0 (LL) 0.450 0.835 1.438 0.009 0.014 0.022 F 1.0 (LL) 0.450 0.835 1.438 0.009 0.014 0.022 F 1.0 (LL) 0.438 0.835 1.438 0.009 0.014 0.022 F 1.0 (LL) 0.438 0.845 1.475 0.009 0.014 0.022 H 1.0 (LL) 0.438 0.845 1.475 0.009 0.014 0.022 H 1.0 (LL) 0.475 0.892 1.545 0.009 0.014 0.022 H 1.0 (LL) 0.475 0.892 1.545 0.009 0.014 0.022 F 1.0 (LL) 0.475 0.892 1.545 0.009 0.014 0.022 F 1.0 (LL) 0.475 0.892 1.545 0.009 0.014 0.022 F 1.0 (LL) 0.462 0.902 1.584 0.009 0.014 0.022 F 1.0 (LL) 0.462 0.902 1.584 0.009 0.014 0.022 F 1.0 (LL) 0.462 0.902 1.584 0.009 0.014 0.022 F 1.0 (LL) 0.462 0.902 1.584 0.009 0.014 0.022 F 1.0 (LL) 0.487 0.911 1.587 0.009 0.014 0.022 F 1.0 (LL) 0.487 0.911 1.587 0.009 0.014 0.022 F 1.0 (LL) 0.487 0.911 1.587 0.009 0.014 0.022 F 1.0 (LL) 0.487 0.911 1.587 0.009 0.014 0.022 F 1.0 (LL) 0.487 0.911 1.587 0.009 0.014 0.022 F 1.0 (LL) 0.460 0.863 1.488 0.004 0.007 0.011 0.018 F 1.0 (LL) 0.460 0.863 1.488 0.004 0.007 0.011 B 1.0 (LL) 0.460 0.863 1.488 0.004 0.007 0.011 B 1.0 (LL) 0.460 0.863 1.488 0.004 0.007 0.011 D 1.0 (LL) 0.488 0.874 1.524 0.004 0.007 0.011 D 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 D 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 D 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 (LL) 0.018 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 (LL) 0.018 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 (LL) 0.018 (LL) 0.483 0.906 0.571 0.947 0.006 0.011 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.483 0.906 0.571 0.947 0.006 0.011 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.483 0.906 0.571 0.947 0.006 0.011 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL) 0.018 (LL)	F218N1	$A \ \to \ Y$		1								Y	23
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
C → Y (HH) 0.283 0.525 0.870 0.012 0.023 0.037 E 1.0		$B \rightarrow Y$											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		C . V					ı						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		U → I		l									
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$D \rightarrow Y$											
Columbia Columbia				0.438	0.845	1.475	0.009	0.014	0.022	н	1.0		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$E \ \to Y$											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		_											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$F \rightarrow Y$											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		6		l									
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		G → Y											
C C C C C C C C C C		$H \rightarrow Y$											
(LL) 0.460 0.863 1.488 0.004 0.007 0.011 B 1.0 B → Y (HH) 0.296 0.539 0.888 0.006 0.011 0.018 C 1.0 (LL) 0.448 0.874 1.524 0.004 0.007 0.011 D 1.0 C → Y (HH) 0.310 0.571 0.947 0.006 0.011 0.018 E 1.0 (LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 D → Y (HH) 0.318 0.581 0.961 0.006 0.011 0.018 G 1.0										<u> </u>		<u> </u>	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	F238N1	A → Y					ı					Y	45
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$B \to Y$											
(LL) 0.483 0.906 1.565 0.004 0.007 0.011 F 1.0 D → Y (HH) 0.318 0.581 0.961 0.006 0.011 0.018 G 1.0		6		l									
D \(\to Y\) (HH) 0.318 0.581 0.961 0.006 0.011 0.018 G 1.0		U → Y											
		$D \rightarrow Y$											
(LL) 0.412 0.311 1.002 0.004 0.001 0.011 11 1.0			(LL)	0.472	0.917	1.602	0.004	0.007	0.011	Н	1.0		I

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$E \to Y$	(HH)	0.338	0.626	1.038	0.006	0.011	0.018				
		(LL) (HH)	0.508 0.350	0.964 0.641	1.672 1.054	0.004 0.006	0.007 0.011	0.011 0.018				
	$F \rightarrow Y$	(LL)	0.350	0.041	1.711	0.006	0.011	0.016				
	$G \rightarrow Y$	(HH)	0.352	0.652	1.081	0.004	0.007	0.011				
		(LL)	0.520	0.984	1.715	0.004	0.007	0.011				
	$H \rightarrow Y$	(HL)	0.569	1.119	1.946	0.004	0.007	0.011				
		(LH)	0.425	0.778	1.306	0.006	0.011	0.018				
F218N2	$A \rightarrow Y$	(HH)	0.262	0.485	0.801	0.012	0.023	0.037	A	1.0	Y	23
		(LL)	0.427	0.790	1.360	0.009	0.014	0.022	В	1.0		
	B → Y	(HH) (LL)	0.269 0.415	0.494 0.802	0.815 1.397	0.012 0.009	0.023 0.014	0.037 0.022	C	1.0 1.0		
	C → Y	(HH)	0.413	0.502	0.870	0.009	0.014	0.022	E	1.0		
		(LL)	0.450	0.835	1.438	0.009	0.014	0.022	F	1.0		
	$D \rightarrow Y$	(HH)	0.291	0.535	0.884	0.012	0.023	0.037	G	1.0		
		(LL)	0.438	0.845	1.475	0.009	0.014	0.022	Н	1.0		
	$E \rightarrow Y$	(HH)	0.310	0.577	0.958	0.012	0.023	0.037				
		(LL)	0.475	0.892	1.545	0.009	0.014	0.022				
	$F \rightarrow Y$	(HH)	0.322	0.592	0.976	0.012	0.023	0.037				
		(LL) (HL)	0.462 0.535	0.902 1.029	1.583 1.779	0.009	0.014 0.014	0.022 0.022				
	$G \rightarrow Y$	(HL)	0.333	0.727	1.779	0.009	0.014	0.022				
	$H \to Y$	(HL)	0.546	1.057	1.830	0.009	0.023	0.022				
	" - '	(LH)	0.401	0.735	1.239	0.012	0.023	0.037				
F238N2	$A \ \to Y$	(HH)	0.288	0.529	0.876	0.006	0.011	0.018	А	1.0	Y	45
		(LL)	0.460	0.863	1.488	0.004	0.007	0.011	В	1.0		
	$B \rightarrow Y$	(HH)	0.296	0.539	0.888	0.006	0.011	0.018	С	1.0		
		(LL)	0.448	0.874	1.524	0.004	0.007	0.011	D	1.0		
	C → Y	(HH) (LL)	0.310 0.483	0.571 0.906	0.947 1.565	0.006 0.004	0.011 0.007	0.018 0.011	E F	1.0 1.0		
	$D \rightarrow Y$	(HH)	0.463	0.581	0.961	0.004	0.007	0.011	G	1.0		
		(LL)	0.472	0.917	1.602	0.004	0.007	0.011	H	1.0		
	$E \to Y$	(HH)	0.338	0.626	1.038	0.006	0.011	0.018				
		(LL)	0.508	0.964	1.672	0.004	0.007	0.011				
	$F \rightarrow Y$	(HH)	0.350	0.641	1.054	0.006	0.011	0.018				
		(LL)	0.495	0.974	1.711	0.004	0.007	0.011				
	$G \rightarrow Y$	(HL) (LH)	0.564 0.421	1.096 0.769	1.901 1.291	0.004 0.006	0.007 0.011	0.011 0.018				
	$H \to Y$	(HL)	0.581	1.132	1.957	0.004	0.011	0.018				
	11 → 1	(LH)	0.432	0.787	1.322	0.006	0.011	0.011				
F218N3	$A \ \to Y$	(HH)	0.262	0.485	0.801	0.012	0.023	0.037	А	1.0	Y	23
		(LL)	0.427	0.790	1.360	0.009	0.014	0.022	В	1.0		
	$B \rightarrow Y$	(HH)	0.269	0.494	0.815	0.012	0.023	0.037	С	1.0		
		(LL)	0.415	0.802	1.397	0.009	0.014	0.022	D	1.0		
	$C \rightarrow Y$	(HH)	0.283	0.525	0.870 1.438	0.012 0.009	0.023 0.014	0.037 0.022	E F	1.0		
	$D \to Y$	(LL) (HH)	0.450 0.291	0.835 0.535	0.884	0.009	0.014	0.022	G	1.0 1.0		
		(LL)	0.438	0.845	1.475	0.009	0.023	0.022	H	1.0		
	E o Y	(HH)	0.310	0.577	0.958	0.012	0.023	0.037				
		(LL)	0.475	0.893	1.549	0.009	0.014	0.022				
	$F \rightarrow Y$	(HL)	0.533	1.037	1.789	0.009	0.014	0.022				
		(LH)	0.393	0.718	1.205	0.012	0.023	0.037				
	$G \rightarrow Y$	(HL)	0.537	1.029	1.780	0.009	0.014	0.022				
	,, ,,	(LH)	0.402	0.735	1.238	0.012	0.023	0.036				
	H → Y	(HL) (LH)	0.545 0.404	1.056 0.741	1.827 1.249	0.009 0.012	0.014 0.023	0.022 0.036				
		(LH)	0.404	0.741	1.249	0.012	0.023	U.U36				

			Swite	ching sp	eed							
Block	Path	ı	t ı	D0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F238N3	$A \rightarrow Y$	(HH)	0.288	0.529	0.878	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.460	0.863	1.489	0.004	0.007	0.011	В	1.0		
	$B \rightarrow Y$	(HH)	0.296	0.539	0.888	0.006	0.011	0.018	С	1.0		
		(LL)	0.448	0.874	1.524	0.004	0.007	0.011	D	1.0		
	$C \rightarrow Y$	(HH)	0.310	0.571	0.947	0.006	0.011	0.018	E	1.0		
		(LL)	0.483	0.906	1.566	0.004	0.007	0.011	F	1.0		
	$D \rightarrow Y$	(HH)	0.318	0.581	0.961	0.006	0.011	0.018	G	1.0		
		(LL)	0.472	0.917	1.602	0.004	0.007	0.011	Н	1.0		
	$E \to Y$	(HH)	0.338	0.626	1.036	0.006	0.011	0.018				
		(LL)	0.508	0.964	1.676	0.004	0.007	0.011				
	$F \rightarrow Y$	(HL)	0.561	1.096	1.906	0.004	0.007	0.011				
		(LH)	0.413	0.753	1.263	0.006	0.011	0.018				
	$G \rightarrow Y$	(HL)	0.564	1.093	1.895	0.004	0.007	0.011				
		(LH)	0.424	0.773	1.300	0.006	0.011	0.018				
	$H \rightarrow Y$	(HL)	0.576	1.126	1.948	0.004	0.007	0.011				
		(LH)	0.434	0.791	1.326	0.006	0.011	0.018				

Function	2-11	IPUT	NAND							SSI Fa	mily		
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter			
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells			
Low Power	L302	1	L302N1	2									
x1	F302	2	F302N1	3									
x2	F322	4	F322N1	5									
x4	F382	6	F382N1	7									
x8													
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter			
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells			
Low Power													
x1													
x2													
x4													
x8													
A H01 ← B H02 ← Logic Diagra	rmal type"		Y B	fo H01 • H02 •)0	• N01 Y		ogic Diag for "wi	ram th 2 inv	erter typ	oe"	

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		l In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L302	$A \rightarrow Y$	(HL)	0.092	0.133	0.188	0.024	0.044	0.076	Α	1.0	Y	11
		(LH)	0.074	0.112	0.150	0.024	0.045	0.073	В	1.0		
	$B \ \to Y$	(HL)	0.076	0.119	0.195	0.024	0.044	0.076				
		(LH)	0.089	0.139	0.197	0.024	0.045	0.072				
F302	$A \ \to \ Y$	(HL)	0.081	0.127	0.187	0.012	0.022	0.038	Α	2.1	Y	22
		(LH)	0.083	0.126	0.178	0.012	0.023	0.036	В	2.1		
	$B \ \to Y$	(HL)	0.082	0.128	0.189	0.012	0.022	0.038				
		(LH)	0.083	0.126	0.178	0.012	0.023	0.036				
F322	$A \ \to \ Y$	(HL)	0.082	0.130	0.190	0.006	0.011	0.019	Α	4.2	Y	45
		(LH)	0.082	0.126	0.179	0.006	0.011	0.018	В	4.2		
	$B \ \to Y$	(HL)	0.081	0.128	0.190	0.006	0.011	0.019				
		(LH)	0.082	0.126	0.179	0.006	0.011	0.018				
F382	$A \ \to \ Y$	(HL)	0.308	0.559	0.931	0.002	0.004	0.006	Α	1.0	Y	90
		(LH)	0.273	0.468	0.765	0.003	0.006	0.009	В	1.0		
	$B \ \to Y$	(HL)	0.295	0.548	0.934	0.002	0.004	0.006				
		(LH)	0.291	0.501	0.822	0.003	0.006	0.009				
L302N1	$A \ \to \ Y$	(HL)	0.094	0.131	0.184	0.025	0.045	0.078	Α	1.0	Y	11
		(LH)	0.072	0.111	0.155	0.024	0.045	0.072	В	1.0		
	$B \ \to Y$	(HH)	0.136	0.240	0.370	0.025	0.045	0.073				
		(LL)	0.143	0.243	0.389	0.025	0.045	0.079				
F302N1	$A \ \to \ Y$	(HL)	0.080	0.127	0.189	0.012	0.022	0.038	Α	2.0	Y	22
		(LH)	0.081	0.123	0.173	0.012	0.023	0.036	В	1.0		
	$B \ \to Y$	(HH)	0.158	0.267	0.404	0.012	0.023	0.036				
		(LL)	0.174	0.298	0.488	0.012	0.022	0.038				
F322N1	$A \ \to \ Y$	(HL)	0.079	0.128	0.191	0.006	0.011	0.019	Α	4.1	Y	44
		(LH)	0.080	0.122	0.172	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HH)	0.219	0.351	0.534	0.006	0.011	0.018				
		(LL)	0.239	0.418	0.704	0.006	0.011	0.020				
F382N1	$A \ \to \ Y$	(HL)	0.309	0.560	0.932	0.002	0.004	0.006	Α	1.0	Y	90
		(LH)	0.273	0.468	0.764	0.003	0.006	0.009	В	1.0		
	$B \ \to \ Y$	(HH)	0.334	0.602	0.996	0.003	0.006	0.009				
		(LL)	0.361	0.667	1.144	0.002	0.004	0.006				

Function	3-IN	IPUT	NAND							SSI Fa	mily	
Block type	Norma	al	with 1 inv	/erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L303	2	L303N1	2	L303N2	3						
x1	F303	3	F303N1	4	F303N2	4						
x2	F323	6	F323N1	7	F323N2	7						
x4												
x8												
Block type	Norma	al	with 1 inv	erter/	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
Logic Diagra for "Not A H01 ← B H02 ← C H03 ← Logic Diagra	rmal type"	→ N01	Y B C	H01 • H02 • H03 •	_)o-	• N01 Y	A B	ogic Diagr for "wit H01 ← H02 ← H03 +		erter type" → N0:	Y

DI I			Swite	ching sp	eed							
Block	Path		tι	_D0 (ns)			t 1		In	put	Ou	tput
type	IN → (TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L303	$A \rightarrow Y$	(HL)	0.127	0.178	0.262	0.038	0.068	0.117	Α	1.0	Y	8
		(LH)	0.083	0.132	0.189	0.025	0.045	0.073	В	1.0		
	$B \ \to Y$	(HL)	0.121	0.192	0.305	0.038	0.068	0.117	С	1.0		
		(LH)	0.101	0.163	0.235	0.024	0.045	0.072				
	$C \rightarrow Y$	(HL)	0.119	0.211	0.362	0.038	0.068	0.117				
5000		(LH)	0.122	0.200	0.301	0.024	0.045	0.073		0.4	.,	40
F303	$A \ \to Y$	(HL)	0.116	0.189	0.294	0.020	0.035	0.060	A	2.1	Y	16
	5 V	(LH)	0.098 0.119	0.157 0.186	0.228 0.287	0.012 0.020	0.023 0.035	0.036 0.060	B C	2.1 2.1		
	$B \ \to Y$	(HL) (LH)	0.119	0.155	0.225	0.020	0.035	0.036		2.1		
	$C \rightarrow Y$	(LII)	0.095	0.133	0.225	0.012	0.022	0.036				
	C → Y	(LH)	0.098	0.169	0.294	0.020	0.033	0.036				
F323	A → Y	(HL)	0.117	0.191	0.295	0.012	0.023	0.030	Α	4.2	Y	32
1 323	A → I	(LH)	0.098	0.158	0.227	0.006	0.010	0.018	В	4.2	l '	02
	$B \ \to Y$	(HL)	0.120	0.130	0.289	0.010	0.018	0.030	C	4.2		
		(LH)	0.095	0.157	0.226	0.006	0.010	0.030				
	C → Y	(HL)	0.117	0.191	0.295	0.010	0.018	0.030				
	0 , .	(LH)	0.098	0.158	0.227	0.006	0.011	0.018				
L303N1	A → Y	(HL)	0.123	0.177	0.262	0.039	0.069	0.118	Α	1.0	Y	8
		(LH)	0.082	0.132	0.184	0.025	0.045	0.072	В	1.0		
	$B \ \to Y$	(HL)	0.122	0.193	0.304	0.039	0.069	0.118	С	1.0		
		(LH)	0.099	0.160	0.233	0.025	0.046	0.073				
	$C \rightarrow Y$	(HH)	0.160	0.291	0.458	0.025	0.046	0.073				
		(LL)	0.191	0.333	0.556	0.039	0.069	0.118				
F303N1	$A \ \to \ Y$	(HL)	0.107	0.174	0.265	0.019	0.034	0.057	Α	2.0	Y	17
		(LH)	0.091	0.147	0.211	0.012	0.023	0.037	В	2.1		
	$B \ \to Y$	(HL)	0.109	0.189	0.297	0.019	0.034	0.057	С	1.0		
		(LH)	0.099	0.162	0.233	0.013	0.023	0.037				
	$C \rightarrow Y$	(HH)	0.181	0.303	0.459	0.012	0.023	0.037				
F000N14	,	(LL)	0.206	0.358	0.584	0.019	0.034	0.057		4.0	.,	0.4
F323N1	$A \rightarrow Y$	(HL)	0.124	0.206	0.320	0.010	0.018	0.030 0.018	A	4.2	Y	31
	$B \to Y$	(LH) (HL)	0.100 0.128	0.162 0.201	0.235 0.319	0.006 0.010	0.011 0.018	0.018	B C	4.2 1.0		
	D → 1	(LH)	0.097	0.159	0.232	0.006	0.010	0.030		1.0		
	$C \rightarrow Y$	(HH)	0.243	0.133	0.605	0.006	0.011	0.018				
	J → I	(LL)	0.279	0.496	0.841	0.010	0.018	0.030				
L303N2	A → Y	(HL)	0.125	0.182	0.258	0.039	0.069	0.119	Α	1.0	Y	8
		(LH)	0.083	0.133	0.186	0.025	0.045	0.072	В	1.0		
	$B \ \to Y$	(HH)	0.146	0.259	0.403	0.024	0.045	0.072	С	1.0		
		(LL)	0.182	0.312	0.511	0.039	0.069	0.118				
	$C \ \to \ Y$	(HH)	0.175	0.308	0.479	0.025	0.046	0.073				
		(LL)	0.201	0.349	0.577	0.039	0.069	0.118				
F303N2	$A \ \to Y$	(HL)	0.107	0.175	0.268	0.019	0.034	0.057	Α	2.0	Y	17
		(LH)	0.090	0.147	0.209	0.012	0.023	0.037	В	1.0		
	$B \ \to Y$	(HH)	0.191	0.322	0.490	0.013	0.023	0.037	С	1.0		
		(LL)	0.215	0.378	0.626	0.019	0.034	0.058				
	$C \rightarrow Y$	(HH)	0.179	0.301	0.456	0.012	0.023	0.037				
Focatio		(LL)	0.206	0.357	0.585	0.019	0.034	0.058	_	4.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0.1
F323N2	$A \ \to \ Y$	(HL)	0.125	0.208	0.323	0.010	0.018	0.030	A	4.2	Y	31
	D	(LH)	0.100	0.161	0.233	0.006	0.011	0.018	B C	1.0		
	$B \ \to Y$	(HH)	0.239	0.390 0.489	0.599 0.820	0.006	0.011 0.018	0.018		1.0		
	$C \rightarrow Y$	(LL) (HH)	0.278 0.241	0.489	0.820	0.010 0.006	0.018	0.030 0.018				
	U → Y	(LL)	0.241	0.392	0.837	0.006	0.011	0.030				
		(LL)	0.210	0.430	0.007	0.010	0.010	0.030				

Function	4-IN	IPUT	NAND						5	SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter/	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L304	2	L304N1	3	L304N2	3						
x1	F304	4	F304N1	5	F304N2	5						
x2	F324	8	F324N1	9	F324N2	9						
x4												
x8												
Block type	Norma	al	with 1 inv	/erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability Low Power	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
x1												
x2												
x4												
x8												
_	am rmal type"			fo	Diagram r "with 1 inv	verter t	ype"				erter type"	
A H01 ← B H02 ← C H03 ← D H04 ←		→ N01	Y B	H01 • H02 • H03 • H04 •)o-	N01 Y	B C	H01 ← H02 ← H03 ← H04 ←		→ N01	Y
Logic Diagra for "with	am n 3 inverter	type"			Diagram r "with 4 inv	verter t	ype"					

5			Swite	ching sp	eed							
Block	Path		t I	_D0 (ns)			t 1		In	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L304	$A \ \to Y$	(HL)	0.131	0.191	0.282	0.045	0.085	0.147	A	1.0	Y	6
	$B \ \to Y$	(LH) (HL)	0.085 0.136	0.137 0.219	0.191 0.351	0.025 0.045	0.045 0.085	0.073 0.147	B C	1.0 1.0		
	B → I	(LH)	0.100	0.165	0.242	0.025	0.045	0.072	D	1.0		
	$C \rightarrow Y$	(HL)	0.146	0.273	0.454	0.045	0.085	0.147	_			
		(LH)	0.123	0.203	0.307	0.024	0.045	0.073				
	$D \ \to Y$	(HL)	0.146	0.268	0.470	0.045	0.085	0.147				
		(LH)	0.131	0.217	0.334	0.025	0.045	0.073				- 10
F304	$A \ \to Y$	(HL)	0.139 0.108	0.242 0.178	0.376 0.261	0.023 0.012	0.042 0.023	0.073 0.036	A B	2.2 2.1	Y	12
	$B \ \to Y$	(LH) (HL)	0.108	0.176	0.404	0.012	0.023	0.036	C	2.1		
	B → I	(LH)	0.112	0.233	0.273	0.023	0.042	0.036	D	2.1		
	$C \rightarrow Y$	(HL)	0.146	0.257	0.409	0.023	0.042	0.073				
		(LH)	0.113	0.185	0.277	0.012	0.023	0.036				
	$D \ \to \ Y$	(HL)	0.141	0.241	0.382	0.023	0.042	0.073				
		(LH)	0.109	0.179	0.263	0.012	0.023	0.036				
F324	$A \ \to Y$	(HL)	0.139	0.238	0.380	0.011	0.021	0.037	A	4.4	Y	25
	D V	(LH) (HL)	0.107 0.142	0.176 0.251	0.256 0.408	0.006 0.011	0.011 0.021	0.018 0.037	B C	4.4 4.4		
	$B \ \to Y$	(LH)	0.142	0.231	0.408	0.006	0.021	0.037	D	4.4		
	$C \rightarrow Y$	(HL)	0.144	0.252	0.409	0.011	0.021	0.037		4.4		
	· , .	(LH)	0.112	0.185	0.273	0.006	0.011	0.018				
	$D \ \to Y$	(HL)	0.140	0.240	0.380	0.011	0.021	0.037				
		(LH)	0.108	0.177	0.257	0.006	0.011	0.018				
L304N1	$A \ \to Y$	(HL)	0.129	0.186	0.274	0.045	0.084	0.147	Α	1.0	Y	6
		(LH)	0.083	0.133	0.190	0.025	0.045	0.072	В	1.0		
	$B \ \to Y$	(HL) (LH)	0.133 0.099	0.218 0.164	0.346 0.240	0.045 0.025	0.084 0.045	0.147 0.073	C	1.0 1.0		
	$C \rightarrow Y$	(HL)	0.099	0.164	0.431	0.025	0.043	0.073	"	1.0		
	0 7 1	(LH)	0.121	0.201	0.298	0.025	0.046	0.073				
	$D \ \to Y$	(HH)	0.174	0.314	0.496	0.025	0.045	0.073				
		(LL)	0.219	0.394	0.659	0.045	0.084	0.147				
F304N1	$A \ \to Y$	(HL)	0.140	0.241	0.383	0.023	0.042	0.074	Α	2.1	Y	12
		(LH)	0.108	0.175	0.258	0.012	0.023	0.037	В	2.1		
	$B \ \to Y$	(HL)	0.143	0.251	0.409	0.023	0.042	0.074	C	2.1		
	$C \rightarrow Y$	(LH) (HL)	0.112 0.143	0.184 0.253	0.275 0.408	0.012 0.023	0.023 0.042	0.037 0.074	D	1.0		
	0 → 1	(LH)	0.112	0.184	0.274	0.023	0.042	0.037				
	$D \ \to Y$	(HH)	0.199	0.336	0.511	0.012	0.023	0.037				
		(LL)	0.241	0.428	0.708	0.023	0.042	0.074				
F324N1	$A \ \to Y$	(HL)	0.141	0.242	0.389	0.011	0.021	0.037	Α	4.3	Y	25
	_	(LH)	0.109	0.177	0.258	0.006	0.011	0.018	В	4.3		
	$B \ \to Y$	(HL)	0.145	0.255	0.415	0.011	0.021	0.037	C	4.3		
	$C \ \to \ Y$	(LH) (HL)	0.113 0.144	0.185 0.255	0.275 0.415	0.006 0.011	0.011 0.021	0.018 0.037	"	1.0		
	U → Y	(LH)	0.144	0.233	0.413	0.006	0.021	0.037				
	$D \ \to Y$	(HH)	0.255	0.417	0.639	0.006	0.012	0.018				
		(LL)	0.300	0.545	0.921	0.011	0.021	0.037				
L304N2	$A \ \to Y$	(HL)	0.129	0.188	0.274	0.045	0.084	0.147	Α	1.0	Y	6
		(LH)	0.083	0.133	0.190	0.025	0.045	0.072	В	1.0		
	$B \ \to Y$	(HL)	0.134	0.218	0.344	0.045	0.085	0.147	С	1.0		
	6	(LH) (HH)	0.099 0.174	0.164 0.308	0.240 0.481	0.025 0.025	0.045 0.046	0.073 0.073	D	1.0		
	$C \rightarrow Y$	(HH)	0.174	0.308	0.481	0.025	0.046	0.073				
	$D \to Y$	(HH)	0.182	0.324	0.506	0.045	0.045	0.147				
		(LL)	0.223	0.405	0.671	0.045	0.084	0.147				
		\/	0.220	0.700	0.071	0.040	0.507	J				

			0 "									
Dlook			Swite	ching sp	peed					m	۱	400.04
Block	Path		t I	LD0 (ns))		t 1		l in	put	Ou	tput
type	$IN \rightarrow$	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F304N2	$A \rightarrow Y$	(HL)	0.140	0.242	0.387	0.023	0.042	0.074	Α	2.1	Υ	12
		(LH)	0.107	0.175	0.257	0.012	0.023	0.037	В	2.1		
	$B \to Y$	(HL)	0.144	0.254	0.409	0.023	0.042	0.074	С	1.0		
		(LH)	0.112	0.184	0.274	0.013	0.023	0.037	D	1.0		
	$C \rightarrow Y$	(HH)	0.204	0.346	0.529	0.013	0.023	0.037				
		(LL)	0.246	0.439	0.733	0.023	0.042	0.074				
	$D \rightarrow Y$	(HH)	0.196	0.331	0.505	0.012	0.023	0.037				
		(LL)	0.238	0.425	0.701	0.023	0.042	0.074				
F324N2	$A \rightarrow Y$	(HL)	0.142	0.245	0.392	0.011	0.021	0.037	Α	4.3	Y	24
		(LH)	0.108	0.176	0.257	0.006	0.011	0.018	В	4.3		
	$B \rightarrow Y$	(HL)	0.145	0.257	0.418	0.011	0.021	0.037	С	1.0		
		(LH)	0.112	0.184	0.273	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HH)	0.253	0.415	0.640	0.006	0.011	0.018				
		(LL)	0.297	0.538	0.911	0.011	0.021	0.037				
	$D \rightarrow Y$	(HH)	0.252	0.413	0.633	0.006	0.012	0.018				
		(LL)	0.299	0.544	0.919	0.011	0.021	0.037				

[MEMO]

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Function	5-IN	IPUT	NAND							SSI Fa	ımily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L305	3	L305N1	3	L305N2	4	L305N3	4				
x1	F305	5	F305N1	5	F305N2	6	F305N3	6				
x2	F325	6	F325N1	6	F325N2	7	F325N3	7				
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 ← B H02 ← C H03 ← D H04 ← E H05 ← Logic Diagra	rmal type"		A B C D E	H01 • H02 • H03 • H04 • H05 •)o-	→ N01 Y	A B C D	ogic Diag for "wi H01		erter type" → N01	. Y
A H01 ← B H02 ← C H03 ← C D H04 ← C E H05 ← C	0	→ N01	Y									

- I			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L305	$A \ \to \ Y$	(HL)	0.162	0.245	0.371	0.059	0.108	0.186	Α	1.0	Y	4
		(LH)	0.094	0.155	0.219	0.025	0.045	0.073	В	1.0		
	$B \ \to Y$	(HL)	0.178	0.291	0.474	0.059	0.108	0.186	С	1.0		
	$C \rightarrow Y$	(LH) (HL)	0.112 0.209	0.184 0.381	0.275 0.625	0.025 0.059	0.046 0.109	0.073 0.186	D E	1.0 1.0		
	C → Y	(HL) (LH)	0.209	0.361	0.825	0.039	0.109	0.100	-	1.0		
	$D \ \to Y$	(HL)	0.133	0.408	0.670	0.059	0.109	0.075				
	D 7 1	(LH)	0.144	0.240	0.370	0.025	0.046	0.074				
	$E \to Y$	(HL)	0.226	0.432	0.723	0.059	0.109	0.186				
		(LH)	0.153	0.260	0.398	0.025	0.046	0.074				
F305	$A \ \to Y$	(HL)	0.346	0.678	1.157	0.009	0.015	0.024	Α	1.0	Y	22
		(LH)	0.230	0.397	0.637	0.012	0.023	0.037	В	1.0		
	$B \ \to \ Y$	(HL)	0.335	0.665	1.165	0.009	0.015	0.024	С	1.0		
		(LH)	0.250	0.431	0.696	0.013	0.023	0.037	D	1.0		
	$C \rightarrow Y$	(HL)	0.420	0.805	1.368	0.009	0.015	0.024	E	1.0		
		(LH)	0.257	0.454 0.816	0.736	0.013 0.009	0.023 0.015	0.037				
	$D \ \to \ Y$	(HL) (LH)	0.422 0.278	0.816	1.412 0.797	0.009	0.015	0.024 0.037				
	E o Y	(LII) (HL)	0.417	0.430	1.460	0.009	0.023	0.037				
	□ → 1	(LH)	0.307	0.541	0.875	0.013	0.013	0.024				
F325	$A \rightarrow Y$	(HL)	0.384	0.763	1.338	0.005	0.008	0.013	Α	1.0	Y	45
		(LH)	0.243	0.418	0.677	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.373	0.756	1.348	0.005	0.008	0.013	С	1.0		
		(LH)	0.265	0.454	0.736	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.454	0.878	1.529	0.005	0.008	0.013	E	1.0		
		(LH)	0.269	0.469	0.763	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL)	0.456	0.892	1.569	0.005	0.008	0.013				
		(LH)	0.293	0.509	0.833	0.006	0.011	0.018				
	$E \to Y$	(HL)	0.447 0.318	0.910 0.557	1.612 0.905	0.005 0.006	0.008 0.011	0.013 0.018				
L305N1	A → Y	(LH) (HL)	0.316	0.557	0.364	0.060	0.011	0.018	Α	1.0	Y	3
L303141	A → 1	(LH)	0.094	0.153	0.221	0.025	0.045	0.072	В	1.0	l '	
	$B \ \to Y$	(HL)	0.180	0.287	0.462	0.060	0.110	0.188	c	1.0		
		(LH)	0.110	0.183	0.270	0.025	0.045	0.073	D	1.0		
	$C \ \to \ Y$	(HL)	0.210	0.375	0.618	0.060	0.110	0.188	E	1.0		
		(LH)	0.133	0.222	0.336	0.025	0.046	0.073				
	$D \ \to \ Y$	(HL)	0.221	0.405	0.666	0.060	0.110	0.188				
		(LH)	0.142	0.239	0.366	0.025	0.046	0.074				
	$E \to Y$	(HH)	0.194	0.355	0.566	0.025	0.046	0.074				
F305N1	$A \ \to Y$	(LL) (HL)	0.303	0.552 0.575	0.916 0.989	0.060	0.110 0.015	0.188 0.025	A	1.0	Y	22
Langini	$A \to Y$	(HL) (LH)	0.296	0.355	0.989	0.009	0.015	0.025	В	1.0	'	44
	$B \ \to Y$	(LII) (HL)	0.288	0.567	0.993	0.012	0.023	0.037	C	1.0		
	2 - 1	(LH)	0.226	0.389	0.626	0.012	0.023	0.037	D	1.0		
	$C \rightarrow Y$	(HL)	0.373	0.695	1.185	0.009	0.015	0.025	E	1.0		
		(LH)	0.227	0.398	0.648	0.012	0.023	0.037				
	$D \ \to \ Y$	(HL)	0.375	0.709	1.231	0.010	0.015	0.025				
		(LH)	0.249	0.438	0.717	0.012	0.023	0.037				
	$E \ \to Y$	(HH)	0.317	0.585	0.967	0.012	0.023	0.036				
FOOTNIA	Α	(LL)	0.444	0.859	1.485	0.009	0.015	0.025	_	10	- V	45
F325N1	$A \rightarrow Y$	(HL) (LH)	0.384 0.243	0.763 0.418	1.338 0.677	0.005 0.006	0.008 0.011	0.013 0.018	A B	1.0 1.0	Y	45
	$B \ \to Y$	(LH) (HL)	0.243	0.418	1.348	0.006	0.008	0.018	C	1.0		
	D → T	(LH)	0.265	0.454	0.736	0.006	0.000	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.458	0.881	1.531	0.005	0.008	0.013	E	1.0		
		(LH)	0.269	0.469	0.763	0.006	0.011	0.018				
		(=)										

			Swite	ching sp	eed						_	
Block	Path		t	_D0 (ns)			t 1		In	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$D \ \to \ Y$	(HL)	0.460	0.896	1.574	0.005	0.008	0.013				
	F V	(LH) (HH)	0.293 0.362	0.510 0.658	0.833 1.081	0.006	0.011 0.011	0.018 0.018				
	$E \ \to Y$	(LL)	0.527	1.042	1.827	0.005	0.011	0.018				
L305N2	A → Y	(HL)	0.161	0.237	0.362	0.060	0.109	0.188	Α	1.0	Υ	3
		(LH)	0.094	0.152	0.218	0.025	0.045	0.072	В	1.0		
1 1	$B \ \to \ Y$	(HL)	0.178	0.287	0.461	0.060	0.110	0.188	С	1.0		
		(LH)	0.110	0.183	0.270	0.025	0.045	0.073	D	1.0		
1 1	$C \ \to \ Y$	(HL)	0.210	0.374	0.618	0.060	0.110	0.188	E	1.0		
1 1	$D \ \to Y$	(LH) (HH)	0.133 0.203	0.222 0.358	0.336 0.560	0.025 0.025	0.046 0.046	0.073 0.074				
1 1	U → Y	(LL)	0.203	0.539	0.898	0.025	0.046	0.074				
1 1	$E \ \to Y$	(HH)	0.194	0.354	0.564	0.025	0.046	0.074				
1 1	- / .	(LL)	0.307	0.554	0.919	0.060	0.110	0.188				
F305N2	$A \rightarrow Y$	(HL)	0.296	0.575	0.989	0.009	0.015	0.025	Α	1.0	Υ	22
1		(LH)	0.207	0.355	0.570	0.012	0.023	0.037	В	1.0		
	$B \ \to Y$	(HL)	0.288	0.567	0.993	0.009	0.015	0.025	C	1.0		
		(LH)	0.226	0.389	0.626	0.012	0.023	0.037	D	1.0		
	$C \ \to \ Y$	(HL) (LH)	0.372 0.227	0.696 0.398	1.186 0.648	0.010 0.012	0.015 0.023	0.025 0.037	E	1.0		
1 1	$D \ \to \ Y$	(HH)	0.307	0.554	0.908	0.012	0.023	0.037				
	D 7 1	(LL)	0.437	0.842	1.460	0.012	0.015	0.025				
1 1	$E \ \to Y$	(HH)	0.316	0.586	0.966	0.012	0.023	0.036				
		(LL)	0.445	0.861	1.496	0.010	0.015	0.025				
F325N2	$A \ \to \ Y$	(HL)	0.384	0.763	1.338	0.005	0.008	0.013	Α	1.0	Υ	45
		(LH)	0.243	0.418	0.677	0.006	0.011	0.018	В	1.0		
1 1	$B \ \to Y$	(HL) (LH)	0.373 0.265	0.756 0.454	1.348 0.736	0.005 0.006	0.008 0.011	0.013 0.018	C D	1.0 1.0		
	$C \rightarrow Y$	(LFI)	0.456	0.454	1.530	0.005	0.011	0.018	E	1.0		
	O → 1	(LH)	0.269	0.469	0.762	0.006	0.011	0.018	-	1.0		
1 1	$D \ \to Y$	(HH)	0.338	0.609	1.003	0.006	0.011	0.018				
		(LL)	0.518	1.018	1.780	0.005	0.008	0.013				
	$E \ \to Y$	(HH)	0.376	0.675	1.102	0.006	0.011	0.018				
1005110		(LL)	0.538	1.057	1.855	0.005	0.008	0.013		4.0		
L305N3	$A \ \to \ Y$	(HL) (LH)	0.160 0.094	0.236 0.153	0.362 0.218	0.060 0.025	0.110 0.045	0.188 0.072	A B	1.0 1.0	Υ	3
1 1	$B \ \to Y$	(HL)	0.094	0.133	0.462	0.023	0.043	0.072	C	1.0		
	D → 1	(LH)	0.110	0.183	0.269	0.025	0.045	0.073	D	1.0		
1	$C \ \to \ Y$	(HH)	0.191	0.336	0.526	0.025	0.046	0.073	E	1.0		
1		(LL)	0.282	0.505	0.836	0.060	0.110	0.188				
1	$D \ \to \ Y$	(HH)	0.200	0.354	0.555	0.025	0.046	0.074				
1	F	(LL)	0.303	0.540	0.896	0.060	0.110	0.188				
1	$E \to Y$	(HH) (LL)	0.193 0.308	0.354 0.557	0.563 0.926	0.025 0.060	0.046 0.110	0.074 0.188				
F305N3	A → Y	(HL)	0.296	0.575	0.989	0.000	0.015	0.188	Α	1.0	Y	22
	→ I	(LH)	0.207	0.355	0.571	0.012	0.023	0.037	В	1.0		
1	$B \ \to \ Y$	(HL)	0.288	0.567	0.993	0.009	0.015	0.025	С	1.0		
		(LH)	0.226	0.389	0.626	0.012	0.023	0.037	D	1.0		
	$C \ \to \ Y$	(HH)	0.284	0.509	0.835	0.013	0.023	0.037	E	1.0		
	D . V	(LL)	0.425 0.293	0.814 0.536	1.413 0.888	0.010 0.013	0.015 0.023	0.025 0.036				
1	$D \ \to Y$	(HH) (LL)	0.293	0.536	1.446	0.013	0.023	0.036				
	$E \ \to Y$	(HH)	0.432	0.598	0.982	0.010	0.013	0.023				
		(LL)	0.454	0.874	1.510	0.009	0.015	0.025				

FUNCTION BLOCK

			Swite	ching sp	eed						_	
Block	Path	1	t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F325N3	$A \rightarrow Y$	(HL)	0.384	0.763	1.338	0.005	0.008	0.013	Α	1.0	Υ	45
l .		(LH)	0.243	0.418	0.677	0.006	0.011	0.018	В	1.0		
l .	$B \rightarrow Y$	(HL)	0.373	0.756	1.348	0.005	0.008	0.013	С	1.0		
l .		(LH)	0.265	0.454	0.736	0.006	0.011	0.018	D	1.0		
l .	$C \rightarrow Y$	(HH)	0.327	0.581	0.954	0.006	0.011	0.018	E	1.0		
l .		(LL)	0.511	1.006	1.760	0.005	0.008	0.013				
l .	$D \rightarrow Y$	(HH)	0.337	0.609	1.003	0.006	0.011	0.018				
l .		(LL)	0.517	1.019	1.788	0.005	0.008	0.013				
	$E \rightarrow Y$	(HH)	0.375	0.675	1.102	0.006	0.011	0.018				
		(LL)	0.540	1.059	1.861	0.005	0.008	0.013				

Function	6-IN	IPUT	NAND							SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L306	3	L306N1	4	L306N2	4	L306N3	5				
x1	F306	6	F306N1	6	F306N2	6	F306N3	7				
x2	F326	6	F326N1	7	F326N2	7	F326N3	8				
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 ← B H02 ← C H03 ← D H04 ← E H05 ← F H06 ← Logic Diagra	am am i 3 inverter	→ N01 type" N01	A B C D E F	H01 • H02 • H03 • H04 • H05 • H06 •)o-	• N01 Y	A B C D	.ogic Diag for "wii H01 ← H02 ← H03 H03 ← H05 ← H06 ← C		erter type" → N01	Y

D			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L306	$A \ \to \ Y$	(HL)	0.167	0.247	0.382	0.066	0.125	0.215	Α	1.0	Υ	3
		(LH)	0.095	0.158	0.223	0.025	0.045	0.073	В	1.0		
	$B \ \to Y$	(HL)	0.190	0.308	0.507	0.067	0.125	0.215	С	1.0		
		(LH)	0.113	0.186	0.276	0.025	0.046	0.073	D	1.0		
	$C \ \to \ Y$	(HL)	0.231	0.423	0.703	0.067	0.125	0.215	E F	1.0		
	D V	(LH) (HL)	0.136 0.249	0.226 0.464	0.346 0.769	0.025 0.067	0.046 0.125	0.073 0.215	-	1.0		
	$D \ \to \ Y$	(LH)	0.145	0.464	0.769	0.007	0.123	0.213				
	$E \ \to Y$	(HL)	0.143	0.518	0.866	0.023	0.125	0.215				
	L → I	(LH)	0.157	0.265	0.410	0.025	0.046	0.074				
	$F \ \to Y$	(HL)	0.269	0.519	0.878	0.067	0.125	0.215				
		(LH)	0.157	0.267	0.417	0.025	0.046	0.074				
F306	$A \rightarrow Y$	(HL)	0.421	0.793	1.344	0.010	0.016	0.026	Α	1.0	Y	22
		(LH)	0.243	0.430	0.697	0.012	0.023	0.036	В	1.0		
	$B \ \to \ Y$	(HL)	0.425	0.805	1.383	0.010	0.016	0.026	С	1.0		
1		(LH)	0.264	0.465	0.756	0.012	0.023	0.036	D	1.0		
	$C \ \to \ Y$	(HL)	0.417	0.827	1.440	0.010	0.016	0.026	E	1.0		
	_	(LH)	0.293	0.517	0.838	0.012	0.023	0.036	F	1.0		
	$D \ \to \ Y$	(HL)	0.429	0.811	1.390	0.010	0.016	0.026				
	- V	(LH)	0.260	0.456 0.829	0.747	0.012 0.010	0.023 0.016	0.036				
	$E \to Y$	(HL)	0.428 0.279	0.829	1.429 0.803	0.010	0.016	0.026 0.036				
	$F \ \to Y$	(LH) (HL)	0.425	0.492	1.479	0.012	0.023	0.036				
	Γ → 1	(LH)	0.307	0.544	0.883	0.010	0.010	0.026				
F326	A → Y	(HL)	0.456	0.874	1.504	0.005	0.008	0.013	Α	1.0	Y	45
1020	,, , ,	(LH)	0.257	0.448	0.731	0.006	0.011	0.018	В	1.0		
	$B \ \to \ Y$	(HL)	0.459	0.884	1.544	0.005	0.008	0.013	С	1.0		
		(LH)	0.281	0.489	0.798	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.450	0.903	1.596	0.005	0.008	0.013	E	1.0		
		(LH)	0.308	0.537	0.874	0.006	0.011	0.018	F	1.0		
	$D \ \to Y$	(HL)	0.460	0.888	1.538	0.005	0.008	0.013				
		(LH)	0.264	0.463	0.759	0.006	0.011	0.018				
	$E \to Y$	(HL) (LH)	0.463 0.288	0.904 0.503	1.581 0.826	0.005 0.006	0.008 0.011	0.013 0.018				
	$F \ \to Y$	(HL)	0.454	0.922	1.628	0.005	0.011	0.018				
	Γ → 1	(LH)	0.313	0.550	0.899	0.006	0.000	0.018				
L306N1	A → Y	(HL)	0.164	0.240	0.368	0.066	0.125	0.016	Α	1.0	Y	3
	,, , , ,	(LH)	0.095	0.155	0.223	0.025	0.045	0.072	В	1.0	'	
1	$B \ \to Y$	(HL)	0.184	0.302	0.492	0.066	0.125	0.215	С	1.0		
		(LH)	0.112	0.185	0.272	0.025	0.045	0.073	D	1.0		
1	$C \ \to \ Y$	(HL)	0.228	0.413	0.684	0.066	0.125	0.215	E	1.0		
		(LH)	0.133	0.225	0.341	0.025	0.046	0.073	F	1.0		
	$D \ \to \ Y$	(HL)	0.247	0.456	0.756	0.066	0.125	0.215				
		(LH)	0.143	0.243	0.371	0.025	0.046	0.074				
1	$E \to Y$	(HL)	0.263	0.507	0.846	0.066	0.125	0.215				
	F	(LH)	0.154	0.263	0.405	0.025	0.046	0.074				
1	$F \ \to Y$	(HH) (LL)	0.216 0.357	0.385 0.654	0.608 1.096	0.025 0.066	0.046 0.125	0.074 0.215				
F306N1	A → Y	(HL)	0.366	0.684	1.152	0.000	0.125	0.215	Α	1.0	Y	22
1 300111	A → I	(LH)	0.218	0.384	0.620	0.010	0.013	0.023	В	1.0	'	
1	$B \ \to Y$	(HL)	0.370	0.697	1.192	0.009	0.015	0.025	c	1.0		
	- ' '	(LH)	0.240	0.420	0.683	0.012	0.023	0.037	D	1.0		
	$C \ \to \ Y$	(HL)	0.360	0.711	1.240	0.010	0.015	0.025	E	1.0		
1		(LH)	0.263	0.464	0.754	0.012	0.023	0.037	F	1.0		
	$D \ \to \ Y$	(HL)	0.373	0.701	1.190	0.010	0.015	0.025				
		(LH)	0.227	0.398	0.655	0.012	0.023	0.036				

			Swite	ching sp	eed				Input			
Block	Path		tı	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow$	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$E \to Y$	(HL)	0.375	0.713	1.233	0.009	0.015	0.025				
		(LH)	0.250	0.438	0.720	0.012	0.023	0.036				
	$F \rightarrow Y$	(HH)	0.329	0.600	0.984	0.012	0.023	0.036				
F326N1	$A \ \to Y$	(LL) (HL)	0.451 0.456	0.868 0.874	1.505 1.504	0.010	0.015	0.025 0.013	A	1.0	Y	45
F320N1	A → f	(LH)	0.450	0.874	0.731	0.005	0.008	0.013	В	1.0	'	45
	$B \to Y$	(HL)	0.459	0.884	1.544	0.005	0.008	0.013	c	1.0		
		(LH)	0.281	0.489	0.798	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.450	0.903	1.596	0.005	0.008	0.013	E	1.0		
		(LH)	0.308	0.537	0.874	0.006	0.011	0.018	F	1.0		
	$D \ \to Y$	(HL)	0.460	0.890	1.538	0.005	0.008	0.013				
		(LH)	0.264	0.463	0.759	0.006	0.011	0.018				
	$E \to Y$	(HL)	0.462	0.904	1.581	0.005	0.008	0.013				
	- V	(LH) (HH)	0.288 0.369	0.503 0.667	0.825 1.093	0.006	0.011 0.011	0.018 0.018				
	$F \rightarrow Y$	(HH)	0.540	1.055	1.858	0.005	0.011	0.018				
L306N2	A → Y	(HL)	0.164	0.239	0.367	0.066	0.125	0.015	А	1.0	Y	3
2000112	, , , , , , , , , , , , , , , , , , ,	(LH)	0.095	0.155	0.223	0.025	0.045	0.072	В	1.0	'	
	$B \ \to Y$	(HL)	0.184	0.302	0.492	0.066	0.125	0.215	С	1.0		
		(LH)	0.112	0.185	0.272	0.025	0.045	0.073	D	1.0		
	$C \rightarrow Y$	(HL)	0.228	0.413	0.683	0.066	0.125	0.215	E	1.0		
		(LH)	0.133	0.225	0.341	0.025	0.046	0.073	F	1.0		
	$D \rightarrow Y$	(HL)	0.247	0.456	0.758	0.066	0.125	0.215				
		(LH)	0.143	0.243	0.371	0.025	0.046	0.074				
	$E \to Y$	(HH)	0.213	0.379	0.597 1.068	0.025	0.046	0.074 0.215				
	$F \to Y$	(LL) (HH)	0.349 0.214	0.640 0.383	0.605	0.066 0.025	0.125 0.046	0.215				
	F → I	(LL)	0.358	0.656	1.099	0.066	0.125	0.215				
F306N2	$A \rightarrow Y$	(HL)	0.366	0.684	1.152	0.010	0.015	0.025	Α	1.0	Y	22
		(LH)	0.218	0.384	0.620	0.012	0.023	0.037	В	1.0		
	$B \ \to Y$	(HL)	0.370	0.697	1.192	0.009	0.015	0.025	С	1.0		
		(LH)	0.240	0.420	0.683	0.012	0.023	0.037	D	1.0		
	$C \rightarrow Y$	(HL)	0.360	0.711	1.240	0.010	0.015	0.025	E	1.0		
	5 7	(LH)	0.263 0.374	0.464 0.701	0.754 1.191	0.012 0.009	0.023 0.015	0.037 0.025	F	1.0		
	$D \rightarrow Y$	(HL) (LH)	0.374	0.701	0.657	0.009	0.013	0.025				
	E o Y	(HH)	0.303	0.533	0.901	0.012	0.023	0.037				
		(LL)	0.433	0.835	1.445	0.009	0.015	0.025				
	$F \rightarrow Y$	(HH)	0.328	0.598	0.983	0.012	0.023	0.036				
		(LL)	0.453	0.872	1.511	0.009	0.015	0.025				
F326N2	$A \rightarrow Y$	(HL)	0.456	0.874	1.504	0.005	0.008	0.013	Α	1.0	Y	45
		(LH)	0.257	0.448	0.731	0.006	0.011	0.018	В	1.0	1	1
	$B \rightarrow Y$	(HL)	0.459	0.884	1.544	0.005	0.008	0.013	C	1.0		
	6	(LH) (HL)	0.281 0.450	0.489 0.903	0.798 1.596	0.006 0.005	0.011 0.008	0.018 0.013	D E	1.0 1.0		
	$C \rightarrow Y$	(HL) (LH)	0.450	0.903	0.874	0.005	0.008	0.013	F	1.0		
	$D \rightarrow Y$	(HL)	0.459	0.890	1.538	0.005	0.008	0.013	l .			
		(LH)	0.264	0.463	0.759	0.006	0.011	0.018				
	$E \ \to Y$	(HH)	0.344	0.616	1.015	0.006	0.011	0.018				
		(LL)	0.525	1.032	1.804	0.005	0.008	0.013				
	$F \rightarrow Y$	(HH)	0.366	0.661	1.087	0.006	0.011	0.018				
1,000115		(LL)	0.538	1.055	1.851	0.005	0.008	0.013	_	4.0	L	
L306N3	$A \ \to Y$	(HL) (LH)	0.164 0.095	0.238 0.155	0.368 0.221	0.066 0.025	0.125 0.045	0.215 0.072	A B	1.0 1.0	Y	3
	$B \ \to Y$	(LH) (HL)	0.095	0.155	0.221	0.025	0.045	0.072	C	1.0		
	ו → ז	(LH)	0.103	0.302	0.491	0.000	0.125	0.213	D	1.0		
		(=)				,		2.3.0				

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$C \rightarrow Y$	(HL)	0.228	0.413	0.683	0.066	0.125	0.215	E	1.0		
		(LH)	0.133	0.225	0.341	0.025	0.046	0.073	F	1.0		
	$D \rightarrow Y$	(HH)	0.198	0.352	0.552	0.025	0.046	0.074				
		(LL)	0.317	0.578	0.965	0.066	0.125	0.215				
	$E \to Y$	(HH)	0.213	0.379	0.596	0.025	0.046	0.074				
		(LL)	0.351	0.644	1.077	0.066	0.125	0.215				
	$F \rightarrow Y$	(HH)	0.212	0.381	0.601	0.025	0.046	0.074				
		(LL)	0.357	0.655	1.100	0.066	0.125	0.215				
F306N3	$A \rightarrow Y$	(HL)	0.366	0.684	1.152	0.010	0.015	0.025	Α	1.0	Y	22
		(LH)	0.218	0.384	0.620	0.012	0.023	0.037	В	1.0		
	$B \rightarrow Y$	(HL)	0.370	0.697	1.192	0.009	0.015	0.025	С	1.0		
		(LH)	0.240	0.420	0.683	0.012	0.023	0.037	D	1.0		
	$C \rightarrow Y$	(HL)	0.360	0.711	1.240	0.010	0.015	0.025	E	1.0		
		(LH)	0.263	0.464	0.754	0.012	0.023	0.037	F	1.0		
	$D \rightarrow Y$	(HH)	0.281	0.506	0.833	0.012	0.023	0.037				
		(LL)	0.421	0.811	1.405	0.009	0.015	0.025				
	$E \rightarrow Y$	(HH)	0.306	0.553	0.909	0.012	0.023	0.037				
		(LL)	0.441	0.847	1.469	0.009	0.015	0.025				
	$F \rightarrow Y$	(HH)	0.329	0.599	0.986	0.012	0.023	0.036				
		(LL)	0.456	0.878	1.523	0.009	0.015	0.025				
F326N3	$A \rightarrow Y$	(HL)	0.456	0.874	1.504	0.005	0.008	0.013	Α	1.0	Y	45
		(LH)	0.257	0.448	0.731	0.006	0.011	0.018	В	1.0		
	$B \rightarrow Y$	(HL)	0.459	0.884	1.544	0.005	0.008	0.013	С	1.0		
		(LH)	0.281	0.489	0.798	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.450	0.903	1.595	0.005	0.008	0.013	E	1.0		
		(LH)	0.308	0.538	0.874	0.006	0.011	0.018	F	1.0		
	$D \rightarrow Y$	(HH)	0.317	0.566	0.936	0.006	0.011	0.018				
		(LL)	0.506	0.997	1.749	0.005	0.008	0.013				l
1	$E \rightarrow Y$	(HH)	0.344	0.616	1.015	0.006	0.011	0.018				l
1		(LL)	0.528	1.034	1.817	0.005	0.008	0.013				
1	$F \rightarrow Y$	(HH)	0.370	0.668	1.097	0.006	0.011	0.018				
		(LL)	0.541	1.064	1.874	0.005	0.008	0.013				

Function	8-IN	IPUT	NAND							SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1	F308	6	F308N1	7	F308N2	7	F308N3	8	F308N4	8		
x2	F328	7	F328N1	8	F328N2	8	F328N3	9	F328N4	9		
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 ← B H02 ← C H03 ← D H04 ← E H05 ← F H06 ← G H07 ← H H08 ← Logic Diagra	am and inverter	type"	A B C D D E F G H	H01 ← H02 ← H03 ← H04 ← H05 ← H06 ← H07 ← H08 ← H08 ←	Diagram r 'with 4 inv)O→ N	iol Y	A B C D E F	ogic Diagra for "with H01 ← H02 ← H03 ← H04 ← H05 ← H06 ← H06 ← H06 ← H08 ← H	n 2 inv	O→ N0I	

			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → C	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F308	$A \rightarrow Y$	(HL)	0.450	0.844	1.437	0.010	0.016	0.026	Α	1.0	Y	22
		(LH)	0.245	0.432	0.709	0.013	0.023	0.037	В	1.0		
	$B \ \to Y$	(HL)	0.458 0.265	0.869 0.469	1.501 0.770	0.010 0.013	0.016 0.023	0.026 0.037	C D	1.0 1.0		
	$C \ \to Y$	(LH) (HL)	0.465	0.469	1.605	0.013	0.023	0.037	E	1.0		
	0 → 1	(LH)	0.403	0.523	0.854	0.013	0.010	0.020	F	1.0		
	$D \ \to Y$	(HL)	0.464	0.931	1.616	0.010	0.016	0.026	G	1.0		
		(LH)	0.304	0.542	0.888	0.013	0.023	0.037	Н	1.0		
	$E \ \to Y$	(HL)	0.430	0.815	1.398	0.010	0.016	0.026				
		(LH)	0.247	0.433	0.707	0.013	0.023	0.037				
	$F \ \to Y$	(HL)	0.437	0.843	1.459	0.010 0.013	0.016	0.026				
	$G \rightarrow Y$	(LH) (HL)	0.268 0.446	0.470 0.897	0.769 1.565	0.013	0.023 0.016	0.037 0.026				
	G → Y	(LH)	0.440	0.525	0.856	0.010	0.010	0.020				
	$H \rightarrow Y$	(HL)	0.444	0.900	1.578	0.010	0.016	0.026				
		(LH)	0.308	0.547	0.891	0.013	0.023	0.037				
F328	$A \rightarrow Y$	(HL)	0.487	0.936	1.617	0.005	0.008	0.013	Α	1.0	Y	45
		(LH)	0.256	0.451	0.737	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.497	0.962	1.682	0.005	0.008	0.013	С	1.0		
	o v	(LH)	0.280	0.489	0.800	0.006	0.011	0.018	D E	1.0		
	$C \rightarrow Y$	(HL) (LH)	0.500 0.309	1.009 0.543	1.776 0.881	0.005 0.006	0.008 0.011	0.013 0.018	F	1.0 1.0		
	$D \ \to Y$	(HL)	0.309	1.011	1.793	0.005	0.008	0.018	G	1.0		
	D 7 1	(LH)	0.316	0.561	0.912	0.006	0.011	0.018	H	1.0		
	$E \ \to Y$	(HL)	0.477	0.927	1.609	0.005	0.008	0.013				
		(LH)	0.262	0.459	0.749	0.006	0.011	0.018				
	$F \ \to Y$	(HL)	0.485	0.954	1.676	0.005	0.008	0.013				
		(LH)	0.287	0.501	0.820	0.006	0.011	0.018				
	$G \ \to Y$	(HL) (LH)	0.490 0.316	0.999 0.555	1.769 0.902	0.005 0.006	0.008 0.011	0.013 0.018				
	$H \to Y$	(LII)	0.490	1.007	1.787	0.005	0.011	0.018				
	11 - 7 1	(LH)	0.326	0.573	0.935	0.006	0.011	0.018				
F308N1	$A \rightarrow Y$	(HL)	0.398	0.740	1.251	0.009	0.015	0.024	Α	1.0	Y	23
		(LH)	0.219	0.388	0.632	0.013	0.023	0.037	В	1.0		
	$B \ \to Y$	(HL)	0.407	0.766	1.318	0.009	0.015	0.024	С	1.0		
	,	(LH)	0.240	0.425	0.693	0.013	0.023	0.037	D	1.0		
	$C \ \to Y$	(HL) (LH)	0.411 0.266	0.812 0.475	1.409 0.770	0.009 0.012	0.015 0.023	0.024 0.037	E F	1.0 1.0		
	$D \ \to Y$	(HL)	0.409	0.475	1.428	0.009	0.025	0.024	G	1.0		
	5 -> 1	(LH)	0.274	0.490	0.802	0.012	0.023	0.036	Н	1.0		
	$E \ \to Y$	(HL)	0.381	0.716	1.218	0.009	0.015	0.024				
		(LH)	0.222	0.391	0.634	0.012	0.023	0.037				
	$F \ \to Y$	(HL)	0.388	0.744	1.296	0.009	0.015	0.024				
		(LH)	0.243	0.427	0.698	0.012	0.023	0.037				
	$G \ \to Y$	(HL) (LH)	0.394 0.271	0.791 0.478	1.378 0.775	0.009 0.012	0.015 0.023	0.024 0.037				
	$H \to Y$	(HH)	0.271	0.478	0.775	0.012	0.023	0.037				
	11 7 1	(LL)	0.471	0.920	1.599	0.009	0.025	0.024				
F328N1	$A \ \to Y$	(HL)	0.487	0.936	1.617	0.005	0.008	0.013	Α	1.0	Y	45
		(LH)	0.256	0.451	0.737	0.006	0.011	0.018	В	1.0		
	$B \ \to \ Y$	(HL)	0.497	0.962	1.682	0.005	0.008	0.013	С	1.0		
	0 1/	(LH)	0.280	0.489	0.800	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL) (LH)	0.500 0.309	1.009 0.543	1.776 0.881	0.005 0.006	0.008 0.011	0.013 0.018	E F	1.0 1.0		
	$D \ \to Y$	(HL)	0.309	1.011	1.793	0.005	0.011	0.018	G	1.0		
	D → 1	(LH)	0.316	0.561	0.912	0.006	0.011	0.018	Н	1.0		

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$E \to Y$	(HL)	0.477	0.925	1.609	0.005	0.008	0.013				
		(LH)	0.262	0.459	0.749	0.006	0.011	0.018				
	$F \rightarrow Y$	(HL)	0.485 0.287	0.954 0.501	1.676 0.820	0.005 0.006	0.008 0.011	0.013 0.018				
	$G \rightarrow Y$	(LH) (HL)	0.491	0.999	1.768	0.005	0.011	0.018				
]	(LH)	0.316	0.555	0.902	0.006	0.000	0.013				
	$H \rightarrow Y$	(HH)	0.377	0.682	1.120	0.006	0.011	0.018				
		(LL)	0.570	1.131	1.998	0.005	0.008	0.013				
F308N2	$A \rightarrow Y$	(HL)	0.398	0.740	1.251	0.009	0.015	0.024	А	1.0	Y	23
		(LH)	0.219	0.388	0.632	0.013	0.023	0.037	В	1.0		
	$B \rightarrow Y$	(HL)	0.407	0.766	1.318	0.009	0.015	0.024	C	1.0		
		(LH)	0.240	0.425	0.693	0.013	0.023	0.037	D	1.0		
	C → Y	(HL)	0.411	0.812	1.409 0.770	0.009	0.015	0.024	E	1.0		
	$D \rightarrow Y$	(LH) (HL)	0.266 0.409	0.475 0.815	1.428	0.012 0.009	0.023 0.015	0.037 0.024	F G	1.0 1.0		
	D → f	(LH)	0.409	0.490	0.802	0.009	0.013	0.024	H	1.0		
	$E \to Y$	(HL)	0.381	0.715	1.224	0.009	0.015	0.024	l ''	1.0		
		(LH)	0.222	0.391	0.634	0.012	0.023	0.037				
	$F \rightarrow Y$	(HL)	0.389	0.744	1.296	0.009	0.015	0.024				
		(LH)	0.243	0.429	0.698	0.012	0.023	0.037				
	$G \rightarrow Y$	(HH)	0.322	0.587	0.960	0.012	0.023	0.037				
		(LL)	0.467	0.910	1.586	0.009	0.015	0.024				
	$H \rightarrow Y$	(HH)	0.332	0.606	0.995	0.012	0.023	0.036				
FOODNIO	A 1/	(LL) (HL)	0.477	0.932 0.936	1.617	0.009	0.015	0.024	A	1.0	Y	45
F328N2	$A \rightarrow Y$	(HL)	0.467	0.936	1.617 0.737	0.005	0.008	0.013	В	1.0	1	45
	$B \to Y$	(HL)	0.497	0.962	1.682	0.005	0.008	0.013	C	1.0		
		(LH)	0.280	0.489	0.800	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.500	1.009	1.776	0.005	0.008	0.013	E	1.0		
		(LH)	0.309	0.543	0.881	0.006	0.011	0.018	F	1.0		
	$D \rightarrow Y$	(HL)	0.498	1.011	1.793	0.005	0.008	0.013	G	1.0		
		(LH)	0.316	0.561	0.912	0.006	0.011	0.018	Н	1.0		
	$E \to Y$	(HL)	0.479	0.926	1.614	0.005	0.008	0.013				
		(LH) (HL)	0.262 0.490	0.459 0.956	0.749 1.680	0.006 0.005	0.011 0.008	0.018 0.013				
	$F \rightarrow Y$	(HL) (LH)	0.490	0.501	0.820	0.005	0.008	0.013				
	$G \rightarrow Y$	(HH)	0.367	0.663	1.086	0.006	0.011	0.018				
		(LL)	0.569	1.125	1.983	0.005	0.008	0.013				
	$H \to Y$	(HH)	0.382	0.689	1.128	0.006	0.011	0.018				
		(LL)	0.580	1.144	2.015	0.005	0.008	0.013				
F308N3	$A \rightarrow Y$	(HL)	0.398	0.740	1.251	0.009	0.015	0.024	Α	1.0	Y	23
		(LH)	0.219	0.388	0.632	0.013	0.023	0.037	В	1.0		
	B → Y	(HL) (LH)	0.407 0.240	0.766 0.425	1.318 0.693	0.009 0.012	0.015 0.023	0.024 0.037	C	1.0 1.0		
	$C \rightarrow Y$	(LH) (HL)	0.240	0.425	1.409	0.012	0.023	0.037	E	1.0		
		(LH)	0.266	0.475	0.770	0.012	0.013	0.024	F	1.0		
	$D \rightarrow Y$	(HL)	0.409	0.813	1.428	0.009	0.015	0.024	G	1.0		
		(LH)	0.274	0.491	0.802	0.012	0.023	0.037	Н	1.0		
	E o Y	(HL)	0.382	0.718	1.220	0.009	0.015	0.024				
		(LH)	0.221	0.389	0.634	0.012	0.023	0.037				
	$F \rightarrow Y$	(HH)	0.296	0.535	0.877	0.012	0.023	0.037				
		(LL)	0.446	0.864	1.512	0.009	0.015 0.023	0.024				
	$G \rightarrow Y$	(HH) (LL)	0.325 0.476	0.590 0.927	0.967 1.613	0.012 0.009	0.023	0.036 0.024				
	$H \to Y$	(LL) (HH)	0.476	0.927	1.002	0.009	0.013	0.024				
	l '' → '	(LL)	0.483	0.940	1.633	0.009	0.025	0.024				
		(==/	0.100	0.040		0.000	0.010	U.UL-T				

FUNCTION BLOCK

- I			Swite	ching sp	eed				<u> </u>			
Block	Path		t	LD0 (ns))		t 1		In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F328N3	$A \ \to \ Y$	(HL)	0.487	0.936	1.617	0.005	0.008	0.013	Α	1.0	Y	45
		(LH)	0.257	0.451	0.737	0.006	0.011	0.018	В	1.0		
	$B \rightarrow Y$	(HL)	0.497	0.962	1.682	0.005	0.008	0.013	С	1.0		
		(LH)	0.280	0.489	0.800	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.500	1.009	1.776	0.005	0.008	0.013	E	1.0		
		(LH)	0.309	0.543	0.881	0.006	0.011	0.018	F	1.0		
	$D \ \to Y$	(HL)	0.498	1.011	1.793	0.005	0.008	0.013	G	1.0		
		(LH)	0.316	0.561	0.912	0.006	0.011	0.018	Н	1.0		
	$E \to Y$	(HL)	0.480	0.930	1.619	0.005	0.008	0.013				
		(LH)	0.263	0.461	0.752	0.006	0.011	0.018				
	$F \rightarrow Y$	(HH)	0.338	0.607	0.999	0.006	0.011	0.018				
		(LL)	0.544	1.077	1.898	0.005	0.008	0.013				
	$G \rightarrow Y$	(HH)	0.368	0.664	1.089	0.006	0.011	0.018				
		(LL)	0.576	1.140	2.000	0.005	0.008	0.013				
	H → Y	(HH)	0.386 0.586	0.694	1.136 2.033	0.006	0.011	0.018				
F308N4	A → Y	(LL) (HL)	0.398	1.156 0.740	1.251	0.005	0.008	0.013	A	1.0	Y	23
F300N4	A → Y	(LH)	0.390	0.388	0.632	0.003	0.013	0.024	В	1.0	'	23
	$B \to Y$	(HL)	0.407	0.766	1.318	0.009	0.025	0.024	C	1.0		
	D → 1	(LH)	0.407	0.425	0.693	0.012	0.013	0.024	D	1.0		
	C → Y	(HL)	0.411	0.423	1.409	0.009	0.025	0.024	E	1.0		
I	0 7 1	(LH)	0.266	0.475	0.770	0.012	0.023	0.037	F	1.0		
	$D \rightarrow Y$	(HL)	0.409	0.813	1.428	0.009	0.015	0.024	Ġ	1.0		
		(LH)	0.274	0.491	0.802	0.012	0.023	0.037	H	1.0		
	$E \to Y$	(HH)	0.277	0.497	0.815	0.012	0.023	0.037	''			
	_ , ,	(LL)	0.429	0.831	1.440	0.009	0.015	0.024				
	$F \rightarrow Y$	(HH)	0.299	0.538	0.884	0.012	0.023	0.037				
		(LL)	0.452	0.876	1.527	0.009	0.015	0.024				
	$G \rightarrow Y$	(HH)	0.324	0.591	0.967	0.012	0.023	0.037				
		(LL)	0.478	0.931	1.615	0.009	0.015	0.024				
	$H \rightarrow Y$	(HH)	0.334	0.610	1.002	0.012	0.023	0.037				
		(LL)	0.483	0.943	1.644	0.009	0.015	0.024				
F328N4	$A \ \to \ Y$	(HL)	0.487	0.936	1.617	0.005	0.008	0.013	Α	1.0	Y	45
		(LH)	0.257	0.451	0.737	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.497	0.962	1.682	0.005	0.008	0.013	С	1.0		
		(LH)	0.280	0.489	0.800	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.500	1.009	1.776	0.005	0.008	0.013	E	1.0		
		(LH)	0.309	0.543	0.881	0.006	0.011	0.018	F	1.0		
	$D \rightarrow Y$	(HL)	0.498	1.011	1.793	0.005	0.008	0.013	G	1.0		
		(LH)	0.316	0.561	0.912	0.006	0.011	0.018	H	1.0		
	E → Y	(HH)	0.323	0.574	0.943	0.006	0.011	0.018				
		(LL)	0.533	1.050	1.849	0.005	0.008	0.013		1	1	
	$F \rightarrow Y$	(HH)	0.338	0.606	0.999	0.006	0.011	0.018				
	l	(LL)	0.547	1.080	1.905	0.005	0.008	0.013		1	1	
	$G \rightarrow Y$	(HH)	0.370 0.579	0.666 1.148	1.093 2.016	0.006 0.005	0.011	0.018 0.013				
	L	(LL)	0.579	0.695	1.136	0.005	0.008	0.013				
	H → Y	(HH) (LL)	0.384	1.158	2.037	0.006	0.001	0.018				
		(LL)	0.567	1.106	2.037	0.003	0.008	0.013			l .	

Function	2-11	IPUT	AND							SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	/erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L312	2										
x1	F312	2										
x2	F332	3										
x4	F352	6										
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter/		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 ← B H02 ← Logic Diagra	rmal type"	→ N01	Y	fo	Diagram r *with 1 in\ Diagram r *with 4 in\				ogic Diagr for *witl		erter type"	

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FUNCTION BLOCK

				Swite	ching sp	eed						_	
Block	F	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN ·	\rightarrow	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L312	Α -	→ Y	(HH)	0.165	0.279	0.426	0.025	0.045	0.072	Α	1.0	Υ	11
			(LL)	0.144	0.244	0.392	0.017	0.028	0.045	В	1.0		
	В -	→ Y	(HH)	0.156	0.267	0.435	0.025	0.045	0.072				
			(LL)	0.169	0.282	0.450	0.017	0.028	0.046				
F312	Α -	→ Y	(HH)	0.196	0.331	0.509	0.013	0.023	0.037	Α	1.0	Υ	22
			(LL)	0.175	0.301	0.493	0.010	0.016	0.026	В	1.0		
	В -	→ Y	(HH)	0.184	0.317	0.517	0.013	0.023	0.037				
			(LL)	0.196	0.339	0.553	0.010	0.016	0.026				
F332	Α -	→ Y	(HH)	0.250	0.417	0.666	0.006	0.012	0.019	Α	1.0	Y	44
			(LL)	0.225	0.399	0.671	0.005	0.008	0.013	В	1.0		
	В -	→ Y	(HH)	0.229	0.401	0.671	0.006	0.012	0.019				
			(LL)	0.241	0.429	0.725	0.005	0.008	0.014				
F352	Α -	→ Y	(HH)	0.229	0.384	0.625	0.003	0.006	0.009	Α	2.0	Y	89
			(LL)	0.218	0.387	0.646	0.002	0.004	0.007	В	2.0		
	В -	→ Y	(HH)	0.227	0.383	0.624	0.003	0.006	0.009				
			(LL)	0.217	0.386	0.645	0.002	0.004	0.006				

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L313	$A \rightarrow Y$	(HH)	0.221	0.368	0.574	0.025	0.046	0.074	Α	1.0	Υ	10
		(LL)	0.155	0.270	0.438	0.018	0.028	0.046	В	1.0		
	$B \ \to Y$	(HH)	0.220	0.377	0.611	0.025	0.046	0.074	С	1.0		
		(LL)	0.175	0.305	0.493	0.018	0.028	0.046				
	$C \ \to \ Y$	(HH)	0.215	0.397	0.669	0.025	0.046	0.073				
		(LL)	0.205	0.360	0.580	0.018	0.028	0.046				
F313	$A \ \to Y$	(HH)	0.269	0.444	0.703	0.013	0.024	0.037	Α	1.0	Y	21
		(LL)	0.187	0.326	0.538	0.010	0.016	0.026	В	1.0		
	$B \ \to Y$	(HH)	0.267	0.458	0.742	0.013	0.024	0.038	С	1.0		
		(LL)	0.206	0.364	0.598	0.010	0.016	0.026				
	$C \ \to \ Y$	(HH)	0.258	0.476	0.791	0.013	0.024	0.038				
		(LL)	0.231	0.410	0.672	0.010	0.016	0.026				
F333	$A \ \to Y$	(HH)	0.351	0.587	0.953	0.007	0.012	0.020	Α	1.0	Y	44
		(LL)	0.237	0.426	0.722	0.005	0.008	0.014	В	1.0		
	$B \ \to Y$	(HH)	0.347	0.601	0.995	0.007	0.013	0.020	С	1.0		
		(LL)	0.252	0.460	0.778	0.005	0.009	0.014				
	$C \ \to \ Y$	(HH)	0.341	0.625	1.053	0.007	0.013	0.020				
		(LL)	0.279	0.510	0.862	0.005	0.009	0.014				

Function	4-IN	IPUT	AND							SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter	·	
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L314	3	L314N1	3								
x1	F314	3	F314N1	4								
x2	F334	4	F334N1	5								
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 B H02 C H03 D H04 Logic Diagra	rmal type"		Y B C D	H01 • H02 • H03 • H04 •			• N01 Y		ogic Diagr. for "with		erter type"	

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FUNCTION BLOCK

L314	Disal			Swite	ching sp	eed							
Section Sec		Path		t I	LD0 (ns))		t 1		l in	put	Ou	tput
B → Y	type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
B → Y	L314	$A \ \to \ Y$	(HH)							Α		Y	10
C → Y			. ,		1	1							
C → Y		$B \ \to Y$	(HH)			0.747							
C					1	1				D	1.0		
D → Y		$C \ \to \ Y$			1	1							
F314													
F314 A → Y (HH) 0.302 0.510 0.816 0.013 0.024 0.038 A 1.0 Y 21 (LL) 0.190 0.331 0.545 0.010 0.016 0.026 B 1.0 C		$D \ \to \ Y$			1	1							
C			. ,										
B → Y	F314	$A \rightarrow Y$	٠, ,		1	ı						Y	21
C → Y			. ,		1	1							
C → Y		$B \to Y$											
Columbia Columbia						1				ן ט	1.0		
D → Y		$C \rightarrow Y$			1	1							
F334													
F334 A → Y (HH) 0.395 0.680 1.122 0.007 0.013 0.021 A 1.0 Y 43 (LL) 0.238 0.429 0.725 0.005 0.008 0.014 B 1.0 Y 43 (LL) 0.238 0.429 0.725 0.005 0.008 0.014 B 1.0 (LL) 0.254 0.464 0.787 0.005 0.009 0.014 D 1.0 (LL) 0.260 0.516 0.872 0.005 0.009 0.014 D 1.0 (LL) 0.291 0.538 0.910 0.005 0.009 0.014 D 1.0 (LL) 0.291 0.538 0.910 0.005 0.009 0.014 D 1.0 (LL) 0.291 0.538 0.910 0.005 0.009 0.014 D 1.0 (LL) 0.154 0.272 0.437 0.017 0.027 0.044 B 1.0 Y 10 (LL) 0.154 0.272 0.437 0.017 0.027 0.044 B 1.0 (LL) 0.178 0.313 0.505 0.017 0.027 0.044 D 1.0 (LL) 0.205 0.363 0.582 0.017 0.027 0.044 D 1.0 (LL) 0.260 0.484 0.794 0.017 0.027 0.044 D 1.0 (LL) 0.260 0.484 0.794 0.017 0.027 0.044 D 1.0 (LL) 0.260 0.484 0.794 0.017 0.027 0.044 D 1.0 (LL) 0.260 0.484 0.794 0.017 0.027 0.045 (LL) 0.260 0.484 0.794 0.017 0.027 0.045 (LL) 0.172 0.304 0.493 0.009 0.015 0.024 D 1.0 (LL) 0.172 0.304 0.493 0.009 0.015 0.024 D 1.0 (LL) 0.172 0.304 0.493 0.009 0.015 0.024 B 1.0 (LL) 0.172 0.304 0.493 0.009 0.015 0.024 B 1.0 (LL) 0.172 0.304 0.493 0.009 0.015 0.024 B 1.0 (LL) 0.172 0.304 0.493 0.009 0.015 0.024 D 1.0 (LL) 0.193 0.341 0.565 0.009 0.015 0.024 D 1.0 (LL) 0.190 0.341 0.565 0.009 0.015 0.024 D 1.0 (LL) 0.291 0.394 0.644 0.009 0.015 0.024 D 1.0 (LL) 0.291 0.394 0.644 0.009 0.015 0.024 D 1.0 (LL) 0.291 0.394 0.644 0.009 0.015 0.024 D 1.0 (LL) 0.291 0.394 0.644 0.009 0.015 0.024 D 1.0 (LL) 0.279 0.518 0.857 0.009 0.015 0.024 D 1.0 (LL) 0.279 0.518 0.857 0.009 0.015 0.024 D 1.0 (LL) 0.279 0.518 0.857 0.009 0.015 0.024 D 1.0 (LL) 0.279 0.518 0.857 0.009 0.015 0.024 D 1.0 (LL) 0.279 0.412 0.689 1.140 0.013 0.024 0.038 C 1.0 (LL) 0.279 0.412 0.689 1.140 0.013 0.024 0.038 D 1.0 (LL) 0.243 0.466 0.752 0.005 0.007 0.012 D 1.0 (LL) 0.243 0.466 0.752 0.005 0.007 0.012 D 1.0 (LL) 0.243 0.446 0.752 0.005 0.007 0.012 D 1.0 (LL) 0.268 0.493 0.832 0.005 0.005 0.007 0.012 D 1.0 (LL) 0.268 0.493 0.832 0.005 0.005 0.007 0.012 D 1.0 (LL) 0.268 0.493 0.832 0.005 0.005 0.007 0.012 D 1.0 (LL) 0.268 0.493 0.832 0.005 0.005 0.008 0.012		$D \rightarrow Y$			1	1							
Columbia Columbia	F224	A 1/	. ,							_	1.0		42
B → Y	F334	$A \rightarrow Y$	٠, ,		1	ı	1					'	43
C → Y		в. V				1							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		B → Y			1	1							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		C . V			1	1					1.0		
D → Y		0 → 1			1	1							
L314N1 A → Y (HH) 0.291 0.538 0.910 0.005 0.009 0.014 No.000 No.014 No.000 No.014 No.000 No.014 No.000 No.014 No.000 No.014		n v											
L314N1		D → I	٠, ,		1	ı	1						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	L314N1	Δ ¬ A	. ,							Α	1.0	Υ	10
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	201	, .	٠, ,		1	0.437				В	1.0		
C → Y (HH) 0.264 0.496 0.816 0.025 0.046 0.074 D 1.0		$B \to Y$	(HH)	0.259	0.450	0.724	0.025	0.046	0.074	С	1.0		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					0.313	0.505	0.017	0.027	0.044				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$C \rightarrow Y$	(HH)	0.264	0.496	0.816	0.025	0.046	0.074				
(LH) 0.341 0.626 1.037 0.025 0.046 0.074 L F314N1 A → Y (HH) 0.282 0.472 0.752 0.013 0.024 0.038 A 1.0 Y 21 B → Y (HH) 0.287 0.500 0.817 0.013 0.024 0.038 C 1.0 C 1.0 0.287 0.500 0.817 0.013 0.024 0.038 C 1.0 0.004 D 1.0 0.024 D 1.0 0.024 D 1.0 0.024 D 1.0 0.024 D 1.0 0.004 0.013 0.024 0.038 D 1.0 0.004 0.013 0.024 0.038 0.004 0.008 0.015 0.024 D 1.0 0.004 0.008 0.015 0.024 0.038 0.004 0.008 0.015 0.024 0.038 0.024 0.008 0.024 0.008 0.024 0.038 0.024 0.008			(LL)	0.205	0.363	0.582	0.017	0.027	0.044				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$D \ \to Y$	(HL)	0.260	0.484	0.794	0.017	0.027	0.045				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			(LH)	0.341	0.626	1.037	0.025	0.046	0.074				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	F314N1	$A \rightarrow Y$	٠, ,		1	ı						Y	21
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					1	1							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$B \ \to Y$			1	1							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					1	1				D	1.0		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		$C \rightarrow Y$											
(LH) 0.371 0.680 1.140 0.013 0.024 0.038 L F334N1 A → Y (HH) 0.378 0.647 1.061 0.006 0.012 0.019 A 1.0 Y 42 (LL) 0.227 0.412 0.689 0.005 0.007 0.012 B 1.0 B 1.0 L 0.006 0.012 0.019 C 1.0 C 1.0 0.006 0.012 0.019 C 1.0 0.006 0.012 0.012 D 1.0 0.006 0.007 0.012 D 1.0 0.006 0.012 0.019 0.006 0.007 0.007 0.007 0.007 0.007 0.007 0.007 <th></th> <th></th> <th></th> <th></th> <th>1</th> <th>1</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>					1	1							
F334N1		$D \rightarrow Y$			1	ı	1						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	F00.414		, ,							_	4.0	\ \ \	40
B → Y (HH) 0.380 0.678 1.130 0.006 0.012 0.019 C 1.0 (LL) 0.243 0.446 0.752 0.005 0.007 0.012 D 1.0 C → Y (HH) 0.385 0.724 1.222 0.006 0.012 0.019 (LL) 0.268 0.493 0.832 0.005 0.008 0.012 D → Y (HL) 0.323 0.614 1.042 0.005 0.008 0.012	F334N1	$A \rightarrow Y$	٠, ,		1	1						Y	42
(LL) 0.243 0.446 0.752 0.005 0.007 0.012 D 1.0 C → Y (HH) 0.385 0.724 1.222 0.006 0.012 0.019 (LL) 0.268 0.493 0.832 0.005 0.008 0.012 D → Y (HL) 0.323 0.614 1.042 0.005 0.008 0.012		ь											
C → Y (HH) 0.385 0.724 1.222 0.006 0.012 0.019 (LL) 0.268 0.493 0.832 0.005 0.008 0.012 D → Y (HL) 0.323 0.614 1.042 0.005 0.008 0.012		$B \to A$			1	1							
(LL) 0.268 0.493 0.832 0.005 0.008 0.012 D → Y (HL) 0.323 0.614 1.042 0.005 0.008 0.012		C . V			1	1					1.0		
D \(\to Y\) (HL) 0.323 0.614 1.042 0.005 0.008 0.012		U → Y			1								
		D . V			1	1							
• • 0 H) 1 0 463 1 0 854 1 1 444 1 0 006 1 0 072 1 0 079 1		∪ → Y	(HL)	0.323	0.854	1.444	0.005	0.008	0.012				

Function	5-IN	IPUT	AND							SSI Fa	mily	
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L315	4	L315N1	4								
x1	F315	5	F315N1	5								
x2	F335	7	F335N1	7								
x4												
x8												
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 ← B H02 ← C H03 ← D H04 ← E H05 ← Logic Diagra	rmal type"	→ N01	A B C D E	H01 • H02 • H03 • H04 • H05 •)	• N01 Y	L	ogic Diag for "wi		erter type	P"

- I			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L315	$A \ \to \ Y$	(HH)	0.167	0.319	0.523	0.044	0.088	0.147	A	1.0	Y	5
		(LL)	0.163	0.277	0.443	0.016	0.026	0.044	В	1.0		
	$B \rightarrow Y$	(HH) (LL)	0.175 0.142	0.327 0.243	0.517 0.386	0.044 0.016	0.088 0.026	0.147 0.043	C D	1.0 1.0		
	$C \rightarrow Y$	(LL) (HH)	0.142	0.243	0.388	0.016	0.026	0.043	E	1.0		
	U → 1	(LL)	0.214	0.382	0.619	0.017	0.000	0.045	-	1.0		
	$D \rightarrow Y$	(HH)	0.260	0.474	0.772	0.044	0.027	0.147				
	D -> 1	(LL)	0.201	0.355	0.574	0.017	0.027	0.044				
	$E \to Y$	(HH)	0.263	0.445	0.696	0.044	0.088	0.147				
		(LL)	0.167	0.296	0.479	0.017	0.027	0.044				
F315	$A \ \to \ Y$	(HH)	0.206	0.383	0.628	0.022	0.044	0.074	Α	1.0	Υ	10
		(LL)	0.199	0.345	0.563	0.009	0.014	0.023	В	1.0		
	$B \ \to Y$	(HH)	0.220	0.395	0.625	0.022	0.044	0.074	С	1.0		
		(LL)	0.180	0.309	0.505	0.009	0.014	0.023	D	1.0		
	$C \rightarrow Y$	(HH)	0.283	0.539	0.902	0.022	0.045	0.074	E	1.0		
	$D \rightarrow Y$	(LL) (HH)	0.239 0.290	0.426 0.520	0.698 0.851	0.009 0.022	0.014 0.045	0.023 0.074				
	$D \rightarrow Y$	(LL)	0.230	0.378	0.623	0.022	0.043	0.074				
	$E \to Y$	(HH)	0.292	0.506	0.811	0.022	0.045	0.023				
		(LL)	0.195	0.342	0.564	0.009	0.014	0.023				
F335	$A \ \to Y$	(HH)	0.364	0.694	1.190	0.006	0.011	0.018	Α	1.0	Υ	45
		(LL)	0.287	0.512	0.857	0.005	0.007	0.012	В	1.0		
	$B \ \to Y$	(HH)	0.354	0.686	1.195	0.006	0.011	0.018	С	1.0		
		(LL)	0.306	0.548	0.912	0.005	0.007	0.012	D	1.0		
	$C \ \to \ Y$	(HH)	0.436	0.811	1.380	0.006	0.011	0.018	E	1.0		
		(LL)	0.307	0.556	0.931	0.005	0.007	0.012				
	$D \ \to \ Y$	(HH)	0.438	0.825	1.421	0.006	0.011	0.018				
		(LL)	0.330	0.597	1.000	0.005	0.007	0.012				
	$E \to Y$	(HH)	0.431 0.353	0.845 0.645	1.473 1.075	0.006 0.005	0.011 0.007	0.018 0.012				
L315N1	A → Y	(LL) (HH)	0.353	0.845	0.523	0.003	0.007	0.012	Α	1.0	Y	5
LOTOINT	A → 1	(LL)	0.163	0.277	0.443	0.016	0.026	0.044	В	1.0	'	
	$B \ \to Y$	(HH)	0.175	0.327	0.517	0.044	0.088	0.147	c	1.0		
		(LL)	0.142	0.243	0.386	0.016	0.026	0.043	D	1.0		
	$C \rightarrow Y$	(HH)	0.261	0.488	0.805	0.044	0.088	0.147	E	1.0		
		(LL)	0.212	0.380	0.616	0.017	0.027	0.045				
	$D \ \to \ Y$	(HH)	0.268	0.465	0.755	0.044	0.088	0.147				
		(LL)	0.188	0.329	0.540	0.017	0.027	0.044				
	$E \rightarrow Y$	(HL)	0.220	0.400	0.656	0.017	0.027	0.044				
F315N1	$A \ \to Y$	(LH) (HH)	0.316	0.567 0.356	0.927 0.586	0.044	0.088	0.147 0.074	A	1.0	Y	10
FSTSINT	$A \rightarrow Y$	(HH)	0.193	0.334	0.546	0.022	0.044	0.074	В	1.0	'	10
	$B \ \to Y$	(HH)	0.192	0.369	0.580	0.022	0.044	0.023	C	1.0		
	B 7 1	(LL)	0.173	0.299	0.487	0.008	0.014	0.023	D	1.0		
	$C \rightarrow Y$	(HH)	0.299	0.563	0.940	0.022	0.044	0.074	E	1.0		
		(LL)	0.246	0.442	0.737	0.009	0.014	0.023				
	$D \ \to \ Y$	(HH)	0.308	0.541	0.888	0.022	0.044	0.074				
		(LL)	0.220	0.396	0.659	0.009	0.014	0.023				
	$E \ \to Y$	(HL)	0.253	0.468	0.778	0.009	0.014	0.023				
		(LH)	0.355	0.643	1.063	0.022	0.044	0.074			,	
F335N1	$A \ \to \ Y$	(HH)	0.364	0.694	1.190	0.006	0.011	0.018	A	1.0	Y	45
	ь у	(LL)	0.287 0.354	0.512 0.686	0.857 1.195	0.005 0.006	0.007 0.011	0.012 0.018	B C	1.0 1.0		
	$B \ \to Y$	(HH) (LL)	0.354	0.548	0.912	0.006	0.011	0.018	D	1.0		
	$C \ \to Y$	(LL) (HH)	0.306	0.814	1.384	0.005	0.007	0.012	E	1.0		
	U → Y	(LL)	0.307	0.557	0.931	0.005	0.007	0.018		1.0		
		(LL)	0.001	0.001	0.001	0.000	0.007	0.012				

				Swite	ching sp	eed						_	
Block		Path	l	t LD0 (ns)				t 1] In	put	Ou	tput
type	IN				TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	D	\rightarrow Y	(HH)	0.442	0.828	1.429	0.006	0.011	0.018				
			(LL)	0.330	0.597	1.000	0.005	0.007	0.012				ĺ
	E	$\to \ Y$	(HL)	0.397	0.742	1.252	0.005	0.007	0.012				ĺ
			(LH)	0.510	0.976	1.685	0.006	0.011	0.018				

[MEMO]

Function	6-IN	IPUT	AND						;	SSI Fa	mily				
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter					
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells					
Low Power	L316	4	L316N1	5	L316N2	5									
x1	F316	6	F316N1	6	F316N2	6									
x2	F336	7	F336N1	8	F336N2	8									
x4															
x8															
Block type	Norma	al	with 1 inv	erter	with 2 inv	erter	with 3 inv	erter	with 4 in	verter					
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells					
Low Power															
x1															
x2															
x4															
x8															
A H01	rmal type"	→ N01	A B C Y D E F	H01 • H02 • H03 • H04 • H05 • H06 •)	• N01 Y	A B C D		→ N01					

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L316	$A \rightarrow Y$	(HH)	0.246	0.419	0.655	0.044	0.088	0.147	A	1.0	Y	5
		(LL)	0.157	0.275	0.440	0.016	0.027	0.044	В	1.0		
	$B \to Y$	(HH) (LL)	0.249 0.179	0.432 0.312	0.693 0.505	0.044 0.017	0.088 0.027	0.147 0.044	C D	1.0 1.0		
	C → Y	(LL)	0.179	0.312	0.505	0.017	0.027	0.044	E	1.0		
	0 -> 1	(LL)	0.203	0.359	0.578	0.017	0.000	0.044	F	1.0		
	$D \rightarrow Y$	(HH)	0.235	0.411	0.647	0.044	0.088	0.147		1.0		
		(LL)	0.156	0.274	0.443	0.016	0.026	0.044				
	$E \to Y$	(HH)	0.238	0.425	0.688	0.044	0.088	0.147				
		(LL)	0.181	0.313	0.507	0.016	0.026	0.044				
	$F \rightarrow Y$	(HH)	0.231	0.445	0.740	0.044	0.088	0.147				
		(LL)	0.206	0.360	0.581	0.017	0.027	0.044				
F316	$A \rightarrow Y$	(HH)	0.295	0.510	0.813	0.022	0.044	0.074	A	1.0	Y	10
	$B \to Y$	(LL) (HH)	0.192 0.294	0.338 0.524	0.560 0.853	0.009 0.022	0.014 0.044	0.023 0.074	B C	1.0 1.0		
	$B \ \to Y$	(LL)	0.294	0.378	0.624	0.022	0.044	0.074	D	1.0		
	C → Y	(HH)	0.285	0.543	0.906	0.022	0.044	0.023	E	1.0		
		(LL)	0.238	0.427	0.699	0.009	0.014	0.023	F	1.0		
	$D \rightarrow Y$	(HH)	0.303	0.522	0.836	0.022	0.044	0.074				
		(LL)	0.201	0.353	0.584	0.009	0.014	0.023				
	$E \to Y$	(HH)	0.300	0.535	0.876	0.022	0.044	0.074				
		(LL)	0.217	0.386	0.640	0.009	0.014	0.023				
	$F \rightarrow Y$	(HH)	0.294	0.558	0.932	0.022	0.044	0.074				
F336	,	(LL) (HH)	0.244	0.436 0.801	0.722 1.351	0.009	0.014	0.023 0.018	A	1.0	Y	45
F336	$A \rightarrow Y$	(HH) (LL)	0.434	0.801	0.906	0.006	0.011	0.018	В	1.0	Y	45
	$B \to Y$	(HH)	0.437	0.814	1.392	0.003	0.007	0.012	C	1.0		
		(LL)	0.321	0.579	0.968	0.005	0.007	0.012	D	1.0		
	C → Y	(HH)	0.428	0.830	1.439	0.006	0.011	0.018	Е	1.0		
		(LL)	0.344	0.622	1.040	0.005	0.007	0.012	F	1.0		
	$D \ \to Y$	(HH)	0.441	0.818	1.390	0.006	0.011	0.018				
		(LL)	0.307	0.558	0.938	0.005	0.007	0.012				
	$E \to Y$	(HH)	0.442	0.832	1.431	0.006	0.011	0.018				
		(LL)	0.331	0.597	1.002	0.005	0.007	0.012				
	$F \rightarrow Y$	(HH) (LL)	0.435 0.355	0.851 0.643	1.484 1.076	0.006 0.005	0.011 0.007	0.018 0.012				
L316N1	A → Y	(HH)	0.333	0.419	0.655	0.003	0.007	0.012	Α	1.0	Y	5
2010111	/ ~ ·	(LL)	0.157	0.275	0.440	0.016	0.027	0.044	В	1.0		
	$B \rightarrow Y$	(HH)	0.249	0.432	0.693	0.044	0.088	0.147	С	1.0		
		(LL)	0.178	0.312	0.505	0.017	0.027	0.044	D	1.0		
	$C \rightarrow Y$	(HH)	0.240	0.449	0.741	0.044	0.088	0.147	E	1.0		
		(LL)	0.203	0.359	0.578	0.017	0.027	0.044	F	1.0		
	$D \rightarrow Y$	(HH)	0.235	0.411	0.647	0.044	0.088	0.147				
		(LL) (HH)	0.156 0.238	0.274 0.425	0.443 0.687	0.016 0.044	0.026 0.088	0.044 0.147				
	$E \to Y$	(LL)	0.236	0.425	0.507	0.044	0.006	0.147				
	$F \rightarrow Y$	(HL)	0.264	0.479	0.779	0.017	0.027	0.044				
	' - ' '	(LH)	0.320	0.586	0.978	0.044	0.088	0.147				
F316N1	$A \rightarrow Y$	(HH)	0.288	0.486	0.769	0.023	0.046	0.076	Α	1.0	Y	10
		(LL)	0.183	0.325	0.532	0.009	0.015	0.024	В	1.0		
	$B \ \to Y$	(HH)	0.287	0.499	0.810	0.023	0.046	0.076	С	1.0		
		(LL)	0.204	0.361	0.599	0.009	0.015	0.024	D	1.0		
	$C \rightarrow Y$	(HH)	0.276	0.516	0.858	0.023	0.046	0.076	E	1.0		
	F .,	(LL)	0.225	0.406	0.667	0.009	0.015	0.024	F	1.0		
	$D \rightarrow Y$	(HH) (LL)	0.296 0.196	0.523 0.349	0.841 0.575	0.023 0.008	0.046 0.013	0.076 0.022				
		(LL)	U. 196	U.349	0.5/5	U.UU8	0.013	0.022	ı			

			Swite	ching sp	eed							
Block	Path		t I	_D0 (ns))		t 1		l In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$E \to Y$	(HH)	0.294	0.536	0.886	0.023	0.046	0.076				
		(LL)	0.217	0.387	0.642	0.008	0.014	0.022				
	$F \rightarrow Y$	(HL)	0.297	0.549	0.909	0.008	0.014	0.023				
		(LH)	0.368	0.693	1.165	0.023	0.046	0.076				
F336N1	$A \rightarrow Y$	(HH)	0.434	0.801	1.351	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.299	0.543	0.906	0.005	0.007	0.012	В	1.0		
	$B \rightarrow Y$	(HH)	0.437	0.814	1.392	0.006	0.011	0.018	C	1.0		
		(LL)	0.321	0.579	0.968	0.005	0.007	0.012	D	1.0		
	$C \rightarrow Y$	(HH)	0.428	0.830	1.439	0.006	0.011	0.018	E	1.0		
	,	(LL)	0.344	0.622	1.040	0.005	0.007	0.012	F	1.0		
	$D \rightarrow Y$	(HH)	0.441 0.307	0.818 0.557	1.390 0.938	0.006 0.005	0.011 0.007	0.018 0.012				
	- ,	(LL) (HH)	0.307	0.831	1.431	0.005	0.007	0.012				
	E o Y	(HH)	0.442	0.596	1.003	0.005	0.011	0.018				
	$F \rightarrow Y$	(LL) (HL)	0.330	0.596	1.265	0.005	0.007	0.012				
	F → T	(LH)	0.519	0.737	1.703	0.005	0.007	0.012				
L316N2	A → Y	(HH)	0.246	0.419	0.655	0.044	0.088	0.147	А	1.0	Y	5
LOTOINE		(LL)	0.157	0.275	0.440	0.016	0.027	0.044	В	1.0		ľ
	$B \to Y$	(HH)	0.249	0.432	0.693	0.044	0.088	0.147	c	1.0		
		(LL)	0.178	0.312	0.505	0.017	0.027	0.044	D	1.0		
	C → Y	(HH)	0.240	0.449	0.741	0.044	0.088	0.147	E	1.0		
		(LL)	0.203	0.359	0.578	0.017	0.027	0.044	F	1.0		
	$D \rightarrow Y$	(HH)	0.235	0.411	0.645	0.044	0.088	0.147				
		(LL)	0.156	0.274	0.443	0.016	0.026	0.044				
	$E \to Y$	(HL)	0.238	0.428	0.696	0.016	0.026	0.044				
		(LH)	0.303	0.554	0.917	0.044	0.088	0.147				
	$F \rightarrow Y$	(HL)	0.263	0.475	0.774	0.017	0.027	0.044				
		(LH)	0.319	0.586	0.977	0.044	0.088	0.147				
F316N2	$A \rightarrow Y$	(HH)	0.288	0.485	0.769	0.023	0.046	0.076	A	1.0	Y	10
		(LL)	0.183	0.325	0.532	0.009	0.015	0.024	В	1.0		
	B → Y	(HH)	0.287	0.498	0.810	0.023	0.046	0.076	С	1.0		
		(LL)	0.204 0.276	0.361 0.516	0.599 0.858	0.009 0.023	0.015 0.046	0.024 0.076	D E	1.0 1.0		
	$C \rightarrow Y$	(HH) (LL)	0.276	0.406	0.667	0.023	0.046	0.076	E	1.0		
	$D \to Y$	(LL)	0.223	0.524	0.843	0.003	0.013	0.024	'	1.0		
	D → f	(LL)	0.197	0.350	0.578	0.008	0.040	0.022				
	$E \to Y$	(HL)	0.274	0.502	0.832	0.008	0.014	0.022				
	'	(LH)	0.356	0.665	1.113	0.023	0.046	0.076				
	$F \rightarrow Y$	(HL)	0.292	0.543	0.901	0.008	0.014	0.023				
	' ' '	(LH)	0.367	0.690	1.158	0.023	0.046	0.076				
F336N2	$A \ \to Y$	(HH)	0.434	0.801	1.351	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.299	0.543	0.906	0.005	0.007	0.012	В	1.0		
	$B \rightarrow Y$	(HH)	0.437	0.814	1.392	0.006	0.011	0.018	С	1.0		
		(LL)	0.321	0.579	0.968	0.005	0.007	0.012	D	1.0		
	$C \rightarrow Y$	(HH)	0.428	0.830	1.439	0.006	0.011	0.018	E	1.0		
		(LL)	0.344	0.622	1.040	0.005	0.007	0.012	F	1.0		
	$D \rightarrow Y$	(HH)	0.441	0.819	1.390	0.006	0.011	0.018				
		(LL)	0.307	0.558	0.940	0.005	0.007	0.012				
	$E \to Y$	(HL)	0.383	0.706	1.184	0.005	0.007	0.012				
		(LH)	0.501	0.953	1.645	0.006	0.011	0.018				
	$F \rightarrow Y$	(HL)	0.408	0.755	1.267	0.005	0.007	0.012				
		(LH)	0.520	0.990	1.710	0.006	0.011	0.018				

[MEMO]

Function	8-11	IPUT	AND		•					SSI Fa	mily	
Block type	Norma	al	with 1 inv	/erter	with 2 inv	erter	with 3 inv	erter	with 4 inv	/erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power	L318	5	L318N1	6	L318N2	6	L318N3	7				
x1	F318	6	F318N1	7	F318N2	7	F318N3	8				
x2	F338	8	F338N1	9	F338N2	9	F338N3	10				
x4												
x8												
Block type	Norma	al	with 1 inv	erter/	with 2 inv	erter	with 3 inv	erter	with 4 inv	erter		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power												
x1												
x2												
x4												
x8												
A H01 ←	ram ormal type"		A		Diagram or "with 1 inv	Logic Diagr for "with H01 ← H02 ←		erter type"				
B H02		N01 Y	C D E F G	D H04 ← E H05 ← F H06 ← G H07 ← G H07 ←							→ N01	Y
Logic Diagram for "with A H01	h 3 inverter	type"			Diagram ir "with 4 inv	verter f	lype"					

- I			Swite	ching sp	eed				Ι.			
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L318	$A \rightarrow Y$	(HH)	0.252	0.444	0.702	0.044	0.088	0.147	A	1.0	Y	5
	,	(LL)	0.159	0.281	0.451	0.016	0.026	0.044	В	1.0		
	$B \to Y$	(HH) (LL)	0.261 0.182	0.471 0.317	0.772 0.512	0.044 0.016	0.088 0.026	0.147 0.044	C D	1.0 1.0		
	C → Y	(LL) (HH)	0.162	0.517	0.859	0.016	0.026	0.044	E	1.0		
	0 -> 1	(LL)	0.209	0.367	0.590	0.017	0.000	0.044	F	1.0		
	$D \to Y$	(HH)	0.264	0.519	0.880	0.044	0.027	0.147	G	1.0		
		(LL)	0.217	0.385	0.623	0.017	0.027	0.044	Н	1.0		
	E o Y	(HH)	0.261	0.449	0.707	0.044	0.088	0.148				
		(LL)	0.151	0.269	0.428	0.017	0.028	0.046				
	$F \rightarrow Y$	(HH)	0.270	0.477	0.770	0.044	0.088	0.148				
		(LL)	0.175	0.305	0.496	0.018	0.028	0.046				
	$G \rightarrow Y$	(HH)	0.276	0.525	0.864	0.044	0.088	0.148				
		(LL)	0.203	0.359	0.572	0.018	0.028	0.046				
	H → Y	(HH)	0.274	0.528	0.880	0.044	0.088	0.148				
F318		(LL) (HH)	0.210	0.374 0.531	0.601 0.854	0.018	0.028	0.046	A	1.0	Y	10
F318	$A \rightarrow Y$	(HH) (LL)	0.306	0.332	0.854	0.022	0.044	0.074	В	1.0	, r	10
	B → Y	(HH)	0.107	0.552	0.922	0.009	0.014	0.023	C	1.0		
	D → 1	(LL)	0.207	0.368	0.606	0.009	0.014	0.023	D	1.0		
	C → Y	(HH)	0.316	0.604	1.012	0.022	0.044	0.074	E	1.0		
		(LL)	0.232	0.419	0.686	0.009	0.014	0.023	F	1.0		
	$D \rightarrow Y$	(HH)	0.314	0.607	1.028	0.022	0.044	0.074	G	1.0		
		(LL)	0.240	0.432	0.716	0.009	0.014	0.023	н	1.0		
	$E \to Y$	(HH)	0.306	0.531	0.854	0.022	0.044	0.074				
		(LL)	0.187	0.332	0.544	0.009	0.014	0.023				
	$F \rightarrow Y$	(HH)	0.313	0.559	0.922	0.022	0.044	0.074				
		(LL)	0.207	0.368	0.606	0.009	0.014	0.023				
	$G \rightarrow Y$	(HH)	0.316	0.604	1.012	0.022	0.044	0.074				
		(LL)	0.232	0.419	0.686	0.009	0.014	0.023				
	H → Y	(HH) (LL)	0.314 0.240	0.607 0.435	1.029 0.716	0.022 0.009	0.044 0.014	0.074 0.023				
F338	A → Y	(HH)	0.467	0.433	1.457	0.009	0.014	0.023	Α	1.0	Y	45
1 000	,, , , ,	(LL)	0.301	0.550	0.926	0.004	0.007	0.011	В	1.0		
	$B \to Y$	(HH)	0.476	0.888	1.524	0.006	0.011	0.018	С	1.0		
		(LL)	0.323	0.588	0.987	0.004	0.007	0.011	D	1.0		
	$C \rightarrow Y$	(HH)	0.479	0.933	1.615	0.006	0.011	0.018	E	1.0		
		(LL)	0.348	0.636	1.066	0.004	0.007	0.011	F	1.0		
	$D \rightarrow Y$	(HH)	0.477	0.936	1.633	0.006	0.011	0.018	G	1.0		
		(LL)	0.357	0.653	1.094	0.004	0.007	0.011	Н	1.0		
	$E \to Y$	(HH)	0.449	0.837	1.427	0.006	0.011	0.018				
	F → Y	(LL) (HH)	0.304 0.458	0.554 0.866	0.929 1.495	0.004 0.006	0.007 0.011	0.011 0.018				
	$F \rightarrow Y$	(LL)	0.436	0.591	0.991	0.006	0.011	0.018			1	
	$G \rightarrow Y$	(HH)	0.462	0.912	1.585	0.006	0.007	0.011				
		(LL)	0.353	0.641	1.069	0.004	0.007	0.011				
	$H \rightarrow Y$	(HH)	0.460	0.915	1.605	0.006	0.011	0.018				
		(LL)	0.361	0.657	1.099	0.004	0.007	0.011				
L318N1	$A \rightarrow Y$	(HH)	0.252	0.444	0.702	0.044	0.088	0.147	Α	1.0	Y	5
		(LL)	0.159	0.281	0.451	0.016	0.026	0.044	В	1.0	1	
	$B \to Y$	(HH)	0.261	0.471	0.772	0.044	0.088	0.147	С	1.0		
		(LL)	0.182	0.317	0.512	0.016	0.026	0.044	D	1.0	1	
	C → Y	(HH) (LL)	0.265 0.209	0.516	0.859 0.590	0.044 0.017	0.088 0.027	0.147 0.044	E F	1.0		
	$D \to Y$	(LL) (HH)	0.264	0.367 0.519	0.880	0.017	0.027	0.044	G	1.0 1.0		
	۲ → ۲	(LL)	0.204	0.385	0.623	0.044	0.000	0.147	H	1.0	1	
	I	(LL)	0.217	0.000	0.023	0.017	0.021	0.044		1.0		

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1		In	put	Ou	tput
type		TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$E \ \to Y$	(HH)	0.261	0.449	0.707	0.044	0.088	0.148				
l 1		(LL)	0.151	0.268	0.431	0.018	0.028	0.045				
l 1	$F \ \to Y$	(HH)	0.270	0.477	0.770	0.044	0.088	0.148				
l 1	$G \ \to Y$	(LL) (HH)	0.175 0.276	0.305 0.525	0.496 0.864	0.018 0.044	0.028 0.088	0.046 0.148				
l 1	G → Y	(LL)	0.276	0.358	0.572	0.044	0.088	0.146				
l 1	$H \ \to Y$	(HL)	0.262	0.484	0.788	0.018	0.028	0.046				
l 1	11 -> 1	(LH)	0.355	0.656	1.092	0.044	0.088	0.148				
F318N1	A → Y	(HH)	0.306	0.531	0.854	0.022	0.044	0.074	Α	1.0	Y	10
l 1		(LL)	0.187	0.332	0.544	0.009	0.014	0.023	В	1.0		
l 1	$B \ \to Y$	(HH)	0.313	0.559	0.922	0.022	0.044	0.074	С	1.0		
		(LL)	0.207	0.368	0.606	0.009	0.014	0.023	D	1.0		
l 1	$C \ \to \ Y$	(HH)	0.316	0.604	1.012	0.022	0.044	0.074	E	1.0		
l 1		(LL)	0.232	0.419	0.686	0.009	0.014	0.023	F	1.0		
l 1	$D \ \to \ Y$	(HH)	0.314	0.607	1.028	0.022	0.044	0.074	G	1.0		
l 1		(LL)	0.240	0.432	0.716	0.009	0.014	0.023	Н	1.0		
	$E \ \to Y$	(HH) (LL)	0.307 0.188	0.531 0.332	0.854 0.544	0.022	0.044 0.014	0.074 0.023				
l 1	$F \ \to Y$	(HH)	0.100	0.552	0.922	0.009	0.014	0.023				
l 1	F → Y	(LL)	0.207	0.368	0.606	0.022	0.044	0.074				
l 1	$G \ \to Y$	(HH)	0.316	0.604	1.012	0.022	0.044	0.074				
l 1	0 -> 1	(LL)	0.232	0.419	0.686	0.009	0.014	0.023				
l 1	$H \ \to Y$	(HL)	0.286	0.537	0.895	0.009	0.014	0.023				
l 1		(LH)	0.393	0.735	1.235	0.022	0.044	0.074				
F338N1	$A \ \to Y$	(HH)	0.467	0.861	1.457	0.006	0.011	0.018	Α	1.0	Y	45
l 1		(LL)	0.301	0.550	0.926	0.004	0.007	0.011	В	1.0		
	$B \ \to \ Y$	(HH)	0.476	0.888	1.524	0.006	0.011	0.018	С	1.0		
l 1		(LL)	0.323	0.588	0.987	0.004	0.007	0.011	D	1.0		
l 1	$C \ \to \ Y$	(HH)	0.479 0.348	0.933 0.636	1.615 1.066	0.006 0.004	0.011 0.007	0.018 0.011	E F	1.0 1.0		
l 1	$D \ \to Y$	(LL) (HH)	0.346	0.036	1.633	0.004	0.007	0.011	G	1.0		
l 1	D → 1	(LL)	0.357	0.652	1.091	0.004	0.007	0.010	Н	1.0		
l 1	$E \ \to Y$	(HH)	0.449	0.837	1.427	0.006	0.011	0.018		1.0		
l 1		(LL)	0.303	0.554	0.929	0.004	0.007	0.011				
l 1	$F \ \to Y$	(HH)	0.458	0.865	1.499	0.006	0.011	0.018				
l 1		(LL)	0.326	0.591	0.992	0.004	0.007	0.011				
l 1	$G \ \to \ Y$	(HH)	0.462	0.911	1.583	0.006	0.011	0.018				
l 1		(LL)	0.353	0.641	1.069	0.004	0.007	0.011				
l 1	$H \rightarrow Y$	(HL)	0.407	0.760	1.275	0.004	0.007	0.011				
L318N2	A → Y	(LH) (HH)	0.540 0.253	1.041 0.444	1.808 0.702	0.006	0.011	0.018 0.147	A	1.0	Y	5
LOTOINZ	$A \ \to \ Y$	(LL)	0.253	0.444	0.702	0.044	0.006	0.147	В	1.0	1	5
l 1	$B \ \to Y$	(HH)	0.153	0.471	0.772	0.044	0.020	0.147	C	1.0		
	D -> 1	(LL)	0.182	0.317	0.512	0.016	0.026	0.044	D	1.0		
	$C \ \to \ Y$	(HH)	0.265	0.517	0.860	0.044	0.088	0.147	E	1.0		
		(LL)	0.209	0.367	0.590	0.017	0.027	0.044	F	1.0		
	$D \ \to \ Y$	(HH)	0.264	0.519	0.880	0.044	0.088	0.147	G	1.0		
		(LL)	0.217	0.385	0.623	0.017	0.027	0.044	Н	1.0		
	$E \ \to Y$	(HH)	0.264	0.452	0.709	0.044	0.088	0.148				
	.	(LL)	0.152	0.268	0.431	0.017	0.028	0.045				
	$F \rightarrow Y$	(HH)	0.274	0.481 0.306	0.775	0.044	0.088 0.028	0.148 0.046				
	$G \ \to Y$	(LL) (HL)	0.175 0.254	0.306	0.496 0.757	0.018	0.028	0.046				
	G → Y	(LH)	0.254	0.465	1.079	0.018	0.028	0.048				
 	$H \ \to Y$	(HL)	0.267	0.489	0.795	0.018	0.028	0.046				
1	> 1	(LH)	0.365	0.671	1.111	0.044	0.088	0.148				

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F318N2	$A \ \to Y$	(HH)	0.306	0.531	0.854	0.022	0.044	0.074	A	1.0	Y	10
	D V	(LL) (HH)	0.187 0.313	0.332 0.559	0.544 0.922	0.009 0.022	0.014 0.044	0.023 0.074	B C	1.0 1.0		
	B → Y	(HH)	0.207	0.368	0.606	0.022	0.044	0.074	D	1.0		
	$C \rightarrow Y$	(HH)	0.207	0.604	1.012	0.022	0.044	0.023	E	1.0		
	0 7 1	(LL)	0.232	0.419	0.686	0.009	0.014	0.023	F	1.0		
	$D \rightarrow Y$	(HH)	0.314	0.607	1.028	0.022	0.044	0.074	G	1.0		
		(LL)	0.240	0.432	0.716	0.009	0.014	0.023	н	1.0		
	$E \ \to Y$	(HH)	0.306	0.531	0.853	0.022	0.044	0.074				
		(LL)	0.187	0.332	0.543	0.009	0.014	0.023				
	$F \rightarrow Y$	(HH)	0.313	0.559	0.920	0.022	0.044	0.074				
		(LL)	0.207	0.368	0.608	0.009	0.014	0.023				
	$G \ \to Y$	(HL)	0.285	0.526	0.870	0.009	0.014	0.023				
		(LH)	0.390	0.726	1.222	0.022	0.044	0.074				
	H → Y	(HL) (LH)	0.294 0.400	0.546 0.746	0.905 1.252	0.009 0.022	0.014 0.044	0.023 0.074				
F338N2	A → Y	(HH)	0.467	0.740	1.457	0.022	0.044	0.074	A	1.0	Y	45
1 330112	A → I	(LL)	0.301	0.550	0.926	0.004	0.007	0.011	В	1.0	Ι΄.	40
	$B \to Y$	(HH)	0.476	0.888	1.524	0.006	0.011	0.018	c	1.0		
		(LL)	0.323	0.588	0.987	0.004	0.007	0.011	D	1.0		
	$C \rightarrow Y$	(HH)	0.479	0.933	1.615	0.006	0.011	0.018	E	1.0		
		(LL)	0.348	0.636	1.066	0.004	0.007	0.011	F	1.0		
	$D \ \to \ Y$	(HH)	0.477	0.936	1.633	0.006	0.011	0.018	G	1.0		
		(LL)	0.357	0.652	1.091	0.004	0.007	0.011	Н	1.0		
	$E \to Y$	(HH)	0.449	0.838	1.428	0.006	0.011	0.018				
		(LL)	0.303	0.554	0.929	0.004	0.007	0.011				
	$F \rightarrow Y$	(HH) (LL)	0.458 0.326	0.865 0.591	1.498 0.991	0.006 0.004	0.011 0.007	0.018 0.011				
	$G \rightarrow Y$	(LL) (HL)	0.326	0.591	1.253	0.004	0.007	0.011				
	$G \rightarrow Y$	(LH)	0.536	1.032	1.792	0.004	0.007	0.011				
	H → Y	(HL)	0.414	0.767	1.288	0.004	0.007	0.011				
	, .	(LH)	0.547	1.053	1.825	0.006	0.011	0.018				
L318N3	$A \rightarrow Y$	(HH)	0.253	0.444	0.702	0.044	0.088	0.147	Α	1.0	Y	5
		(LL)	0.159	0.281	0.451	0.016	0.026	0.044	В	1.0		
	$B \ \to Y$	(HH)	0.261	0.471	0.772	0.044	0.088	0.147	С	1.0		
		(LL)	0.182	0.317	0.512	0.016	0.026	0.044	D	1.0		
	$C \rightarrow Y$	(HH)	0.265	0.517	0.860	0.044	0.088	0.147	E	1.0		
		(LL) (HH)	0.209 0.264	0.367 0.519	0.590 0.880	0.017 0.044	0.027 0.088	0.044 0.147	F G	1.0 1.0		
	$D \rightarrow Y$	(HH)	0.204	0.385	0.623	0.044	0.088	0.147	H	1.0		
	E o Y	(HH)	0.264	0.452	0.708	0.044	0.027	0.148	''	1.0		
		(LL)	0.153	0.268	0.428	0.017	0.028	0.046				
	F o Y	(HL)	0.228	0.415	0.673	0.018	0.028	0.046				
		(LH)	0.329	0.599	0.986	0.044	0.088	0.148				
	$G \ \to Y$	(HL)	0.257	0.467	0.760	0.018	0.028	0.046				
		(LH)	0.360	0.663	1.093	0.044	0.088	0.148				
	$H \rightarrow Y$	(HL)	0.270	0.494	0.799	0.018	0.028	0.046				
		(LH)	0.369	0.680	1.126	0.044	0.088	0.148	_	4.0	<u> </u>	40
F318N3	$A \rightarrow Y$	(HH)	0.306	0.531	0.854	0.022	0.044	0.074	A	1.0	Y	10
	В	(LL) (HH)	0.187 0.313	0.332 0.559	0.544 0.922	0.009 0.022	0.014 0.044	0.023 0.074	B C	1.0 1.0		
	$B \ \to Y$	(HH) (LL)	0.313	0.559	0.922	0.022	0.044	0.074	D	1.0	1	
	$C \rightarrow Y$	(LL) (HH)	0.207	0.604	1.012	0.009	0.014	0.023	E	1.0		
	U → 1	(LL)	0.232	0.419	0.686	0.009	0.014	0.023	F	1.0		
	$D \rightarrow Y$	(HH)	0.314	0.607	1.028	0.022	0.044	0.074	G	1.0		
	- ′ '	(LL)	0.240	0.432	0.716	0.009	0.014	0.023	Н	1.0	1	
		(/										•

			Swite	ching sp	eed							
Block	Path	1	t ı	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$E \rightarrow Y$	(HH)	0.306	0.530	0.852	0.022	0.044	0.074				
		(LL)	0.187	0.332	0.544	0.009	0.014	0.023				
	$F \rightarrow Y$	(HL)	0.259	0.476	0.788	0.009	0.014	0.023				
		(LH)	0.367	0.678	1.134	0.022	0.044	0.074				
	$G \rightarrow Y$	(HL)	0.288	0.533	0.878	0.009	0.014	0.023				
		(LH)	0.397	0.741	1.244	0.022	0.044	0.074				
	$H \rightarrow Y$	(HL)	0.296	0.549	0.910	0.009	0.014	0.023				
		(LH)	0.402	0.753	1.266	0.022	0.044	0.074				
F338N3	$A \rightarrow Y$	(HH)	0.467	0.861	1.457	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.301	0.550	0.926	0.004	0.007	0.011	В	1.0		
	$B \rightarrow Y$	(HH)	0.476	0.888	1.524	0.006	0.011	0.018	С	1.0		
		(LL)	0.323	0.588	0.987	0.004	0.007	0.011	D	1.0		
	$C \rightarrow Y$	(HH)	0.479	0.933	1.615	0.006	0.011	0.018	E	1.0		
		(LL)	0.348	0.636	1.066	0.004	0.007	0.011	F	1.0		
	$D \rightarrow Y$	(HH)	0.477	0.936	1.633	0.006	0.011	0.018	G	1.0		
		(LL)	0.357	0.652	1.091	0.004	0.007	0.011	Н	1.0		
	$E \rightarrow Y$	(HH)	0.449	0.839	1.424	0.006	0.011	0.018				
		(LL)	0.303	0.554	0.929	0.004	0.007	0.011				
	$F \rightarrow Y$	(HL)	0.379	0.698	1.172	0.004	0.007	0.011				
		(LH)	0.513	0.984	1.710	0.006	0.011	0.018				
	$G \rightarrow Y$	(HL)	0.409	0.756	1.260	0.004	0.007	0.011				
		(LH)	0.543	1.047	1.814	0.006	0.011	0.018				
	$H \rightarrow Y$	(HL)	0.417	0.771	1.291	0.004	0.007	0.011				
		(LH)	0.549	1.059	1.836	0.006	0.011	0.018				

[MEMO]

Function	2-11	NPUT	EXCLUSI	VE OF	₹					SSI Fa	mily		
Block type		Standard type											
Block type	Norma	al	High sp	eed									
Drivability	Name	cells	Name	cells									
Low Power	L511	3											
x1	F511	4											
x2													
x4													

Logic Diagram

Truth Table

Α	В	Y
0	0	0
0	1	1
1	0	1
1	1	0

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L511	$A \rightarrow Y$	(HH)	0.184	0.328	0.537	0.025	0.045	0.073	Α	2.1	Y	11
		(HL)	0.223	0.403	0.654	0.016	0.026	0.044	В	2.1		
		(LH)	0.222	0.396	0.647	0.025	0.045	0.073				
		(LL)	0.261	0.535	0.929	0.017	0.027	0.045				
	$B \ \to Y$	(HH)	0.167	0.292	0.476	0.025	0.045	0.072				
		(HL)	0.214	0.390	0.661	0.016	0.026	0.044				
		(LH)	0.271	0.474	0.766	0.025	0.045	0.073				
		(LL)	0.263	0.490	0.833	0.017	0.027	0.045				
F511	$A \ \to \ Y$	(HH)	0.223	0.391	0.631	0.013	0.023	0.037	Α	2.1	Y	22
		(HL)	0.258	0.469	0.765	0.010	0.016	0.026	В	2.1		
		(LH)	0.253	0.455	0.745	0.013	0.023	0.037				
		(LL)	0.306	0.629	1.106	0.011	0.017	0.027				
	$B \ \to Y$	(HH)	0.192	0.337	0.548	0.013	0.023	0.037				
		(HL)	0.247	0.455	0.773	0.010	0.016	0.026				
		(LH)	0.316	0.545	0.881	0.013	0.023	0.037				
		(LL)	0.307	0.581	1.007	0.011	0.017	0.027				

Function	3-11	NPUT	EXCLUSI	VE OF	₹					SSI Fa	mily		
Block type		Standard type											
Block type	Norma	lormal High speed											
Drivability	Name	cells	Name	cells									
Low Power	L516	6											
x1	F516	8											
x2													
x4													

Logic Diagram

Truth Table

Α	В	С	Υ
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

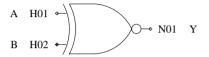
FUNCTION BLOCK

			Swite	ching sp	eed						_	
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow 0$	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L516	$A \rightarrow Y$	(HH)	0.319	0.562	0.939	0.025	0.046	0.074	Α	1.0	Y	10
		(HL)	0.524	1.005	1.877	0.017	0.028	0.046	В	3.1		
		(LH)	0.508	0.929	1.591	0.025	0.046	0.074	С	2.1		
		(LL)	0.395	0.787	1.546	0.017	0.028	0.046				
	$B \rightarrow Y$	(HH)	0.254	0.458	0.752	0.025	0.046	0.074				
		(HL)	0.288	0.582	1.187	0.017	0.028	0.046				
		(LH)	0.297	0.555	0.935	0.025	0.046	0.074				
		(LL)	0.315	0.638	1.228	0.017	0.028	0.046				
	$C \rightarrow Y$	(HH)	0.171	0.300	0.457	0.025	0.046	0.074				
		(HL)	0.220	0.395	0.745	0.016	0.027	0.046				
		(LH)	0.222	0.395	0.630	0.025	0.046	0.074				
		(LL)	0.204	0.368	0.633	0.016	0.027	0.045				
F516	$A \rightarrow Y$	(HH)	0.351	0.660	1.105	0.013	0.023	0.037	Α	1.9	Y	22
		(HL)	0.316	0.611	1.041	0.010	0.016	0.026	В	2.9		
		(LH)	0.330	0.604	1.033	0.013	0.023	0.037	С	1.0		
		(LL)	0.345	0.696	1.248	0.010	0.016	0.026				
	$B \rightarrow Y$	(HH)	0.278	0.508	0.841	0.013	0.023	0.037				
		(HL)	0.255	0.511	0.893	0.010	0.016	0.026				
		(LH)	0.270	0.483	0.790	0.013	0.023	0.037				
		(LL)	0.266	0.548	1.003	0.010	0.016	0.026				
I	$C \rightarrow Y$	(HH)	0.283	0.457	0.728	0.013	0.023	0.037				
I		(HL)	0.300	0.537	0.929	0.009	0.015	0.025				
I		(LH)	0.319	0.553	0.917	0.013	0.023	0.037				
		(LL)	0.312	0.586	1.094	0.010	0.016	0.026				

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Function	2-11	NPUT	EXCLUSI	VE N)R				-	SSI Fa	mily		
Block type		Standard type											
Вюск турс	Norma	lormal High speed											
Drivability	Name	cells	Name	cells									
Low Power	L512	3											
x1	F512	4											
x2													
x4													

Logic Diagram



Truth Table

A	В	ľ
0	0	1
0	1	0
1	0	0
1	1	1

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L512	$A \rightarrow Y$	(HH)	0.185	0.329	0.530	0.024	0.045	0.072	Α	2.1	Υ	11
		(HL)	0.249	0.481	0.815	0.017	0.027	0.045	В	2.1		
		(LH)	0.269	0.489	0.842	0.025	0.045	0.072				
		(LL)	0.262	0.544	0.932	0.017	0.027	0.045				
	$B \ \to Y$	(HH)	0.203	0.329	0.497	0.025	0.045	0.073				
		(HL)	0.312	0.607	1.033	0.017	0.027	0.045				
		(LH)	0.255	0.498	0.876	0.025	0.045	0.073				
		(LL)	0.202	0.414	0.722	0.017	0.027	0.045				
F512	$A \ \to \ Y$	(HH)	0.260	0.413	0.634	0.013	0.023	0.037	Α	2.1	Y	21
		(HL)	0.362	0.724	1.266	0.010	0.016	0.026	В	2.1		
		(LH)	0.311	0.571	0.979	0.013	0.023	0.037				
		(LL)	0.276	0.571	1.006	0.010	0.016	0.026				
	$B \ \to Y$	(HH)	0.240	0.415	0.672	0.013	0.023	0.037				
		(HL)	0.342	0.654	1.124	0.010	0.016	0.026				
		(LH)	0.299	0.579	1.021	0.013	0.023	0.037				
		(LL)	0.323	0.677	1.194	0.010	0.016	0.026				

Function	3-11	NPUT	EXCLUSI	VE NO	OR				SSI Fa	mily	
Block type					S	tanda	rd type				
Вюск турс	Norma	al	High sp	eed							
Drivability	Name	cells	Name	cells							
Low Power	L517	6									
x1	F517	8									
x2											
x4											

Logic Diagram

Truth Table

Α	В	С	Υ
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

FUNCTION BLOCK

			Switc	ching sp	eed							
Block	Path		t١	D0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L517	$A \rightarrow Y$	(HH)	0.319	0.557	0.929	0.025	0.046	0.074	Α	1.0	Y	10
		(HL)	0.525	1.009	1.881	0.017	0.028	0.046	В	3.1		
		(LH)	0.509	0.931	1.596	0.025	0.046	0.074	С	2.1		
		(LL)	0.392	0.786	1.539	0.017	0.028	0.046				
	$B \rightarrow Y$	(HH)	0.253	0.453	0.742	0.025	0.046	0.074				
		(HL)	0.285	0.579	1.185	0.017	0.028	0.046				
		(LH)	0.297	0.553	0.934	0.025	0.046	0.074				
		(LL)	0.313	0.635	1.215	0.017	0.028	0.046				
	$C \rightarrow Y$	(HH)	0.170	0.299	0.455	0.025	0.046	0.074				
		(HL)	0.221	0.394	0.742	0.016	0.027	0.046				
		(LH)	0.223	0.393	0.634	0.025	0.046	0.074				
		(LL)	0.204	0.370	0.637	0.016	0.027	0.045				
F517	$A \rightarrow Y$	(HH)	0.352	0.653	1.094	0.013	0.023	0.037	Α	1.9	Y	22
		(HL)	0.315	0.616	1.050	0.010	0.016	0.026	В	2.9		
		(LH)	0.330	0.602	1.031	0.013	0.023	0.037	С	1.0		
		(LL)	0.345	0.694	1.241	0.010	0.016	0.026				
	$B \rightarrow Y$	(HH)	0.277	0.505	0.836	0.013	0.023	0.037				
		(HL)	0.251	0.515	0.905	0.010	0.016	0.026				
		(LH)	0.269	0.482	0.791	0.013	0.023	0.037				
		(LL)	0.269	0.541	0.990	0.010	0.016	0.026				
1	$C \rightarrow Y$	(HH)	0.282	0.457	0.729	0.013	0.023	0.037				
1		(HL)	0.300	0.536	0.929	0.009	0.015	0.025				
1		(LH)	0.320	0.553	0.916	0.013	0.023	0.037				
		(LL)	0.313	0.586	1.094	0.010	0.016	0.026				

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Function	1-2-	INPU	T AND-OF	R-INV	ERTER			S	SSI Fa	mily		
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with inv	ν. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L421	2	L421NA	2	L421NB	3	L421NC	3	L421ND	2	L421NE	3
x1	F421	3	F421NA	4	F421NB	4	F421NC	5	F421ND	4	F421NE	4
x2	F421NP	5	F421NAP	5	F421NBP	6	F421NCP	6	F421NDP	5	F421NEP	6
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
B H02-A H01-	am) ~	NOI Y A F	H02-L	Q) → N01 Y	C H B H	02+0	am	0→ N	N01 Y
	n inv. C type		C I B I	fo	r "with inv. I	O type	n N01 Y	С Н	for "with			√01 Y
Logic Diagra for "with	am n inv. F type) "	1		Diagram r "with inv. (G type	,	l	ogic Diagra for "with		H type"	
	0.400											

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		l In	put	Ou	tput
type	IN o 0	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L421	$A \ \to \ Y$	(HL)	0.085	0.131	0.178	0.017	0.027	0.045	Α	1.0	Υ	5
		(LH)	0.104	0.242	0.392	0.036	0.092	0.151	В	1.0		
	$B \ \to Y$	(HL)	0.121	0.180	0.260	0.024	0.044	0.076	С	1.0		
		(LH)	0.119	0.239	0.389	0.047	0.092	0.151				
	$C \ \to \ Y$	(HL)	0.103	0.163	0.270	0.024	0.044	0.076				
F404		(LH)	0.144	0.290	0.488	0.046	0.091	0.150		0.0	Υ	12
F421	$A \ \to \ Y$	(HL) (LH)	0.074 0.090	0.116 0.183	0.161 0.283	0.009 0.018	0.014 0.045	0.022 0.075	A B	2.0 2.1	Y	12
	$B \ \to Y$	(LH)	0.103	0.163	0.246	0.018	0.045	0.075	C	2.1		
	$B \ \to Y$	(LH)	0.103	0.102	0.401	0.012	0.022	0.036		2.1		
	$C \rightarrow Y$	(HL)	0.124	0.164	0.401	0.023	0.022	0.073				
	0 -> 1	(LH)	0.123	0.250	0.400	0.023	0.045	0.075				
F421NP	A → Y	(HL)	0.223	0.424	0.675	0.004	0.007	0.011	Α	1.0	Y	45
' '-'''		(LH)	0.255	0.673	1.157	0.006	0.011	0.018	В	1.0		
 	$B \ \to Y$	(HL)	0.310	0.524	0.843	0.004	0.007	0.011	С	1.0		
 		(LH)	0.294	0.587	1.030	0.006	0.011	0.018				
	$C \ \to \ Y$	(HL)	0.288	0.522	0.877	0.004	0.007	0.011				
		(LH)	0.351	0.711	1.238	0.006	0.011	0.018				
L421NA	$A \ \to \ Y$	(HH)	0.138	0.359	0.580	0.034	0.092	0.151	Α	1.0	Y	6
		(LL)	0.144	0.250	0.388	0.017	0.028	0.045	В	1.0		
	$B \ \to Y$	(HL)	0.122	0.175	0.245	0.030	0.051	0.085	С	1.0		
		(LH)	0.097	0.200	0.312	0.044	0.089	0.148				
	$C \ \to \ Y$	(HL)	0.105	0.180	0.282	0.030	0.051	0.085				
		(LH)	0.141	0.290	0.476	0.047	0.092	0.151				
F421NA	$A \ \to \ Y$	(HH)	0.171	0.333	0.520	0.018	0.046	0.076	Α	1.0	Y	12
		(LL)	0.176	0.302	0.487	0.009	0.014	0.024	В	2.0		
	$B \ \to Y$	(HL)	0.103 0.121	0.161 0.246	0.242 0.396	0.012	0.022 0.046	0.039 0.076	С	2.0		
	C V	(LH) (HL)	0.121	0.246	0.396	0.023 0.012	0.046	0.076				
	$C \rightarrow Y$	(LH)	0.101	0.160	0.395	0.012	0.022	0.039				
F421NAP	A → Y	(HH)	0.306	0.784	1.341	0.006	0.040	0.018	Α	1.0	Y	45
1 72 111/71	A -> 1	(LL)	0.290	0.545	0.900	0.004	0.007	0.010	В	1.0	· '	40
	$B \ \to Y$	(HL)	0.312	0.526	0.847	0.004	0.007	0.011	c	1.0		
	2 / .	(LH)	0.293	0.587	1.028	0.006	0.011	0.018	_			
	$C \ \to \ Y$	(HL)	0.293	0.527	0.881	0.004	0.007	0.011				
L		(LH)	0.354	0.713	1.242	0.006	0.011	0.018				
L421NB	$A \rightarrow Y$	(HH)	0.127	0.345	0.565	0.034	0.092	0.151	Α	1.0	Υ	6
I		(LL)	0.139	0.238	0.366	0.016	0.026	0.044	В	1.0		
 	$B \ \to Y$	(HH)	0.163	0.311	0.495	0.044	0.088	0.148	С	1.0		
 		(LL)	0.173	0.289	0.458	0.030	0.051	0.086				
 	$C \ \to \ Y$	(HL)	0.108	0.184	0.292	0.030	0.051	0.085				
		(LH)	0.141	0.287	0.476	0.046	0.092	0.151	⊢. ⊢		L	
F421NB	$A \ \to \ Y$	(HH)	0.173	0.339	0.529	0.018	0.046	0.076	A	1.0	Υ	12
 		(LL)	0.178	0.307	0.494	0.009	0.014	0.023	В	1.0		
	$B \ \to Y$	(HH)	0.229	0.412 0.339	0.646	0.023	0.046 0.022	0.076	С	2.0		
 	C V	(LL)	0.196 0.104	0.339	0.558 0.248	0.012 0.012	0.022	0.039 0.039				
I	$C \rightarrow Y$	(HL) (LH)	0.104	0.164	0.248	0.012	0.022	0.039				
F421NBP	A → Y	(LH)	0.121	0.246	1.348	0.023	0.046	0.078	Α	1.0	Y	45
1-42 INDP	A → Y	(LL)	0.282	0.780	0.876	0.005	0.007	0.018	В	1.0	'	"
I	$B \ \to Y$	(HH)	0.360	0.710	1.225	0.006	0.007	0.012	C	1.0		
 	D -> 1	(LL)	0.365	0.644	1.071	0.005	0.007	0.012				
	$C \rightarrow Y$	(HL)	0.301	0.541	0.904	0.005	0.007	0.012				
	· · ·	(LH)	0.356	0.721	1.260	0.006	0.011	0.018				
		(=: 1)										

Block	Switching speed												
	Path			_D0 (ns)			t 1		In	put	Ou	tput	
type	$IN \rightarrow $	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout	
L421NC	$A \ \to \ Y$	(HH)	0.132	0.349	0.569	0.034	0.092	0.151	Α	1.0	Y	6	
l 1		(LL)	0.139	0.241	0.370	0.017	0.026	0.044	В	1.0			
I	$B \ \to \ Y$	(HH)	0.181	0.332	0.522	0.044	0.089	0.148	С	1.0			
l 1		(LL)	0.178	0.298	0.475	0.030	0.051	0.086					
I	$C \rightarrow Y$	(HH) (LL)	0.202 0.179	0.391 0.305	0.643 0.493	0.046 0.030	0.091 0.051	0.151 0.086					
F421NC	A → Y	(LL)	0.179	0.331	0.493	0.030	0.031	0.086	Α	1.0	Y	12	
1 42 1110	A 7 1	(LL)	0.174	0.300	0.485	0.009	0.014	0.023	В	1.0	·		
l 1	$B \ \to Y$	(HH)	0.232	0.415	0.649	0.023	0.046	0.076	С	1.0			
l 1		(LL)	0.203	0.351	0.575	0.012	0.022	0.039					
l 1	$C \ \to \ Y$	(HH)	0.223	0.405	0.636	0.023	0.046	0.076					
		(LL)	0.197	0.341	0.563	0.012	0.022	0.039					
F421NCP	$A \ \to \ Y$	(HH)	0.307	0.793	1.362	0.006	0.011	0.018	Α	1.0	Y	45	
		(LL)	0.291	0.542	0.899	0.005	0.007	0.012	В	1.0			
	$B \ \to Y$	(HH)	0.361	0.710	1.226	0.006	0.011	0.018	С	1.0			
l 1	$C \rightarrow Y$	(LL) (HH)	0.364 0.435	0.643 0.849	1.069 1.457	0.005 0.006	0.007 0.011	0.012 0.018					
l 1	C → Y	(LL)	0.433	0.664	1.117	0.005	0.007	0.018					
L421ND	A → Y	(HL)	0.077	0.125	0.163	0.018	0.027	0.045	Α	1.0	Y	6	
	7> 1	(LH)	0.086	0.246	0.394	0.034	0.092	0.151	В	1.0		_	
l 1	$B \ \to Y$	(HH)	0.162	0.309	0.490	0.044	0.088	0.148	С	1.0			
l 1		(LL)	0.173	0.290	0.461	0.031	0.051	0.086					
l 1	$C \ \to \ Y$	(HL)	0.109	0.189	0.297	0.030	0.051	0.086					
\vdash		(LH)	0.140	0.290	0.480	0.047	0.092	0.151					
F421ND	$A \ \to \ Y$	(HL)	0.074	0.116	0.158	0.009	0.014	0.023	A	2.0	Y	12	
l 1		(LH)	0.089	0.180	0.280	0.018	0.046	0.076	В	1.0			
l 1	$B \rightarrow Y$	(HH) (LL)	0.222 0.197	0.402 0.342	0.634 0.563	0.023 0.012	0.046 0.022	0.076 0.039	С	2.0			
l 1	$C \ \to Y$	(LL)	0.102	0.162	0.363	0.012	0.022	0.039					
l 1	C → 1	(LH)	0.118	0.239	0.386	0.023	0.046	0.076					
F421NDP	A → Y	(HL)	0.223	0.421	0.672	0.004	0.007	0.011	Α	1.0	Υ	45	
l 1		(LH)	0.256	0.675	1.158	0.006	0.011	0.018	В	1.0			
l 1	$B \ \to \ Y$	(HH)	0.356	0.700	1.209	0.006	0.011	0.018	С	1.0			
l 1		(LL)	0.362	0.641	1.066	0.004	0.007	0.011					
l 1	$C \ \to \ Y$	(HL)	0.297	0.536	0.898	0.004	0.007	0.011					
		(LH)	0.353	0.713	1.243	0.006	0.011	0.018					
L421NE	$A \ \to \ Y$	(HL) (LH)	0.077 0.086	0.125 0.249	0.164 0.395	0.018 0.034	0.027 0.092	0.045 0.152	A B	1.0 1.0	Y	6	
I	$B \ \to Y$	(LH) (HH)	0.086	0.249	0.395	0.034	0.092	0.152	C	1.0			
	D → 1	(LL)	0.174	0.291	0.462	0.031	0.051	0.086		1.0			
I	$C \ \to \ Y$	(HH)	0.222	0.421	0.680	0.047	0.092	0.151					
l 1		(LL)	0.190	0.322	0.526	0.031	0.051	0.086					
F421NE	$A \rightarrow Y$	(HL)	0.074	0.116	0.158	0.009	0.014	0.023	Α	2.0	Y	12	
l 1		(LH)	0.089	0.179	0.279	0.018	0.046	0.076	В	1.0			
I	$B \ \to \ Y$	(HH)	0.222	0.404	0.635	0.023	0.046	0.076	С	1.0			
		(LL)	0.202	0.349	0.576	0.013	0.023	0.039					
	$C \ \to \ Y$	(HH) (LL)	0.218 0.198	0.399 0.340	0.628 0.560	0.023 0.013	0.046 0.023	0.076 0.039					
F421NEP	A → Y	(LL)	0.198	0.340	0.674	0.013	0.023	0.039	A	1.0	Y	45	
1 42 INEF	A → Y	(LH)	0.258	0.423	1.182	0.005	0.007	0.012	В	1.0	'	-₹-0	
I	$B \ \to \ Y$	(HH)	0.361	0.711	1.229	0.006	0.011	0.018	c	1.0			
		(LL)	0.364	0.645	1.073	0.005	0.007	0.012					
	$C \ \to \ Y$	(HH)	0.437	0.854	1.466	0.006	0.011	0.018					
		(LL)	0.381	0.677	1.137	0.005	0.007	0.012					

[MEMO]

Function	1-1-	2-INF	PUT AND-0	OR-IN			s	SI Fa	mily			
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with inv	ν. Ε
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L422	2	L422NA	3	L422NB	3	L422NC	4	L422ND	4	L422NE	3
x1	F422	4	F422NA	5	F422NB	5	F422NC	6	F422ND	6	F422NE	5
x2	F422NP	5	F422NAP	6	F422NBP	6	F422NCP	7	F422NDP	7	F422NEP	6
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power	L422NF	4	L422NG	3	L422NH	3						
x1	F422NF	6	F422NG	5	F422NH	5						
x2	F422NFP	7	F422NGP	6	F422NHP	6						
x4												
x8												
Logic Diagram for "Noi D H04+	am rmal type"	\	D F C F N01 Y B F A F	fo 104	Diagram r "with inv. /	A type	" → N01 Y	D Ho	03-			NO1 Y
Logic Diagrafor "with D H04 C H03+C B H02+ A H01+	am n inv. C type		D F C F	fo 104+0 103+0	Diagram r "with inv. I	O type	" → N01 Y	D H	03+0			NO1 Y
Logic Diagr for "with D H04-C C H03-C B H02- A H01-	am n inv. F type		D F C F N01 Y B F A F	fo 104•————————————————————————————————————	Diagram r "with inv. (G type	" → N01 Y	D H	03+0			N01 Y

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L422	$A \ \to \ Y$	(HL)	0.090	0.133	0.183	0.017	0.027	0.045	A	1.0	Y	3
	$B \ \to Y$	(LH) (HL)	0.129 0.099	0.329 0.150	0.551 0.200	0.055 0.017	0.135 0.027	0.226 0.045	B C	1.0 1.0		
	B → Y	(LH)	0.099	0.130	0.663	0.017	0.027	0.045	D	1.0		
	$C \rightarrow Y$	(HL)	0.126	0.192	0.279	0.024	0.044	0.076		1.0		
	0 / .	(LH)	0.168	0.362	0.610	0.066	0.135	0.226				
	$D \ \to \ Y$	(HL)	0.107	0.175	0.290	0.024	0.044	0.077				
		(LH)	0.203	0.440	0.756	0.066	0.134	0.225				
F422	$A \ \rightarrow \ Y$	(HL)	0.079	0.123	0.171	0.009	0.014	0.022	Α	2.0	Y	6
		(LH)	0.121	0.251	0.409	0.029	0.069	0.115	В	2.0		
	$B \ \to Y$	(HL) (LH)	0.093 0.134	0.145 0.359	0.193 0.602	0.009	0.013 0.069	0.022 0.115	C D	2.1 2.1		
	$C \ \to \ Y$	(HL)	0.134	0.339	0.002	0.029	0.009	0.113		2.1		
	C → 1	(LH)	0.118	0.426	0.709	0.035	0.069	0.115				
	$D \ \to Y$	(HL)	0.114	0.182	0.280	0.012	0.022	0.039				
		(LH)	0.198	0.426	0.709	0.035	0.069	0.115				
F422NP	$A \ \to \ Y$	(HL)	0.229	0.423	0.680	0.004	0.007	0.011	Α	1.0	Y	46
		(LH)	0.351	0.857	1.537	0.006	0.011	0.018	В	1.0		
	$B \ \to \ Y$	(HL)	0.245	0.442	0.705	0.004	0.007	0.011	С	1.0		
	o v	(LH)	0.348	0.910	1.644 0.866	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL) (LH)	0.299 0.410	0.525 0.866	1.548	0.004 0.006	0.007	0.011 0.018				
	$D \ \to Y$	(HL)	0.410	0.513	0.873	0.004	0.007	0.018				
	D - 1	(LH)	0.452	0.964	1.733	0.006	0.011	0.018				
L422NA	A → Y	(HH)	0.166	0.429	0.719	0.056	0.135	0.226	Α	1.0	Υ	3
		(LL)	0.146	0.246	0.388	0.016	0.026	0.044	В	1.0		
	$B \ \to \ Y$	(HL)	0.095	0.148	0.198	0.017	0.027	0.045	С	1.0		
		(LH)	0.123	0.372	0.638	0.055	0.135	0.226	D	1.0		
	$C \rightarrow Y$	(HL) (LH)	0.123 0.161	0.187 0.349	0.274 0.579	0.024 0.066	0.044 0.135	0.076 0.226				
	$D \ \to Y$	(LH)	0.106	0.349	0.579	0.000	0.135	0.226				
	D - 1	(LH)	0.196	0.429	0.727	0.066	0.134	0.225				
F422NA	$A \rightarrow Y$	(HH)	0.198	0.401	0.645	0.030	0.070	0.115	Α	1.0	Υ	6
		(LL)	0.181	0.314	0.505	0.009	0.014	0.023	В	2.0		
	$B \ \to \ Y$	(HL)	0.094	0.144	0.195	0.009	0.014	0.023	С	2.0		
		(LH)	0.132	0.352	0.591	0.030	0.070	0.115	D	2.0		
	$C \rightarrow Y$	(HL) (LH)	0.113 0.199	0.181 0.423	0.276 0.702	0.012 0.035	0.022 0.070	0.039 0.115				
	$D \ \to Y$	(HL)	0.199	0.423	0.702	0.033	0.070	0.039				
	D → I	(LH)	0.199	0.425	0.704	0.035	0.070	0.115				
F422NAP	$A \rightarrow Y$	(HH)	0.395	0.973	1.741	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.291	0.534	0.891	0.005	0.007	0.012	В	1.0		
	$B \ \to \ Y$	(HL)	0.247	0.440	0.702	0.005	0.007	0.012	С	1.0		
		(LH)	0.352	0.921	1.666	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.301	0.528	0.869	0.005	0.007	0.012				
	$D \ \to Y$	(LH) (HL)	0.415 0.284	0.878 0.516	1.574 0.877	0.006 0.005	0.011	0.018 0.012				
	ט → ז	(HL)	0.456	0.516	1.756	0.005	0.007	0.012				
L422NB	A → Y	(HH)	0.171	0.435	0.724	0.056	0.135	0.226	Α	1.0	Y	3
	•	(LL)	0.147	0.248	0.393	0.016	0.026	0.044	В	1.0		
[$B \ \to \ Y$	(HH)	0.199	0.509	0.849	0.056	0.135	0.226	С	1.0		
		(LL)	0.160	0.273	0.431	0.017	0.027	0.045	D	1.0		
	$C \ \to \ Y$	(HL)	0.123	0.186	0.274	0.024	0.044	0.076				
	ь у	(LH)	0.163	0.355	0.584	0.066	0.135	0.226				
	$D \ \to \ Y$	(HL) (LH)	0.106 0.197	0.176 0.430	0.284 0.731	0.024 0.066	0.044 0.134	0.077 0.225				
\Box		(LH)	0.197	0.430	0./31	บ.บชช	0.134	U.ZZ5				

			Swite									
Block	Pa	th	t	LD0 (ns)			t 1		In	put	Ou	tput
type	IN →		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F422NB	$A \ \rightarrow$		0.197	0.400	0.644	0.030	0.070	0.115	A	1.0	Y	6
l 1		(LL) Y (HH)	0.180 0.239	0.309 0.521	0.499 0.842	0.009	0.014 0.070	0.023 0.115	B C	1.0 2.0		
l 1	В →	(LL)	0.239	0.321	0.533	0.009	0.070	0.023	D	2.0		
l 1	$C \rightarrow$		0.113	0.180	0.275	0.012	0.022	0.039		2.0		
l 1	,	(LH)	0.201	0.428	0.708	0.035	0.070	0.115				
l 1	$D \ \rightarrow$		0.114	0.181	0.277	0.012	0.022	0.039				
		(LH)	0.202	0.429	0.711	0.035	0.070	0.115				
F422NBP	$A \ \rightarrow$		0.405	0.984	1.754	0.006	0.011	0.018	Α	1.0	Y	46
l 1		(LL)	0.297	0.541	0.906	0.005	0.007	0.012	В	1.0		
l 1	Β →		0.425	1.051	1.868	0.006	0.011	0.018	С	1.0		
l 1		(LL)	0.303	0.556	0.924	0.005	0.007	0.012	D	1.0		
l	C →	Y (HL) (LH)	0.301 0.416	0.527 0.881	0.869 1.576	0.005 0.006	0.007 0.011	0.012 0.018				
l	$D \;\; o$		0.416	0.515	0.880	0.005	0.011	0.018				
	υ →	(LH)	0.457	0.980	1.759	0.005	0.007	0.012				
L422NC	A →		0.171	0.432	0.723	0.056	0.135	0.226	Α	1.0	Y	3
	/	(LL)	0.147	0.247	0.393	0.016	0.026	0.044	В	1.0		
	$B \ \rightarrow$	i i	0.201	0.509	0.848	0.056	0.135	0.226	С	1.0		
l		(LL)	0.162	0.276	0.437	0.017	0.027	0.045	D	1.0		
l	$C \ \to \ $	Y (HH)	0.254	0.489	0.791	0.066	0.135	0.226				
l		(LL)	0.184	0.317	0.517	0.024	0.044	0.077				
l	$D \ \rightarrow$		0.107	0.179	0.291	0.024	0.044	0.077				
- 100110		(LH)	0.196	0.429	0.729	0.066	0.134	0.225		4.0	Y	
F422NC	$A \ \rightarrow$		0.202 0.186	0.407	0.652 0.515	0.030 0.009	0.070 0.014	0.115 0.024	A	1.0	Y	6
l	B →	(LL) Y (HH)	0.166	0.320 0.526	0.849	0.009	0.014	0.024	B C	1.0 1.0		
l	D →	(LL)	0.195	0.320	0.547	0.009	0.070	0.023	D	2.0		
l	$C \rightarrow$		0.307	0.585	0.948	0.035	0.069	0.115	-	2.0		
l	0 7	(LL)	0.204	0.353	0.589	0.013	0.022	0.039				
l	$D \ \rightarrow$		0.115	0.184	0.281	0.013	0.022	0.039				
		(LH)	0.201	0.428	0.708	0.035	0.070	0.115				
F422NCP	$A \ \rightarrow$		0.406	0.978	1.739	0.006	0.011	0.018	A	1.0	Y	46
l		(LL)	0.299	0.550	0.920	0.004	0.007	0.011	В	1.0		
l	Β →		0.423	1.040	1.848	0.006	0.011	0.018	С	1.0		
l	0	(LL)	0.305	0.555	0.928	0.004	0.007	0.011	D	1.0		
l	C →	Y (HH) (LL)	0.505 0.358	1.010 0.653	1.766 1.106	0.006	0.011 0.007	0.018 0.011				
	$D \;\; o$		0.336	0.518	0.885	0.004	0.007	0.011				
 	υ →	(LH)	0.454	0.969	1.737	0.004	0.007	0.018				
L422ND	A →		0.171	0.431	0.719	0.055	0.134	0.225	Α	1.0	Y	3
 		(LL)	0.147	0.247	0.393	0.016	0.026	0.044	В	1.0		
	$B \ \rightarrow$		0.196	0.505	0.843	0.055	0.134	0.225	С	1.0		
		(LL)	0.161	0.274	0.434	0.017	0.027	0.045	D	1.0		
	$C \ \to \ $		0.255	0.494	0.795	0.066	0.134	0.225				
	_	(LL)	0.183	0.315	0.512	0.024	0.044	0.077				
	D →	Y (HH) (LL)	0.289 0.182	0.563 0.314	0.935 0.521	0.066 0.024	0.134 0.044	0.225 0.077				
F422ND	A →		0.182	0.314	0.521	0.024	0.044	0.077	A	1.0	Y	6
F4ZZIND	A →	Y (HH) (LL)	0.196	0.401	0.544	0.030	0.070	0.023	В	1.0	'	ľ
 	В →		0.101	0.512	0.845	0.030	0.070	0.025	C	1.0		
 	5 -7	(LL)	0.194	0.336	0.543	0.009	0.014	0.023	D	1.0		
	$C \rightarrow$		0.316	0.595	0.958	0.035	0.069	0.115				
 		(LL)	0.211	0.369	0.611	0.013	0.023	0.039				
 	$D \ \rightarrow$	Y (HH)	0.317	0.597	0.962	0.035	0.070	0.115				
		(LL)	0.214	0.372	0.615	0.013	0.023	0.039				

FUNCTION BLOCK

			Swite									
Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F422NDP	$A \ \to \ Y$	(HH)	0.404	0.976	1.736	0.006	0.011	0.018	A	1.0	Y	46
1	$B \ \to Y$	(LL) (HH)	0.298 0.423	0.545 1.042	0.912 1.848	0.004 0.006	0.007 0.011	0.011 0.018	B C	1.0 1.0		
	B → Y	(LL)	0.305	0.556	0.925	0.004	0.007	0.018	D	1.0		
	$C \ \to Y$	(HH)	0.503	1.008	1.763	0.006	0.011	0.011		1.0		
	· , .	(LL)	0.357	0.648	1.103	0.004	0.007	0.011				
1	$D \ \to Y$	(HH)	0.542	1.099	1.940	0.006	0.011	0.018				
		(LL)	0.358	0.651	1.109	0.004	0.007	0.011				
L422NE	$A \ \to \ Y$	(HH)	0.170	0.430	0.717	0.056	0.135	0.226	A	1.0	Y	3
		(LL)	0.147	0.247	0.393	0.016	0.026	0.044	В	1.0		
1	$B \ \to Y$	(HL)	0.095	0.147	0.197	0.017	0.027	0.045 0.226	C	1.0		
	O V	(LH) (HH)	0.123 0.252	0.369 0.488	0.636 0.785	0.055 0.066	0.135 0.135	0.226	D	1.0		
	$C \ \to \ Y$	(LL)	0.232	0.312	0.783	0.000	0.133	0.220				
1	$D \ \to Y$	(HL)	0.107	0.179	0.292	0.024	0.044	0.077				
	2 / !	(LH)	0.195	0.428	0.725	0.066	0.134	0.225				
F422NE	$A \ \to Y$	(HH)	0.198	0.401	0.645	0.030	0.070	0.115	Α	1.0	Υ	6
		(LL)	0.181	0.312	0.504	0.009	0.014	0.023	В	2.0		
	$B \ \to \ Y$	(HL)	0.095	0.144	0.195	0.009	0.014	0.023	С	1.0		
		(LH)	0.131	0.352	0.591	0.030	0.070	0.115	D	2.0		
	$C \ \to \ Y$	(HH)	0.315	0.592	0.955	0.035	0.069	0.115				
	D 1/	(LL) (HL)	0.210 0.115	0.365 0.184	0.606 0.282	0.013 0.013	0.022 0.022	0.039 0.039				
	$D \ \to \ Y$	(HL)	0.115	0.164	0.702	0.013	0.022	0.039				
F422NEP	A → Y	(HH)	0.400	0.975	1.744	0.006	0.011	0.018	A	1.0	Y	46
1 4221121	<i>n</i> -> 1	(LL)	0.291	0.537	0.891	0.005	0.007	0.012	В	1.0		
	$B \ \to Y$	(HL)	0.247	0.440	0.703	0.005	0.007	0.012	С	1.0		
		(LH)	0.352	0.919	1.667	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HH)	0.507	1.017	1.782	0.006	0.011	0.018				
		(LL)	0.356	0.652	1.103	0.005	0.007	0.012				
	$D \ \to \ Y$	(HL)	0.283	0.520	0.887	0.005	0.007	0.012				
L422NF	A → Y	(LH) (HH)	0.455 0.171	0.976 0.431	1.755 0.718	0.006 0.056	0.011 0.135	0.018 0.226	A	1.0	Y	3
L422INF	A → Y	(LL)	0.171	0.431	0.718	0.036	0.026	0.226	В	1.0	'	3
	$B \ \to Y$	(HL)	0.095	0.147	0.197	0.017	0.027	0.045	c	1.0		
	<i>5</i> / .	(LH)	0.123	0.369	0.635	0.055	0.135	0.226	D	1.0		
	$C \ \to \ Y$	(HH)	0.254	0.489	0.788	0.066	0.135	0.226				
		(LL)	0.183	0.314	0.512	0.024	0.044	0.077				
1	$D \ \to \ Y$	(HH)	0.287	0.561	0.931	0.066	0.134	0.225				
FACONE	A 32	(LL)	0.184	0.319	0.530	0.024	0.044	0.077	_	4.0	Y	
F422NF	$A \ \to \ Y$	(HH) (LL)	0.198 0.181	0.400 0.312	0.643 0.505	0.030	0.070 0.014	0.115 0.023	A B	1.0 2.0		6
1	$B \ \to Y$	(LL) (HL)	0.181	0.312	0.505	0.009	0.014	0.023	C	1.0	1	
	D -> 1	(LH)	0.131	0.352	0.591	0.030	0.070	0.115	D	1.0		
	$C \ \to \ Y$	(HH)	0.313	0.592	0.955	0.035	0.069	0.115				
1		(LL)	0.212	0.371	0.617	0.013	0.023	0.039				
1	$D \ \to \ Y$	(HH)	0.315	0.593	0.955	0.035	0.070	0.115			1	
		(LL)	0.212	0.368	0.613	0.013	0.022	0.039				
F422NFP	$A \ \to \ Y$	(HH)	0.400	0.971	1.732	0.006	0.011	0.018	A	1.0	Y	46
	ь у	(LL)	0.298	0.547	0.916	0.004	0.007	0.011	В	1.0		
	$B \ \to Y$	(HL) (LH)	0.245 0.349	0.441 0.911	0.703 1.649	0.004 0.006	0.007 0.011	0.011 0.018	C	1.0 1.0		
	$C \ \to Y$	(LH)	0.349	0.996	1.750	0.006	0.011	0.018		1.0	1	
	5 - 1	(LL)	0.349	0.638	1.081	0.004	0.007	0.010			1	
	$D \ \to Y$	(HH)	0.541	1.097	1.937	0.006	0.011	0.018				
		(LL)	0.356	0.650	1.110	0.004	0.007	0.011				

Divid			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		In	put	Ou	tput
type	$IN \rightarrow $	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L422NG	$A \rightarrow Y$	(HL)	0.083	0.130	0.177	0.017	0.026	0.043	Α	1.0	Y	3
		(LH)	0.123	0.312	0.521	0.055	0.135	0.226	В	1.0		
	$B \ \to Y$	(HL)	0.095	0.147	0.197	0.017	0.027	0.045	С	1.0		
		(LH)	0.121	0.368	0.633	0.055	0.135	0.226	D	1.0		
	$C \rightarrow Y$	(HH)	0.241	0.475	0.770	0.066	0.135	0.226				
		(LL)	0.174	0.299	0.488	0.024	0.044	0.077				
	$D \rightarrow Y$	(HL)	0.107	0.179	0.292	0.024	0.044	0.076				
		(LH)	0.194	0.423	0.723	0.066	0.134	0.225				
F422NG	$A \rightarrow Y$	(HL)	0.079	0.124	0.170	0.009	0.014	0.023	A	2.0	Y	6
		(LH)	0.118	0.243	0.397	0.030	0.070	0.115	В	2.0		
	$B \ \to Y$	(HL)	0.095	0.143	0.194	0.009	0.014	0.023	C	1.0		
		(LH) (HH)	0.130 0.301	0.348 0.576	0.586 0.935	0.030 0.035	0.070 0.069	0.115 0.115	"	2.0		
	$C \rightarrow Y$	(HH) (LL)	0.301	0.353	0.935	0.035	0.069	0.115				
	$D \ \to Y$	(LL) (HL)	0.204	0.353	0.587	0.013	0.022	0.039				
	ו → ז	(HL)	0.115	0.163	0.282	0.013	0.022	0.039				
F422NGP	A → Y	(LII)	0.196	0.418	0.696	0.005	0.070	0.115	Α	1.0	Y	45
1 4221101	Α - 1	(LH)	0.357	0.868	1.565	0.006	0.011	0.018	В	1.0	·	
	$B \to Y$	(HL)	0.248	0.442	0.703	0.005	0.007	0.012	c	1.0		
	D → 1	(LH)	0.353	0.923	1.674	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HH)	0.498	1.009	1.775	0.006	0.011	0.018				
		(LL)	0.351	0.641	1.087	0.005	0.007	0.012				
	D o Y	(HL)	0.285	0.521	0.893	0.005	0.007	0.012				
		(LH)	0.457	0.979	1.762	0.006	0.011	0.018				
L422NH	A → Y	(HL)	0.083	0.130	0.177	0.017	0.026	0.043	Α	1.0	Y	3
		(LH)	0.124	0.312	0.521	0.055	0.135	0.226	В	1.0		
	$B \ \to Y$	(HL)	0.095	0.147	0.197	0.017	0.027	0.045	С	1.0		
		(LH)	0.121	0.368	0.633	0.055	0.135	0.226	D	1.0		
	$C \rightarrow Y$	(HH)	0.245	0.479	0.775	0.066	0.135	0.226				
		(LL)	0.177	0.301	0.493	0.024	0.044	0.077				
	$D \ \to Y$	(HH)	0.281	0.553	0.921	0.066	0.134	0.225				
		(LL)	0.182	0.313	0.513	0.024	0.044	0.077			L	
F422NH	$A \rightarrow Y$	(HL)	0.079	0.123	0.170	0.009	0.014	0.023	A	2.0	Y	6
	_	(LH)	0.119	0.242	0.395	0.029	0.070	0.115	В	2.0		
	$B \to Y$	(HL)	0.095	0.142	0.194	0.009	0.014	0.023	С	1.0		
		(LH)	0.130	0.347	0.584	0.030	0.070	0.115	D	1.0		
	$C \rightarrow Y$	(HH)	0.305	0.580	0.939	0.035	0.069	0.115 0.039				
		(LL) (HH)	0.207 0.309	0.358 0.586	0.595 0.947	0.013 0.035	0.023 0.070	0.039				
	$D \rightarrow Y$	(HH) (LL)	0.309	0.369	0.947	0.035	0.070	0.115				
F422NHP	A → Y	(LL)	0.212	0.369	0.612	0.005	0.023	0.039	Α	1.0	Y	46
1 422111715	A → 1	(LH)	0.251	0.422	1.565	0.005	0.007	0.012	В	1.0	'	70
	$B \to Y$	(HL)	0.248	0.442	0.705	0.005	0.007	0.010	C	1.0		
		(LH)	0.353	0.923	1.674	0.006	0.007	0.012	D	1.0		
	C → Y	(HH)	0.502	1.013	1.780	0.006	0.011	0.018				
		(LL)	0.352	0.643	1.090	0.005	0.007	0.012				
	D o Y	(HH)	0.543	1.108	1.962	0.006	0.011	0.018				
		(LL)	0.358	0.654	1.113	0.005	0.007	0.012				
		· -/										

[MEMO]

Function	1-3-	INPU	T AND-O	R-INV	ERTER				S	SI Fa	mily	
Block type	Norma	al	with in	/. A	with inv	. B	with inv	. C	with inv	. D	with inv	и. Е
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L423	2	L423NA	3	L423NB	3	L423NC	4	L423ND	4	L423NE	3
x1	F423	4	F423NA	5	F423NB	5	F423NC	6	F423ND	6	F423NE	5
x2	F423NP	5	F423NAP	6	F423NBP	6	F423NCP	7	F423NDP	7	F423NEP	6
x4												
x8												
Block type	with inv	. F	with in	/. G	with inv	. Н						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power	L423NF	3	L423NG	4								
x1	F423NF	5	F423NG	6								
x2	F423NFP	6	F423NGP	7								
x4												
x8												
D H04 C H03 B H02 A H01 Logic Diagra	mal type"		NO1 Y A	fo H04+H03+H02+H02+H01+	Diagram r "with inv. /) → N01 Y	D H C H B H A H	ogic Diagra	n inv. E	0 + N	√01 Y
A H01	am n inv. F type	e"	NOI Y A D C B NOI Y	H01•——	Diagram r "with inv.	G type	0→ N01 Y	A H				NO1 Y

		Switching speed Path t LD0 (ns) t 1										
Block	Path		tı	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L423	$A \rightarrow Y$	(HL)	0.086	0.135	0.184	0.017	0.027	0.044	Α	1.0	Y	5
		(LH)	0.095	0.332	0.553	0.031	0.091	0.150	В	1.0		
	$B \rightarrow Y$	(HL)	0.154	0.231	0.351	0.038	0.068	0.117	С	1.0		
		(LH)	0.125	0.252	0.409	0.046	0.091	0.151	D	1.0		
	$C \rightarrow Y$	(HL)	0.154	0.244	0.395	0.038	0.068	0.117				
		(LH)	0.155	0.309	0.516	0.046	0.091	0.150				
	$D \rightarrow Y$	(HL)	0.151	0.268	0.456	0.038	0.068	0.117				
		(LH)	0.192	0.393	0.667	0.043	0.088	0.147		0.0		40
F423	$A \rightarrow Y$	(HL)	0.086	0.134	0.180	0.009	0.014	0.023	A	2.0	Y	12
	5 7	(LH) (HL)	0.097 0.157	0.256 0.259	0.408 0.405	0.016 0.020	0.046 0.035	0.076 0.060	B C	2.1 2.1		
	B → Y	(HL)	0.157	0.239	0.405	0.020	0.035	0.060	D	2.1		
	C → Y	(HL)	0.160	0.254	0.399	0.020	0.035	0.060		2.1		
	0 → 1	(LH)	0.160	0.322	0.523	0.023	0.046	0.076				
	D o Y	(HL)	0.156	0.259	0.405	0.020	0.035	0.060				
		(LH)	0.165	0.332	0.541	0.023	0.046	0.076				
F423NP	A → Y	(HL)	0.224	0.432	0.684	0.004	0.007	0.011	Α	1.0	Y	45
		(LH)	0.245	0.745	1.278	0.006	0.011	0.018	В	1.0		
	$B \to Y$	(HL)	0.347	0.598	0.978	0.004	0.007	0.011	С	1.0		
		(LH)	0.296	0.591	1.036	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.342	0.627	1.056	0.004	0.007	0.011				
		(LH)	0.356	0.720	1.256	0.006	0.011	0.018				
	$D \ \to Y$	(HL)	0.334	0.628	1.072	0.004	0.007	0.011				
		(LH)	0.381	0.780	1.356	0.006	0.011	0.018				
L423NA	$A \rightarrow Y$	(HH)	0.125	0.397	0.660	0.031	0.092	0.151	A	1.0	Y	6
		(LL)	0.139	0.240	0.367	0.016	0.026	0.044	В	1.0		
	$B \to Y$	(HL)	0.131	0.195	0.281	0.037	0.066	0.114	С	1.0		
	, v	(LH) (HL)	0.100 0.131	0.205 0.228	0.327 0.363	0.044 0.037	0.089 0.066	0.148 0.114	D	1.0		
	C → Y	(HL)	0.131	0.226	0.363	0.037	0.000	0.114				
	$D \to Y$	(LII) (HL)	0.143	0.230	0.490	0.046	0.092	0.131				
	D - 1	(LH)	0.164	0.343	0.573	0.046	0.091	0.150				
F423NA	$A \rightarrow Y$	(HH)	0.162	0.384	0.608	0.016	0.046	0.076	Α	1.0	Υ	12
		(LL)	0.173	0.305	0.481	0.009	0.014	0.024	В	2.0		
	$B \to Y$	(HL)	0.143	0.231	0.354	0.020	0.035	0.060	С	2.1		
		(LH)	0.145	0.297	0.476	0.023	0.046	0.076	D	2.1		
	$C \rightarrow Y$	(HL)	0.143	0.244	0.383	0.020	0.035	0.060				
		(LH)	0.157	0.319	0.519	0.023	0.046	0.076				
	$D \rightarrow Y$	(HL)	0.143	0.230	0.351	0.020	0.035	0.060				
F466111		(LH)	0.144	0.296	0.475	0.023	0.046	0.076		4.5	\ , ·	
F423NAP	$A \rightarrow Y$	(HH)	0.289	0.847	1.461	0.006	0.011	0.018	A	1.0	Υ	45
	ь ./	(LL) (HL)	0.281 0.351	0.535 0.601	0.890 0.985	0.005 0.005	0.007 0.007	0.012 0.012	B C	1.0 1.0		
	B → Y	(HL) (LH)	0.351	0.601	1.053	0.005	0.007	0.012	D	1.0		
	C → Y	(HL)	0.233	0.631	1.065	0.005	0.007	0.010		1.0		
	0 → 1	(LH)	0.360	0.729	1.274	0.006	0.007	0.012				
	D o Y	(HL)	0.338	0.633	1.080	0.005	0.007	0.012				
		(LH)	0.383	0.788	1.374	0.006	0.011	0.018				
L423NB	$A \rightarrow Y$	(HH)	0.130	0.400	0.663	0.031	0.092	0.151	Α	1.0	Y	6
		(LL)	0.139	0.243	0.372	0.017	0.026	0.044	В	1.0		
	$B \ \to Y$	(HH)	0.182	0.335	0.525	0.044	0.089	0.148	С	1.0		
		(LL)	0.187	0.317	0.511	0.037	0.067	0.115	D	1.0		
	$C \rightarrow Y$	(HL)	0.132	0.232	0.372	0.037	0.066	0.115				
		(LH)	0.143	0.296	0.489	0.047	0.092	0.151				
	$D \rightarrow Y$	(HL)	0.125	0.235	0.389	0.037	0.066	0.115				
		(LH)	0.164	0.342	0.573	0.046	0.091	0.150				

FUNCTION BLOCK FUNCTION BLOCK

Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F423NB	$A \ \to \ Y$	(HH)	0.165	0.387	0.612	0.016	0.046	0.076	A	1.0	Y	12
	$B \ \to Y$	(LL) (HH)	0.177 0.253	0.310 0.459	0.497 0.723	0.009	0.014 0.046	0.023 0.076	B C	1.0 2.1		
	$D \to I$	(LL)	0.239	0.406	0.664	0.020	0.035	0.060	D	2.1		
	$C \rightarrow Y$	(HL)	0.144	0.246	0.389	0.020	0.035	0.060		2.1		
	0 / .	(LH)	0.157	0.317	0.518	0.023	0.046	0.076				
	$D \ \to \ Y$	(HL)	0.145	0.232	0.357	0.020	0.035	0.060				
		(LH)	0.143	0.295	0.474	0.023	0.046	0.076				
F423NBP	$A \ \to \ Y$	(HH)	0.294	0.851	1.468	0.006	0.011	0.018	A	1.0	Y	45
		(LL)	0.282	0.538	0.888	0.005	0.007	0.012	В	1.0		
	$B \ \to Y$	(HH)	0.379	0.734	1.255	0.006	0.011 0.007	0.018 0.012	C	1.0		
	6 V	(LL) (HL)	0.400 0.346	0.724 0.635	1.215 1.073	0.005 0.005	0.007	0.012	"	1.0		
	$C \rightarrow Y$	(LH)	0.359	0.033	1.073	0.005	0.007	0.012				
	$D \ \to Y$	(HL)	0.340	0.638	1.092	0.005	0.007	0.012				
	2 / 1	(LH)	0.383	0.788	1.377	0.006	0.011	0.018				
L423NC	$A \rightarrow Y$	(HH)	0.130	0.399	0.662	0.031	0.092	0.151	Α	1.0	Υ	6
		(LL)	0.139	0.243	0.373	0.016	0.026	0.044	В	1.0		
	$B \ \to \ Y$	(HH)	0.184	0.337	0.528	0.044	0.089	0.148	С	1.0		
		(LL)	0.188	0.319	0.512	0.037	0.067	0.115	D	1.0		
	$C \ \to \ Y$	(HH)	0.228	0.428	0.691	0.046	0.092	0.151				
		(LL)	0.207	0.363	0.600	0.037	0.067	0.115				
	$D \ \to Y$	(HL)	0.126 0.163	0.236 0.341	0.391 0.571	0.037 0.046	0.066 0.091	0.115 0.150				
F423NC	A → Y	(LH) (HH)	0.165	0.341	0.613	0.046	0.091	0.130	A	1.0	Y	12
1 423110	A → I	(LL)	0.177	0.310	0.498	0.009	0.014	0.023	В	1.0	l '	
	$B \ \to Y$	(HH)	0.252	0.457	0.720	0.023	0.046	0.076	c	1.0		
		(LL)	0.240	0.407	0.667	0.020	0.035	0.060	D	2.1		
	$C \ \to \ Y$	(HH)	0.265	0.488	0.773	0.023	0.046	0.076				
		(LL)	0.249	0.431	0.713	0.020	0.035	0.060				
	$D \ \to \ Y$	(HL)	0.144	0.233	0.359	0.020	0.035	0.060				
		(LH)	0.143	0.294	0.473	0.023	0.046	0.076				
F423NCP	$A \ \to \ Y$	(HH)	0.295	0.847	1.457	0.006 0.004	0.011	0.018	A B	1.0	Y	45
	$B \ \to Y$	(LL) (HH)	0.288 0.378	0.548 0.729	0.907 1.245	0.004	0.007 0.011	0.011 0.018	C	1.0 1.0		
	$B \ \to Y$	(LL)	0.378	0.729	1.243	0.004	0.007	0.018	D	1.0		
	$C \rightarrow Y$	(HH)	0.440	0.857	1.463	0.006	0.007	0.011		1.0		
		(LL)	0.419	0.766	1.294	0.004	0.007	0.011				
	$D \ \to Y$	(HL)	0.336	0.636	1.088	0.004	0.007	0.011				
		(LH)	0.381	0.783	1.360	0.006	0.011	0.018				
L423ND	$A \ \to \ Y$	(HH)	0.133	0.406	0.673	0.031	0.092	0.151	A	1.0	Y	6
		(LL)	0.143	0.249	0.385	0.017	0.028	0.046	В	1.0		
	$B \ \to Y$	(HH) (LL)	0.185 0.188	0.339 0.321	0.532 0.516	0.044 0.037	0.089 0.067	0.148 0.115	C	1.0 1.0		
	$C \ \to Y$	(HH)	0.100	0.321	0.695	0.037	0.067	0.115	"	1.0		
	U → 1	(LL)	0.210	0.367	0.600	0.037	0.067	0.115				
	$D \ \to Y$	(HH)	0.245	0.470	0.773	0.046	0.091	0.150				
		(LL)	0.215	0.375	0.617	0.037	0.066	0.114				
F423ND	$A \ \to \ Y$	(HH)	0.164	0.386	0.612	0.016	0.046	0.076	Α	1.0	Y	12
		(LL)	0.177	0.310	0.497	0.009	0.014	0.023	В	1.0		
	$B \ \to \ Y$	(HH)	0.250	0.458	0.724	0.023	0.046	0.076	С	1.0		
		(LL)	0.244	0.420	0.684	0.020	0.035	0.060	D	1.0		
	$C \ \to \ Y$	(HH)	0.264 0.250	0.485 0.435	0.770 0.715	0.023 0.020	0.046 0.035	0.076 0.060				
	D . V	(LL) (HH)	0.250	0.435	0.715	0.020	0.035	0.060				
	$D \ \to \ Y$	(HH) (LL)	0.253	0.459	0.724	0.023	0.046	0.076				
		(LL)	0.243	0.414	0.011	0.020	0.033	0.000				

					_							
Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F423NDP	$A \ \to \ Y$	(HH)	0.295	0.847	1.457	0.006	0.011	0.018	A	1.0	Y	45
	$B \ \to Y$	(LL) (HH)	0.288 0.378	0.549 0.727	0.905 1.244	0.004 0.006	0.007 0.011	0.011 0.018	B C	1.0 1.0		
	D → f	(LL)	0.370	0.721	1.208	0.004	0.007	0.010	D	1.0		
	C → Y	(HH)	0.439	0.855	1.460	0.006	0.011	0.018	_			
		(LL)	0.418	0.763	1.289	0.004	0.007	0.011				
	$D \ \to \ Y$	(HH)	0.462	0.909	1.556	0.006	0.011	0.018				
		(LL)	0.424	0.773	1.312	0.004	0.007	0.011				
L423NE	$A \rightarrow Y$	(HL)	0.078	0.126	0.162	0.018	0.028	0.045	A	1.0	Υ	6
	$B \ \to Y$	(LH) (HH)	0.082 0.170	0.294 0.321	0.486 0.505	0.031 0.044	0.092 0.089	0.151 0.148	B C	1.0 1.0		
	B → I	(LL)	0.170	0.311	0.500	0.037	0.066	0.115	D	1.0		
	$C \rightarrow Y$	(HL)	0.133	0.236	0.378	0.037	0.066	0.115	_			
		(LH)	0.146	0.300	0.489	0.046	0.092	0.151				
	$D \ \to Y$	(HL)	0.127	0.238	0.394	0.037	0.066	0.115				
		(LH)	0.165	0.341	0.576	0.046	0.091	0.150				
F423NE	$A \ \to \ Y$	(HL)	0.069	0.114	0.152	0.009	0.014	0.023	A	2.0	Υ	12
		(LH)	0.078	0.226 0.444	0.363 0.705	0.016	0.046 0.046	0.076	В	1.0		
	$B \ \to Y$	(HH) (LL)	0.239 0.237	0.444	0.705	0.023 0.020	0.046	0.076 0.060	C	2.1 2.1		
	$C \rightarrow Y$	(HL)	0.237	0.403	0.387	0.020	0.035	0.060	"	2.1		
	0 7 1	(LH)	0.153	0.312	0.511	0.023	0.046	0.076				
	$D \rightarrow Y$	(HL)	0.145	0.231	0.355	0.020	0.035	0.060				
		(LH)	0.141	0.290	0.467	0.023	0.046	0.076				
F423NEP	$A \ \to \ Y$	(HL)	0.227	0.433	0.682	0.005	0.007	0.012	Α	1.0	Υ	45
		(LH)	0.247	0.754	1.302	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HH)	0.377	0.734	1.259	0.006	0.011	0.018	С	1.0		
		(LL)	0.405	0.729	1.225	0.005	0.007	0.012	D	1.0		
	$C \rightarrow Y$	(HL) (LH)	0.348 0.360	0.639 0.731	1.078 1.281	0.005 0.006	0.007 0.011	0.012 0.018				
	$D \rightarrow Y$	(HL)	0.341	0.641	1.096	0.005	0.007	0.012				
	D -> 1	(LH)	0.384	0.790	1.380	0.006	0.011	0.018				
L423NF	$A \rightarrow Y$	(HL)	0.078	0.126	0.163	0.018	0.028	0.045	Α	1.0	Υ	6
		(LH)	0.083	0.293	0.485	0.031	0.092	0.151	В	1.0		
	$B \ \to Y$	(HH)	0.174	0.328	0.512	0.044	0.089	0.148	С	1.0		
		(LL)	0.184	0.312	0.502	0.037	0.066	0.115	D	1.0		
	$C \rightarrow Y$	(HH) (LL)	0.226 0.209	0.425 0.365	0.687	0.046 0.037	0.092 0.066	0.151				
	$D \ \to Y$	(LL) (HL)	0.209	0.365	0.596 0.398	0.037	0.066	0.115 0.115				
	J → T	(LH)	0.120	0.233	0.573	0.037	0.000	0.110				
F423NF	$A \rightarrow Y$	(HL)	0.069	0.114	0.151	0.009	0.014	0.023	Α	2.0	Y	12
		(LH)	0.077	0.226	0.364	0.016	0.046	0.076	В	1.0		
	$B \ \to Y$	(HH)	0.244	0.447	0.710	0.023	0.046	0.076	С	1.0		
		(LL)	0.239	0.407	0.667	0.020	0.035	0.060	D	2.1		
	$C \rightarrow Y$	(HH)	0.259	0.478	0.762	0.023	0.046	0.076				
	$D \ \to Y$	(LL) (HL)	0.247 0.145	0.429 0.232	0.704 0.357	0.020 0.020	0.035 0.035	0.060				
	ו → ל	(HL)	0.145	0.232	0.357	0.020	0.035	0.060				
F423NFP	A → Y	(HL)	0.228	0.435	0.687	0.005	0.007	0.012	Α	1.0	Υ	45
		(LH)	0.249	0.759	1.312	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HH)	0.376	0.734	1.262	0.006	0.011	0.018	С	1.0		
		(LL)	0.401	0.723	1.215	0.005	0.007	0.012	D	1.0		
	$C \rightarrow Y$	(HH)	0.443	0.868	1.490	0.006	0.011	0.018				
		(LL)	0.425	0.776	1.309	0.005	0.007	0.012				
	$D \ \to Y$	(HL)	0.345	0.648	1.110	0.005	0.007	0.012				
		(LH)	0.386	0.793	1.393	0.006	0.011	0.018				

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			Swite	ching sp	eed							
Block	Path		t ı	D0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L423NG	$A \rightarrow Y$	(HL)	0.077	0.125	0.162	0.018	0.028	0.045	Α	1.0	Y	6
		(LH)	0.081	0.291	0.485	0.031	0.092	0.151	В	1.0		
	$B \ \to Y$	(HH)	0.174	0.329	0.519	0.044	0.089	0.148	С	1.0		
		(LL)	0.184	0.313	0.502	0.037	0.066	0.115	D	1.0		
	$C \rightarrow Y$	(HH)	0.226	0.426	0.690	0.046	0.092	0.151				
		(LL)	0.211	0.367	0.603	0.037	0.066	0.115				
	$D \ \to Y$	(HH)	0.245	0.468	0.771	0.046	0.091	0.150				
		(LL)	0.216	0.377	0.623	0.037	0.067	0.115				
F423NG	$A \rightarrow Y$	(HL)	0.069	0.113	0.151	0.009	0.014	0.023	Α	2.0	Y	12
		(LH)	0.078	0.225	0.363	0.016	0.046	0.076	В	1.0		
	$B \ \to Y$	(HH)	0.248	0.453	0.719	0.023	0.046	0.076	С	1.0		
		(LL)	0.245	0.422	0.688	0.020	0.035	0.060	D	1.0		
	$C \rightarrow Y$	(HH)	0.260	0.478	0.762	0.023	0.046	0.076				
		(LL)	0.249	0.433	0.710	0.020	0.035	0.060				
	$D \ \to Y$	(HH)	0.244	0.449	0.711	0.023	0.046	0.076				
		(LL)	0.242	0.414	0.677	0.020	0.035	0.060				
F423NGP	$A \ \to \ Y$	(HL)	0.223	0.429	0.681	0.004	0.007	0.011	Α	1.0	Y	45
		(LH)	0.245	0.744	1.280	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HH)	0.368	0.715	1.229	0.006	0.011	0.018	С	1.0		
		(LL)	0.393	0.710	1.192	0.004	0.007	0.011	D	1.0		
	$C \rightarrow Y$	(HH)	0.436	0.852	1.456	0.006	0.011	0.018				
		(LL)	0.419	0.765	1.294	0.004	0.007	0.011				
	$D \ \to Y$	(HH)	0.461	0.907	1.554	0.006	0.011	0.018				
		(LL)	0.424	0.775	1.314	0.004	0.007	0.011				

[MEMO]

Function	2-2-	INPU	T AND-OF	R-INV	ERTER				S	SI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. B	with inv	. C	with inv	. D	with inv	′. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L424	2	L424NA	3	L424NB	3	L424NC	4	L424ND	3	L424NE	4
x1	F424	4	F424NA	5	F424NB	5	F424NC	6	F424ND	5	F424NE	6
x2	F424NP	5	F424NAP	6	F424NBP	6	F424NCP	7	F424NDP	6	F424NEP	7
x4												
x8												
Block type	with inv	F	with inv	G	with inv	Н						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power	744	000	7141110	000	714	000						
x1												
x2												
x4												
x8												
D H04 C H03 B H02 A H01	rmal type") 0	NOI Y D F A F	fo 104- 103- 102- 101-0	Diagram r "with inv. /	A type	0→ N01 Y	D HO	03+	n inv. E		N01 Y
Logic Diagra for "with D H04+ C H03+ B H02+ A H01+	am n inv. C type		D F C F N01 Y B F	fo 104•————————————————————————————————————	Diagram r "with inv. I	D type	" N01 Y	D H	03+0			N01 Y
Logic Diagra for "with	am n inv. F type	,	1		Diagram r "with inv. (G type		L	ogic Diagra for "with		H type"	

[Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L424	$A \ \to \ Y$	(HL)	0.105	0.167	0.235	0.024	0.044	0.076	Α	1.0	Y	5
1		(LH)	0.108	0.255	0.412	0.036	0.091	0.151	В	1.0		
1	$B \ \to Y$	(HL)	0.089	0.152	0.238	0.024	0.044	0.076	C	1.0		
1	$C \ \to Y$	(LH) (HL)	0.128 0.142	0.306 0.219	0.512 0.330	0.036 0.024	0.091 0.044	0.150 0.076	0	1.0		
	C → f	(LH)	0.142	0.219	0.567	0.024	0.044	0.076				
1	$D \ \to Y$	(HL)	0.124	0.203	0.337	0.024	0.044	0.077				
1	5 / .	(LH)	0.142	0.397	0.668	0.035	0.091	0.150				
F424	$A \rightarrow Y$	(HL)	0.097	0.159	0.234	0.012	0.022	0.039	Α	2.1	Y	10
1		(LH)	0.117	0.249	0.401	0.018	0.046	0.076	В	2.1		
1	$B \ \to Y$	(HL)	0.096	0.159	0.233	0.012	0.022	0.039	С	2.1		
1		(LH)	0.117	0.248	0.402	0.018	0.046	0.076	D	2.1		
1	$C \ \to \ Y$	(HL)	0.126	0.213	0.332	0.012	0.022	0.039				
	D 1/	(LH)	0.135 0.129	0.345 0.216	0.561 0.334	0.018 0.012	0.046 0.022	0.076				
I	$D \ \to \ Y$	(HL) (LH)	0.129	0.216	0.334	0.012	0.022	0.039 0.076				
F424NP	A → Y	(LII)	0.136	0.546	0.842	0.018	0.046	0.076	Α	1.0	Y	46
1 727111	A 7 1	(LH)	0.286	0.685	1.195	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.266	0.508	0.849	0.004	0.007	0.011	С	1.0		
1		(LH)	0.310	0.753	1.318	0.006	0.011	0.018	D	1.0		
1	$C \ \to \ Y$	(HL)	0.312	0.556	0.912	0.004	0.007	0.011				
1		(LH)	0.297	0.768	1.339	0.006	0.011	0.018				
1	$D \ \to \ Y$	(HL)	0.293	0.544	0.918	0.004	0.007	0.011				
		(LH)	0.318	0.836	1.457	0.006	0.011	0.018				
L424NA	$A \ \to \ Y$	(HH)	0.152	0.359	0.590	0.036	0.091	0.150	A	1.0	Y	5
1	5 V	(LL)	0.156 0.092	0.279 0.162	0.433	0.025 0.025	0.045 0.045	0.078 0.078	В	1.0		
1	$B \ \to Y$	(HL) (LH)	0.092	0.162	0.247 0.504	0.025	0.045	0.078	C	1.0 1.0		
1	$C \ \to \ Y$	(LII) (HL)	0.123	0.301	0.304	0.036	0.031	0.130		1.0		
1	U → 1	(LH)	0.121	0.332	0.549	0.035	0.092	0.151				
1	$D \ \to Y$	(HL)	0.119	0.204	0.327	0.024	0.044	0.076				
1		(LH)	0.138	0.384	0.646	0.035	0.091	0.150				
F424NA	$A \rightarrow Y$	(HH)	0.204	0.419	0.670	0.018	0.046	0.076	Α	1.0	Y	10
1		(LL)	0.199	0.349	0.570	0.012	0.022	0.039	В	2.0		
1	$B \ \to \ Y$	(HL)	0.099	0.167	0.248	0.012	0.022	0.039	С	2.0		
1		(LH)	0.119	0.258	0.419	0.018	0.046	0.076	D	2.0		
1	$C \rightarrow Y$	(HL)	0.126 0.132	0.214 0.337	0.333 0.554	0.012 0.018	0.022 0.046	0.039 0.075				
	$D \ \to Y$	(LH) (HL)	0.132	0.337	0.554	0.018	0.046	0.075				
	D → 1	(LH)	0.120	0.338	0.555	0.012	0.022	0.033				
F424NAP	A → Y	(HH)	0.328	0.787	1.370	0.006	0.011	0.018	Α	1.0	Y	46
"""		(LL)	0.326	0.623	1.051	0.005	0.007	0.012	В	1.0		
	$B \ \to \ Y$	(HL)	0.265	0.509	0.856	0.005	0.007	0.012	С	1.0		
		(LH)	0.307	0.749	1.317	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.312	0.552	0.904	0.005	0.007	0.012				
		(LH)	0.296	0.764	1.334	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL)	0.291 0.317	0.540 0.831	0.910 1.454	0.005 0.006	0.007 0.011	0.012 0.018				
L424NB	A → Y	(LH) (HH)	0.317	0.831	0.595	0.006	0.011	0.018	A	1.0	Y	5
L424IND	$A \rightarrow Y$	(HH)	0.158	0.363	0.595	0.036	0.091	0.130	В	1.0	'	
	$B \ \to Y$	(HH)	0.178	0.419	0.430	0.025	0.043	0.150	C	1.0		
	2 -> 1	(LL)	0.167	0.297	0.475	0.025	0.045	0.078	D	1.0		
	$C \ \to \ Y$	(HL)	0.137	0.215	0.321	0.024	0.044	0.076				
		(LH)	0.123	0.335	0.552	0.035	0.092	0.151				
	$D \ \to \ Y$	(HL)	0.119	0.203	0.328	0.024	0.044	0.076				
		(LH)	0.138	0.387	0.649	0.035	0.091	0.150				

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Output Symbol Fanou Y 10
F424NB A → Y (HH) 0.201 0.412 0.662 0.018 0.046 0.076 A 1.0 (LL) 0.198 0.347 0.572 0.012 0.022 0.039 B 1.0	
(LL) 0.198 0.347 0.572 0.012 0.022 0.039 B 1.0	Y 10
B → Y (HH) 0.201 0.414 0.663 0.018 0.046 0.076 C 2.0 (LL) 0.198 0.348 0.570 0.012 0.022 0.039 D 2.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
(LH) 0.133 0.342 0.561 0.018 0.046 0.075	
D → Y (HL) 0.128 0.215 0.333 0.012 0.022 0.039	
(LH) 0.134 0.343 0.562 0.018 0.046 0.076	
F424NBP A → Y (HH) 0.333 0.792 1.373 0.006 0.011 0.018 A 1.0	Y 46
(LL) 0.329 0.626 1.054 0.005 0.007 0.012 B 1.0	
B → Y (HH) 0.362 0.862 1.504 0.006 0.011 0.018 C 1.0 (LL) 0.340 0.643 1.086 0.005 0.007 0.012 D 1.0	
(LL) 0.340 0.643 1.086 0.005 0.007 0.012 D 1.0 C → Y (HL) 0.311 0.552 0.905 0.005 0.007 0.012	
(LH) 0.296 0.767 1.338 0.006 0.011 0.018	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
(LH) 0.318 0.834 1.457 0.006 0.011 0.018	
L424NC A \(\to \text{Y}\) (HH) 0.164 0.371 0.603 0.036 0.091 0.150 A 1.0	Y 5
(LL) 0.167 0.292 0.462 0.025 0.045 0.079 B 1.0	
$ B \rightarrow Y $	
(LL) 0.163 0.286 0.463 0.025 0.045 0.078 D 1.0	
C → Y (HH) 0.198 0.463 0.753 0.035 0.092 0.151	
(LL) 0.195 0.342 0.555 0.024 0.044 0.077 D → Y (HH) 0.212 0.508 0.843 0.035 0.091 0.150	
D → Y (HH) 0.212 0.508 0.843 0.035 0.091 0.150 (LL) 0.194 0.342 0.565 0.024 0.044 0.077	
F424NC A \rightarrow Y (HH) 0.201 0.412 0.661 0.018 0.046 0.076 A 1.0	Y 10
(LL) 0.196 0.348 0.570 0.012 0.022 0.039 B 1.0	
B → Y (HH) 0.205 0.419 0.669 0.018 0.046 0.076 C 1.0	
(LL) 0.203 0.355 0.585 0.012 0.022 0.039 D 1.0	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
(LL) 0.223 0.404 0.669 0.012 0.022 0.039	
$D \rightarrow Y \qquad (HH) 0.236 0.507 0.811 0.018 0.046 0.076 (HA) 0.025 0.407 0.021 0.000 $	
(LL) 0.225 0.407 0.671 0.012 0.022 0.039 F424NCP A → Y (HH) 0.342 0.800 1.386 0.006 0.011 0.018 A 1.0	Y 45
(LL) 0.338 0.642 1.079 0.004 0.007 0.011 B 1.0	' "
B → Y (HH) 0.360 0.858 1.498 0.006 0.011 0.018 C 1.0	
(LL) 0.336 0.636 1.077 0.004 0.007 0.011 D 1.0	
C → Y (HH) 0.378 0.896 1.540 0.006 0.011 0.018	
(LL) 0.368 0.680 1.145 0.004 0.007 0.011	
D \(\to \text{Y}\) (HH) 0.398 0.955 1.653 0.006 0.011 0.018	
(LL) 0.370 0.682 1.153 0.004 0.007 0.011 L424ND A → Y (HH) 0.157 0.362 0.593 0.036 0.091 0.150 A 1.0	Y 5
L424ND A → Y (HH) 0.157 0.362 0.593 0.036 0.091 0.150 A 1.0 (LL) 0.158 0.279 0.435 0.025 0.045 0.079 B 1.0	1 5
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
(LH) 0.125 0.299 0.503 0.036 0.091 0.150 D 1.0	
C → Y (HH) 0.197 0.459 0.749 0.035 0.092 0.151	
(LL) 0.192 0.341 0.552 0.024 0.044 0.076	
D → Y (HL) 0.121 0.209 0.337 0.024 0.044 0.077	
(LH) 0.138 0.383 0.644 0.035 0.091 0.150	1,,
F424ND	Y 10
(LL) 0.197 0.343 0.563 0.012 0.022 0.039 B 2.0 B → Y (HL) 0.099 0.165 0.247 0.012 0.022 0.039 C 1.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
(LL) 0.221 0.398 0.661 0.012 0.022 0.039	
D → Y (HL) 0.128 0.217 0.337 0.012 0.022 0.039	
(LH) 0.133 0.337 0.553 0.018 0.046 0.076	

FUNCTION BLOCK

I			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F424NDP	$A \ \to Y$	(HH)	0.334	0.790	1.374	0.006	0.011	0.018	Α	1.0	Y	46
		(LL)	0.328	0.626	1.053	0.005	0.007	0.012	В	1.0		
	$B \ \to \ Y$	(HL)	0.265	0.508	0.854	0.005	0.007	0.012	С	1.0		
		(LH)	0.307	0.748	1.315	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HH)	0.376	0.888	1.535	0.006	0.011	0.018				
		(LL)	0.366	0.677	1.137	0.005	0.007	0.012				
	$D \ \to \ Y$	(HL)	0.294	0.544	0.920	0.005	0.007	0.012				
		(LH)	0.317	0.830	1.453	0.006	0.011	0.018				
L424NE	$A \ \to \ Y$	(HH)	0.165	0.374	0.607	0.036	0.091	0.150	Α	1.0	Y	5
		(LL)	0.169	0.300	0.467	0.025	0.045	0.078	В	1.0		
1	$B \ \to \ Y$	(HL)	0.093	0.160	0.246	0.025	0.045	0.078	С	1.0		
1		(LH)	0.124	0.299	0.503	0.036	0.091	0.150	D	1.0		
	$C \ \to \ Y$	(HH)	0.192	0.454	0.740	0.035	0.092	0.151				
1		(LL)	0.188	0.329	0.538	0.024	0.044	0.077				
1	$D \ \to \ Y$	(HH)	0.211	0.507	0.840	0.035	0.091	0.150				
		(LL)	0.194	0.343	0.565	0.024	0.044	0.077				
F424NE	$A \ \to \ Y$	(HH)	0.201	0.415	0.665	0.018	0.046	0.076	A	1.0	Y	10
1		(LL)	0.197	0.344	0.563	0.012	0.022	0.039	В	2.0		
	$B \ \to \ Y$	(HL)	0.099	0.166	0.248	0.012	0.022	0.039	С	1.0		
		(LH)	0.118	0.258	0.419	0.018	0.046	0.076	D	1.0		
	$C \ \to \ Y$	(HH)	0.234	0.500	0.802	0.018	0.046	0.075				
		(LL)	0.223	0.405	0.672	0.012	0.022	0.039				
	$D \ \to \ Y$	(HH)	0.236	0.501	0.803	0.018	0.046	0.076				
		(LL)	0.225	0.406	0.671	0.012	0.022	0.039				
F424NEP	$A \ \to \ Y$	(HH)	0.344	0.804	1.390	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.341	0.648	1.085	0.004	0.007	0.011	В	1.0		
	$B \ \to Y$	(HL)	0.266	0.511	0.857	0.004	0.007	0.011	С	1.0		
		(LH)	0.309	0.751	1.316	0.006	0.011	0.018	D	1.0		
1	$C \ \to \ Y$	(HH)	0.372	0.886	1.528	0.006	0.011	0.018				
1		(LL)	0.361	0.669	1.126	0.004	0.007	0.011				
1	$D \ \to \ Y$	(HH)	0.398	0.953	1.649	0.006	0.011	0.018				
		(LL)	0.369	0.682	1.154	0.004	0.007	0.011				

Function	2-2-	-2-INP	UT AND-0	OR-IN	VERTER				5	SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with in	/. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L425	3										
x1	F425	6										
x2	F425NP	6										
x4												
x8												
Block type	with inv	′. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
Logic Diagra for "Not F H06 E H05 D H04 C H03 B H02 A H01 Logic Diagra for "with	A type" O type"			ogic Diagr for "with ogic Diagr for "with	h inv. E							
Logic Diagram for "with inv. F type" Logic Diagram for "with inv. G type"						ι	ogic Diagr. for "witl		l type"			

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FUNCTION BLOCK

D			Swite	ching sp	eed							
Block	Path	1	t I	LD0 (ns)			t 1		In	put	Ou	tput
type	$IN \rightarrow $	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L425	$A \rightarrow Y$	(HL)	0.127	0.221	0.305	0.025	0.045	0.078	Α	1.0	Y	2
		(LH)	0.148	0.511	0.889	0.047	0.137	0.228	В	1.0		
	$B \ \to Y$	(HL)	0.114	0.209	0.312	0.025	0.045	0.078	С	1.0		
		(LH)	0.172	0.591	1.040	0.047	0.137	0.228	D	1.0		
	$C \rightarrow Y$	(HL)	0.160	0.259	0.383	0.025	0.045	0.078	E	1.0		
		(LH)	0.179	0.670	1.159	0.047	0.137	0.228	F	1.0		
	$D \ \to \ Y$	(HL)	0.141	0.247	0.394	0.025	0.045	0.078				
		(LH)	0.204	0.754	1.306	0.047	0.137	0.228				
	$E \to Y$	(HL)	0.180	0.279	0.451	0.024	0.044	0.077				
		(LH)	0.220	0.771	1.322	0.047	0.138	0.229				
	$F \rightarrow Y$	(HL)	0.157	0.264	0.459	0.024	0.044	0.077				
		(LH)	0.242	0.845	1.464	0.046	0.137	0.228				
F425	$A \rightarrow Y$	(HL)	0.108	0.185	0.267	0.012	0.022	0.039	Α	2.1	Y	5
		(LH)	0.147	0.402	0.691	0.024	0.069	0.115	В	2.1		
	$B \rightarrow Y$	(HL)	0.108	0.185	0.265	0.012	0.022	0.039	С	2.1		
		(LH)	0.146	0.400	0.691	0.024	0.069	0.115	D	2.1		
	$C \rightarrow Y$	(HL)	0.146	0.238	0.377	0.013	0.023	0.039	E	2.1		
		(LH)	0.189	0.615	1.044	0.023	0.069	0.115	F	2.1		
	$D \ \to Y$	(HL)	0.148	0.240	0.375	0.013	0.022	0.039				
		(LH)	0.190	0.616	1.044	0.023	0.069	0.115				
	$E \to Y$	(HL)	0.156	0.271	0.436	0.013	0.023	0.040				
		(LH)	0.229	0.714	1.204	0.023	0.069	0.114				
	$F \rightarrow Y$	(HL)	0.159	0.272	0.438	0.013	0.023	0.040				
		(LH)	0.231	0.717	1.207	0.023	0.069	0.115				
F425NP	$A \ \to \ Y$	(HL)	0.288	0.556	0.903	0.005	0.007	0.012	Α	1.0	Y	46
		(LH)	0.339	1.025	1.857	0.006	0.011	0.018	В	1.0		
	$B \rightarrow Y$	(HL)	0.271	0.544	0.907	0.005	0.007	0.012	С	1.0		
		(LH)	0.370	1.122	2.048	0.006	0.011	0.018	D	1.1		
	$C \rightarrow Y$	(HL)	0.337	0.617	1.003	0.005	0.007	0.012	E	1.0		
1		(LH)	0.380	1.233	2.206	0.006	0.011	0.018	F	1.0		
	$D \ \to Y$	(HL)	0.320	0.606	1.013	0.005	0.007	0.012				
1		(LH)	0.413	1.333	2.395	0.006	0.011	0.018				
	$E \rightarrow Y$	(HL)	0.356	0.632	1.033	0.005	0.007	0.012				
		(LH)	0.414	1.323	2.353	0.006	0.011	0.018				
	$F \rightarrow Y$	(HL)	0.336	0.621	1.043	0.004	0.007	0.012				
		(LH)	0.442	1.416	2.534	0.006	0.011	0.018				

Function	3-3-	-INPU	T AND-OF	R-INV	ERTER					SSI Fa	mily	
Block type	Normal with inv. A with inv. B with inv. C with inv. D with inv.									/. E		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L426	3										
x1	F426	6										
x2	F426NP	6										
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. н						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
F H06+ E H05+ D H04+ C H03- B H02- A H01+	rmal type"		NOI Y	fo	Diagram r "with inv. / Diagram r "with inv. I				.ogic Diagr	th inv. E		
ioi wu	тич. О құра			10	with the control of t	Зурс			ioi wii		- type	
Logic Diagra for "with	am n inv. F type) "	1		Diagram r "with inv. (G type"		L	ogic Diagr for "wit	ram th inv. F	H type"	

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FUNCTION BLOCK

- I			Swite	ching sp	eed				Ι.			
Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L426	$A \rightarrow Y$	(HL)	0.148	0.253	0.349	0.038	0.068	0.117	Α	1.0	Y	4
		(LH)	0.118	0.394	0.659	0.032	0.092	0.152	В	1.0		
	$B \rightarrow Y$	(HL)	0.144	0.266	0.389	0.038	0.068	0.117	С	1.0		
		(LH)	0.137	0.451	0.764	0.032	0.092	0.152	D	1.0		
	$C \rightarrow Y$	(HL)	0.138	0.282	0.440	0.038	0.068	0.117	E	1.0		
		(LH)	0.159	0.520	0.892	0.031	0.092	0.152	F	1.0		
	$D \rightarrow Y$	(HL)	0.211	0.363	0.575	0.038	0.068	0.118				
		(LH)	0.146	0.516	0.857	0.031	0.091	0.151				
	$E \to Y$	(HL)	0.194	0.378	0.619	0.038	0.068	0.118				
		(LH)	0.166	0.579	0.967	0.032	0.092	0.152				
	$F \rightarrow Y$	(HL)	0.185	0.396	0.671	0.038	0.068	0.118				
		(LH)	0.190	0.648	1.099	0.031	0.092	0.151				
F426	$A \rightarrow Y$	(HL)	0.136	0.254	0.358	0.021	0.037	0.062	Α	2.1	Y	10
		(LH)	0.125	0.364	0.606	0.016	0.045	0.075	В	2.1		
	$B \rightarrow Y$	(HL)	0.137	0.248	0.352	0.021	0.037	0.062	С	2.1		
		(LH)	0.121	0.347	0.582	0.016	0.045	0.075	D	2.1		
	$C \rightarrow Y$	(HL)	0.137	0.254	0.358	0.021	0.037	0.062	E	2.1		
		(LH)	0.125	0.363	0.605	0.016	0.045	0.075	F	2.1		
	$D \rightarrow Y$	(HL)	0.206	0.375	0.602	0.019	0.034	0.059				
		(LH)	0.165	0.494	0.813	0.016	0.045	0.075				
	$E \rightarrow Y$	(HL)	0.206	0.393	0.636	0.019	0.034	0.059				
		(LH)	0.173	0.520	0.859	0.016	0.045	0.075				
	$F \rightarrow Y$	(HL)	0.204	0.372	0.597	0.019	0.034	0.059				
		(LH)	0.165	0.495	0.812	0.015	0.045	0.075				
F426NP	$A \rightarrow Y$	(HL)	0.339	0.670	1.063	0.005	0.007	0.012	Α	1.0	Y	45
		(LH)	0.264	0.790	1.374	0.006	0.011	0.018	В	1.0		
	$B \rightarrow Y$	(HL)	0.335	0.703	1.145	0.005	0.007	0.012	С	1.0		
		(LH)	0.305	0.911	1.587	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.327	0.703	1.159	0.005	0.007	0.012	E	1.0		
		(LH)	0.322	0.969	1.694	0.006	0.011	0.018	F	1.0		
	$D \rightarrow Y$	(HL)	0.421	0.770	1.226	0.004	0.007	0.012				
		(LH)	0.294	0.917	1.584	0.006	0.011	0.018				
	$E \to Y$	(HL)	0.391	0.802	1.304	0.005	0.007	0.012				
		(LH)	0.332	1.032	1.789	0.006	0.011	0.018				
	$F \rightarrow Y$	(HL)	0.384	0.803	1.320	0.005	0.007	0.012				
		(LH)	0.347	1.091	1.891	0.006	0.011	0.018				

Function	2-3-	-INPU	T AND-OF	R-INV	ERTER					SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. B	with inv	. C	with in	/. D	with inv	/. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L427	3										
x1	F427	5										
x2	F427NP	6										
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
E H05 D H04 C H03 B H02 A H01 Logic Diagra	rmal type"		NOI Y	for	Diagram "with inv. / Diagram "with inv. I				ogic Diagr for "wit ogic Diagr for "wit	h inv. E		
10. 11.						, type					- 190	
Logic Diagra for "with	am n inv. F type	e"			Diagram r "with inv. (G type	,	l	ogic Diagr for "wit		H type"	

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FUNCTION BLOCK

			Swite	hing sp	eed							
Block	Path		t i	D0 (ns)			t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L427	$A \rightarrow Y$	(HL)	0.153	0.271	0.407	0.029	0.050	0.084	Α	1.0	Υ	4
		(LH)	0.127	0.409	0.661	0.031	0.092	0.152	В	1.0		
	$B \ \to Y$	(HL)	0.132	0.271	0.443	0.029	0.050	0.084	С	1.0		
		(LH)	0.153	0.491	0.817	0.031	0.091	0.150	D	1.0		
	$C \ \to \ Y$	(HL)	0.129	0.219	0.289	0.037	0.066	0.115	E	1.0		
		(LH)	0.101	0.285	0.464	0.034	0.091	0.150				
	$D \ \to Y$	(HL)	0.126	0.256	0.374	0.037	0.066	0.115				
		(LH)	0.138	0.378	0.634	0.035	0.091	0.150				
	$E \ \to Y$	(HL)	0.119	0.256	0.392	0.037	0.066	0.115				
		(LH)	0.151	0.426	0.722	0.035	0.091	0.150				
F427	$A \ \to \ Y$	(HL)	0.139	0.251	0.391	0.012	0.022	0.039	Α	2.0	Υ	10
		(LH)	0.138	0.439	0.725	0.016	0.046	0.075	В	2.0		
	$B \ \to Y$	(HL)	0.138	0.252	0.392	0.012	0.022	0.039	С	2.1		
		(LH)	0.137	0.439	0.725	0.016	0.046	0.075	D	2.1		
	$C \ \to \ Y$	(HL)	0.140	0.239	0.356	0.022	0.037	0.061	E	2.0		
		(LH)	0.132	0.300	0.495	0.018	0.045	0.075				
	$D \ \to \ Y$	(HL)	0.135	0.250	0.383	0.022	0.037	0.061				
		(LH)	0.139	0.319	0.529	0.018	0.045	0.075				
	$E \ \to Y$	(HL)	0.141	0.239	0.355	0.022	0.037	0.061				
		(LH)	0.131	0.299	0.492	0.018	0.045	0.075				
F427NP	$A \ \to \ Y$	(HL)	0.352	0.634	1.006	0.005	0.007	0.012	Α	1.0	Υ	45
		(LH)	0.292	0.846	1.458	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.326	0.634	1.041	0.005	0.007	0.012	С	1.0		
		(LH)	0.327	0.954	1.653	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.339	0.645	1.040	0.005	0.007	0.012	E	1.0		
		(LH)	0.275	0.722	1.254	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL)	0.336	0.678	1.120	0.005	0.007	0.012				
1		(LH)	0.320	0.841	1.465	0.006	0.011	0.018				
	$E \ \to Y$	(HL)	0.327	0.679	1.135	0.005	0.007	0.012				
		(LH)	0.340	0.899	1.570	0.006	0.011	0.018				

Function	1-2-	-2-INP	UT AND-0	OR-IN	VERTER					SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with in	/. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L428	3										
x1	F428	5										
x2	F428NP	6										
x4												
x8												
Block type	with inv	′. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
E H05 D H04 C H03 B H02 A H01 Logic Diagra	rmal type"		N01 Y	for	Diagram "with inv. / Diagram "with inv. I				ogic Diagr. for "witl ogic Diagr. for "witl	h inv. E		
Logic Diagra for "with	am n inv. F type	∋"	- 1		Diagram "with inv. (G type"		L	ogic Diagr. for "with		H type"	

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L428	$A \rightarrow Y$	(HL)	0.094	0.153	0.200	0.016	0.026	0.043	Α	1.0	Υ	2
		(LH)	0.129	0.444	0.770	0.047	0.137	0.228	В	1.0		
	$B \ \to Y$	(HL)	0.137	0.221	0.317	0.025	0.045	0.078	С	1.1		
		(LH)	0.177	0.511	0.865	0.058	0.137	0.228	D	1.0		
	$C \ \to \ Y$	(HL)	0.121	0.211	0.327	0.025	0.045	0.078	E	1.0		
		(LH)	0.209	0.593	1.016	0.058	0.137	0.228				
	$D \ \to Y$	(HL)	0.149	0.241	0.348	0.024	0.044	0.077				
		(LH)	0.218	0.602	1.012	0.058	0.138	0.229				
	$E \to Y$	(HL)	0.130	0.228	0.354	0.024	0.044	0.077				
		(LH)	0.248	0.679	1.159	0.057	0.137	0.228				
F428	$A \ \to \ Y$	(HL)	0.087	0.141	0.188	0.009	0.013	0.022	Α	2.0	Υ	6
		(LH)	0.126	0.333	0.560	0.024	0.069	0.115	В	2.0		
	$B \ \to Y$	(HL)	0.120	0.197	0.297	0.012	0.022	0.039	С	2.0		
		(LH)	0.179	0.474	0.804	0.030	0.070	0.115	D	2.0		
	$C \ \to \ Y$	(HL)	0.119	0.197	0.297	0.012	0.022	0.039	E	2.0		
		(LH)	0.179	0.475	0.804	0.030	0.070	0.115				
	$D \ \to \ Y$	(HL)	0.132	0.213	0.330	0.012	0.023	0.039				
		(LH)	0.219	0.558	0.937	0.029	0.069	0.115				
	$E \ \to Y$	(HL)	0.133	0.214	0.331	0.012	0.023	0.039				
		(LH)	0.221	0.559	0.940	0.030	0.070	0.115				
F428NP	$A \ \to \ Y$	(HL)	0.237	0.449	0.717	0.005	0.007	0.012	Α	1.0	Υ	46
		(LH)	0.337	1.023	1.849	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.316	0.576	0.943	0.005	0.007	0.012	С	1.1		
		(LH)	0.409	1.064	1.901	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.299	0.564	0.951	0.005	0.007	0.012	E	1.0		
		(LH)	0.447	1.164	2.092	0.006	0.011	0.018				
1	$D \ \to Y$	(HL)	0.331	0.593	0.977	0.005	0.007	0.012				
		(LH)	0.447	1.156	2.051	0.006	0.011	0.018				
	$E \ \to Y$	(HL)	0.312	0.583	0.983	0.005	0.007	0.012				
		(LH)	0.483	1.252	2.231	0.006	0.011	0.018				

Function	2-2-	-2-2-IN	IPUT AND	O-OR-	INVERTE	R				SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with in	/. D	with inv	/. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L429	4										
x1	F429	8										
x2												
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. Н						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
H H08 G H07 F H06 E H05 D H04 C H03 B H03 A H01 Logic Diagra for "with	am n inv. C type	> → N0	IY	for for for for	Diagram "with inv. / Diagram "with inv. I			ı	ogic Diagr for "wit ogic Diagr for "wit	ram h inv. E		
Logic Diagra for "with	am n inv. F type	e"	I		Diagram r "with inv. (G type"		l	ogic Diagr for "wit		l type"	

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FUNCTION BLOCK

Б			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns)			t 1		l In	put	l Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L429	$A \rightarrow Y$	(HL)	0.130	0.237	0.309	0.025	0.045	0.078	Α	1.0	Υ	0
		(LH)	0.149	0.682	1.237	0.058	0.183	0.306	В	1.0		
	$B \ \to Y$	(HL)	0.113	0.222	0.319	0.025	0.045	0.078	С	1.0		
		(LH)	0.177	0.784	1.433	0.058	0.183	0.305	D	1.0		
	$C \ \to \ Y$	(HL)	0.175	0.296	0.428	0.025	0.045	0.078	E	1.0		
		(LH)	0.244	1.102	1.928	0.059	0.183	0.305	F	1.0		
	$D \ \to Y$	(HL)	0.158	0.282	0.439	0.025	0.045	0.079	G	1.0		
		(LH)	0.275	1.207	2.123	0.058	0.183	0.305	Н	1.0		
	$E \to Y$	(HL)	0.195	0.318	0.487	0.025	0.045	0.079				
		(LH)	0.293	1.260	2.192	0.058	0.183	0.305				
	$F \ \to Y$	(HL)	0.173	0.304	0.500	0.025	0.045	0.079				
		(LH)	0.326	1.364	2.392	0.058	0.183	0.305				
	$G \ \to Y$	(HL)	0.202	0.320	0.513	0.025	0.045	0.079				
		(LH)	0.339	1.360	2.353	0.058	0.184	0.306				
	$H \rightarrow Y$	(HL)	0.178	0.306	0.524	0.025	0.045	0.079				
		(LH)	0.367	1.458	2.543	0.057	0.183	0.305				
F429	$A \ \to \ Y$	(HL)	0.119	0.209	0.303	0.012	0.022	0.038	Α	2.1	Y	1
		(LH)	0.175	0.590	1.052	0.029	0.092	0.153	В	2.1		
	$B \ \to Y$	(HL)	0.121	0.210	0.303	0.012	0.022	0.038	С	2.1		
		(LH)	0.176	0.590	1.053	0.029	0.092	0.153	D	2.1		
	$C \ \to \ Y$	(HL)	0.156	0.258	0.410	0.012	0.022	0.038	E	2.1		
		(LH)	0.246	0.930	1.613	0.029	0.091	0.153	F	2.1		
	$D \ \to \ Y$	(HL)	0.157	0.260	0.410	0.012	0.022	0.038	G	2.1		
		(LH)	0.250	0.935	1.615	0.030	0.092	0.153	Н	2.1		
	$E \to Y$	(HL)	0.172	0.293	0.480	0.012	0.022	0.039				
		(LH)	0.314	1.143	1.960	0.029	0.092	0.153				
	$F \ \to Y$	(HL)	0.175	0.292	0.478	0.012	0.022	0.039				
		(LH)	0.313	1.143	1.957	0.029	0.092	0.153				
1	$G \ \to Y$	(HL)	0.178	0.306	0.506	0.013	0.023	0.040				
		(LH)	0.355	1.233	2.108	0.029	0.092	0.153				
	$H \rightarrow Y$	(HL)	0.178	0.306	0.505	0.012	0.023	0.040				
		(LH)	0.355	1.233	2.109	0.029	0.092	0.153				

Block type	Function	4-4-	-INPU	T AND-OF	R-INV	ERTER				5	SSI Fa	mily	
Low Power x1 x4 x8 Block type with inv. F with inv. G with inv. H Drivability Name cells Name cells Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" I H003- G H07- F H00- E H03- B H02- A H01- Logic Diagram for "with inv. C type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type"	Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with in	/. E
x1 F442 8 x2 x4 x8 Block type with inv. F with inv. G with inv. H Drivability Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" H H88- F H03- F H03- F H03- A H01- A H01- Logic Diagram for "with inv. C type" Logic Diagram for "with inv. D type" Logic Diagram for "with inv. D type" Logic Diagram for "with inv. E type"	Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
x2 x4 x8 Block type with inv. F with inv. G with inv. H Drivability Name cells Name cells Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" H H88- F H88- F H88- B H02- A H01- B H02- A H01- C type" Logic Diagram for "with inv. A type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type"	Low Power	L442	4										
x4 x8 Block type with inv. F with inv. G with inv. H Drivability Name cells Name cells Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" H H08- G H07- F H09- B H03- B H02- A H01- C type" Logic Diagram for "with inv. C type" Logic Diagram for "with inv. D type" Logic Diagram for "with inv. E type" Logic Diagram for "with inv. E type"	x1	F442	8										
Block type with inv. F with inv. G with inv. H Drivability Name cells Name cells Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" H H08	x2												
Block type with inv. F with inv. G with inv. H Drivability Name cells Name cells Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" H H08	x4												
Drivability Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" H H88- G H97- F H06- E H03- B H02- A H01- Logic Diagram for "with inv. C type" Logic Diagram for "with inv. D type" Logic Diagram for "with inv. E type"	x8												
Logic Diagram for "Normal type" Logic Diagram for "with inv. A type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type"	Block type	with inv	. F	with inv	. G	with inv	. Н						
x1 x2 x4 x8 Logic Diagram for "Normal type" H H08- G H07- F H06- E H03- B H02- A H01- Logic Diagram for "with inv. A type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type"	Drivability	Name	cells	Name	cells	Name	cells						
x2 x4 x8 Logic Diagram for "Normal type" H H08- G H07- F H06- E H03- B H02- A H01- Logic Diagram for "with inv. A type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type"	Low Power												
Logic Diagram for "Normal type" H H08 G H07 F H06 E H05 B H02 A H01 Logic Diagram for "with inv. A type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type"	x1												
Logic Diagram for "Normal type" H H08+ G H07+ F H06- E H03- B H02- A H01+ Logic Diagram for "with inv. A type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type"	x2												
Logic Diagram for "Normal type" H H08+ G H07- F H06- E H05- A H01- Logic Diagram for "with inv. A type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. D type" Logic Diagram for "with inv. E type"	x4												
for "Normal type" H H089- G H077- F H060- E H053- B H02- A H01- Logic Diagram for "with inv. D type" Logic Diagram for "with inv. C type" Logic Diagram for "with inv. D type" Logic Diagram for "with inv. E type"	x8												
for "with inv. F type" for "with inv. G type" for "with inv. H type"	for "Nor H H08+ G H07- F H06- E H05- B H02- A H01- Logic Diagra for "with	am ninv. C type	e"	N01 Y	ogic E	"with inv. / Diagram "with inv. I	O type"		ı	for "with	am h inv. E	E type"	

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1] In	put	Ou	itput
type	IN → C	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L442	$A \rightarrow Y$	(HL)	0.157	0.297	0.394	0.046	0.085	0.148	Α	1.0	Υ	2
		(LH)	0.112	0.437	0.729	0.031	0.091	0.151	В	1.0		
	$B \rightarrow Y$	(HL)	0.163	0.327	0.462	0.046	0.085	0.148	С	1.0		
		(LH)	0.133	0.495	0.839	0.030	0.091	0.151	D	1.0		
	$C \rightarrow Y$	(HL)	0.172	0.380	0.556	0.046	0.085	0.148	E	1.0		
		(LH)	0.157	0.591	1.009	0.030	0.091	0.151	F	1.0		
	$D \rightarrow Y$	(HL)	0.172	0.383	0.577	0.046	0.085	0.148	G	1.0		
		(LH)	0.167	0.635	1.092	0.030	0.091	0.151	Н	1.0		
	$E \to Y$	(HL)	0.238	0.510	0.831	0.045	0.086	0.149				
		(LH)	0.163	0.626	1.029	0.030	0.091	0.151				
	$F \rightarrow Y$	(HL)	0.241	0.542	0.901	0.045	0.086	0.149				
		(LH)	0.180	0.681	1.144	0.030	0.091	0.151				
	$G \ \to Y$	(HL)	0.251	0.592	0.993	0.045	0.086	0.149				
		(LH)	0.206	0.779	1.309	0.030	0.091	0.151				
	$H \rightarrow Y$	(HL)	0.250	0.595	1.010	0.045	0.086	0.149				
		(LH)	0.218	0.826	1.396	0.030	0.091	0.151				
F442	$A \rightarrow Y$	(HL)	0.169	0.333	0.499	0.023	0.043	0.074	Α	2.2	Y	7
		(LH)	0.144	0.443	0.746	0.015	0.046	0.076	В	2.1		
	$B \rightarrow Y$	(HL)	0.175	0.346	0.526	0.023	0.043	0.074	С	2.1		
		(LH)	0.147	0.449	0.762	0.015	0.046	0.076	D	2.1		
	$C \rightarrow Y$	(HL)	0.176	0.348	0.530	0.023	0.043	0.074	E	2.1		
		(LH)	0.148	0.452	0.765	0.015	0.046	0.076	F	2.1		
	$D \rightarrow Y$	(HL)	0.172	0.335	0.504	0.023	0.043	0.074	G	2.1		
		(LH)	0.143	0.444	0.750	0.015	0.046	0.076	Н	2.1		
	$E \to Y$	(HL)	0.283	0.558	0.934	0.023	0.043	0.075				
		(LH)	0.193	0.638	1.056	0.015	0.046	0.076				
	$F \rightarrow Y$	(HL)	0.287	0.571	0.958	0.023	0.043	0.075				
		(LH)	0.198	0.647	1.073	0.015	0.046	0.076				
I	$G \ \to Y$	(HL)	0.287	0.571	0.958	0.023	0.043	0.075				
		(LH)	0.198	0.647	1.072	0.015	0.046	0.076				
I	$H \rightarrow Y$	(HL)	0.283	0.558	0.934	0.023	0.043	0.075				
		(LH)	0.195	0.641	1.058	0.015	0.046	0.076				

Function	1-2-	-3-INP	UT AND-0	OR-IN	VERTER				;	SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. B	with inv	. C	with in	v. D	with inv	/. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L462	3										
x1	F462	6										
x2												
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. Н						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
F H06 E H05 D H04 C H03 B H02 A H01 Logic Diagra	am n inv. C type		N01 Y	for for for for	Diagram "with inv. J			ı	.ogic Diagi for "wit	ram th inv. E		
Logic Diagra for "with	am n inv. F type	e"	1		Diagram "with inv. (G type'		l	ogic Diagı for "wit	ram th inv. F	H type"	

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path			LD0 (ns)			t 1		l In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L462	$A \rightarrow Y$	(HL)	0.171	0.310	0.535	0.037	0.067	0.116	Α	1.0	Υ	3
		(LH)	0.283	0.679	1.150	0.055	0.136	0.227	В	1.0		
	$B \rightarrow Y$	(HL)	0.175	0.313	0.522	0.037	0.067	0.116	С	1.0		
		(LH)	0.255	0.604	1.011	0.055	0.136	0.227	D	1.0		
	$C \rightarrow Y$	(HL)	0.181	0.283	0.435	0.037	0.067	0.116	E	1.0		
		(LH)	0.198	0.453	0.742	0.054	0.134	0.224	F	1.0		
	$D \rightarrow Y$	(HL)	0.119	0.228	0.339	0.029	0.050	0.084				
		(LH)	0.184	0.713	1.255	0.051	0.134	0.225				
	$E \to Y$	(HL)	0.137	0.228	0.301	0.029	0.050	0.084				
		(LH)	0.134	0.588	1.013	0.052	0.136	0.227				
	$F \rightarrow Y$	(HL)	0.085	0.144	0.181	0.017	0.026	0.044				
		(LH)	0.108	0.595	1.045	0.040	0.136	0.227				
F462	$A \rightarrow Y$	(HL)	0.182	0.306	0.475	0.019	0.034	0.059	Α	2.1	Y	7
		(LH)	0.253	0.634	1.057	0.029	0.069	0.115	В	2.1		
	$B \ \to Y$	(HL)	0.185	0.322	0.509	0.019	0.034	0.059	С	2.1		
		(LH)	0.267	0.667	1.121	0.029	0.069	0.115	D	2.1		
	$C \rightarrow Y$	(HL)	0.181	0.304	0.474	0.019	0.034	0.059	E	2.1		
		(LH)	0.252	0.632	1.056	0.029	0.069	0.115	F	2.0		
	$D \rightarrow Y$	(HL)	0.109	0.193	0.275	0.012	0.022	0.039				
		(LH)	0.154	0.544	0.931	0.027	0.069	0.115				
	$E \to Y$	(HL)	0.111	0.194	0.275	0.012	0.022	0.039				
		(LH)	0.155	0.544	0.931	0.027	0.069	0.115				
	$F \rightarrow Y$	(HL)	0.081	0.134	0.178	0.009	0.014	0.022				
		(LH)	0.108	0.397	0.681	0.022	0.069	0.115				

Block type	Function	1-2-	INPU	T OR-AND	D-INV	ERTER				5	SSI Fa	mily	
Low Power L431 2	Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with inv	. E
X1	Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
X2	Low Power	L431	2	L431NA	2	L431NB	3	L431NC	3	L431ND	2	L431NE	3
x4 x8 Block type with inv. F with inv. G with inv. H Drivability Name cells Name cells Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" C H03- B H02- A H01- Logic Diagram for "with inv. A type" C H03- A H01- Logic Diagram for "with inv. B type" C H03- A H01- Logic Diagram for "with inv. D type" C H03- C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram Logic Diagram Logic Diagram A H01- Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram	x1	F431	3	F431NA	4	F431NB	4	F431NC	5	F431ND	4	F431NE	4
Block type with inv. F with inv. G with inv. H Drivability Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" C H03- B H02- A H01- Logic Diagram for "with inv. A type" C H03- A H01- Logic Diagram for "with inv. B type" C H03- A H01- Logic Diagram for "with inv. B type" C H03- A H01- Logic Diagram for "with inv. B type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram	x2	F431NP	5	F431NAP	5	F431NBP	6	F431NCP	6	F431NDP	5	F431NEP	6
Block type with inv. F with inv. G with inv. H Drivability Name cells Name cells Name cells Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" C H03	x4												
Drivability Low Power x1 x2 x4 x8 Logic Diagram for "Normal type" C H03- B H02- A H01- Logic Diagram for "with inv. C type" C H03- B H02- A H01- Logic Diagram for "with inv. D type" C H03- B H02- A H01- Logic Diagram for "with inv. D type" C H03- B H02- A H01- Logic Diagram for "with inv. D type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03- B H02- A H01- Logic Diagram for "with inv. D type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03- C H03- D H02- A H01- Logic Diagram for "with inv. E type" C H03- C H03- D H02- A H01- Logic Diagram for "with inv. E type" C H03- C H03- D H02- D H01- D	x8												
Logic Diagram for "Normal type" C H03- B H02- A H01- Logic Diagram for "with inv. C type" C H03- B H02- A H01- Logic Diagram for "with inv. D type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03-	Block type	with inv	. F	with inv	. G	with inv	. H						
x1 x2 x4 x8 Logic Diagram for "Normal type" C H03- B H02- A H01- Logic Diagram for "with inv. A type" C H03- A H01- Logic Diagram for "with inv. B type" C H03- A H01- Logic Diagram for "with inv. B type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram Logic Diagram Logic Diagram	Drivability	Name	cells	Name	cells	Name	cells						
x2 x4 x8 Logic Diagram for "Normal type" C H03- B H02- A H01- Logic Diagram for "with inv. A type" C H03- A H01- Logic Diagram for "with inv. B type" C H03- A H01- Logic Diagram for "with inv. D type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C H03- A H01- Logic Diagram for "with inv. E type" C Logic Diagram for "with inv. E type" C Logic Diagram for "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C Logic Diagram For "with inv. E type" C H03- A H01- A H0	Low Power												
Logic Diagram for "Normal type" C H03 B H02 A H01 Logic Diagram for "with inv. A type" C H03 B H02 A H01 Logic Diagram for "with inv. D type" C H03 B H02 A H01 Logic Diagram for "with inv. D type" C H03 A H01 Logic Diagram for "with inv. E type" C H03 A H01 Logic Diagram for "with inv. D type" C H03 A H01 Logic Diagram for "with inv. E type" C H03 A H01 Logic Diagram for "with inv. E type" C H03 A H01 Logic Diagram for "with inv. E type" C H03 A H01 Logic Diagram for "with inv. E type" C H03 A H01 Logic Diagram for "with inv. E type" C L03 A H01 Logic Diagram for "with inv. E type" C L03 A H01 Logic Diagram Logic Diagram Logic Diagram Logic Diagram Logic Diagram	x1												
Logic Diagram for "Normal type" C H03- B H02- A H01- Logic Diagram for "with inv. A type" C H03- B H02- C H03- B H02- A H01- Logic Diagram for "with inv. C type" C H03- B H02- A H01- Logic Diagram for "with inv. D type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03- C H03	x2												
Logic Diagram for "Normal type" C H03- B H02- A H01- Logic Diagram for "with inv. A type" C H03- B H02- A H01- Logic Diagram for "with inv. B type" C H03- B H02- C H03- B H02- A H01- Logic Diagram for "with inv. D type" C H03- B H02- A H01- Logic Diagram for "with inv. E type" C H03- C	x4												
for "Normal type" C H03 B H02 A H01 Logic Diagram for "with inv. C type" C H03 B H02 A H01 Logic Diagram for "with inv. C type" C H03 B H02 A H01 Logic Diagram for "with inv. D type" C H03 B H02 A H01 Logic Diagram for "with inv. E type" C H03 B H02 A H01 Logic Diagram for "with inv. E type" C H03 C H03 B H02 A H01 Logic Diagram for "with inv. E type" C H03 C H03 C H03 D N01 Y A H01 Logic Diagram for "with inv. E type" C H03 C H03 D N01 Y A H01 Logic Diagram Logic Diagram Logic Diagram Logic Diagram	x8												
	Logic Diagrafor "with	am	e"	NOI Y A F	-ogic I fo	Diagram) → N01 Y	B H A H	03+ 02+ 01+ Ogic Diagram for "with 03+ 03+ 02+	am	o→ N E type"	
<u> </u>									H type"				

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o O	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L431	$A \ \to \ Y$	(HL)	0.107	0.183	0.263	0.024	0.049	0.083	Α	1.0	Υ	7
		(LH)	0.083	0.132	0.187	0.025	0.046	0.073	В	1.0		
	$B \ \to Y$	(HL)	0.099	0.168	0.273	0.029	0.049	0.083	С	1.0		
		(LH)	0.157	0.283	0.462	0.043	0.088	0.147				
	$C \ \to \ Y$	(HL)	0.112	0.184	0.303	0.029	0.049	0.083				
F404		(LH)	0.144	0.292	0.500	0.043	0.088	0.147		0.0	Y	45
F431	$A \ \to \ Y$	(HL)	0.105 0.078	0.170 0.123	0.232 0.173	0.013 0.012	0.026 0.023	0.043 0.036	A	2.0 2.1	Y	15
	D V	(LH) (HL)	0.078	0.123	0.173	0.012	0.023	0.036	B C	2.1		
	$B \ \to Y$	(LH)	0.036	0.168	0.431	0.010	0.020	0.043		2.1		
	$C \ \to Y$	(HL)	0.136	0.239	0.431	0.022	0.044	0.073				
	U → I	(LH)	0.136	0.100	0.431	0.022	0.020	0.073				
F431NP	A → Y	(HL)	0.242	0.526	0.853	0.004	0.007	0.011	Α	1.0	Y	45
1 401111	A -> 1	(LH)	0.228	0.409	0.673	0.006	0.011	0.018	В	1.0		"
	$B \ \to Y$	(HL)	0.261	0.473	0.795	0.004	0.007	0.011	c	1.0		
I	5 -> 1	(LH)	0.353	0.666	1.151	0.006	0.007	0.011				1
I	$C \rightarrow Y$	(HL)	0.287	0.524	0.875	0.004	0.007	0.010				1
		(LH)	0.351	0.714	1.243	0.006	0.011	0.018				
L431NA	A → Y	(HH)	0.127	0.223	0.339	0.024	0.045	0.072	Α	1.0	Y	8
		(LL)	0.147	0.300	0.476	0.021	0.051	0.086	В	1.0		
	$B \ \to Y$	(HL)	0.088	0.146	0.228	0.025	0.045	0.078	С	1.0		
		(LH)	0.139	0.237	0.384	0.046	0.092	0.151	_			
	$C \ \to \ Y$	(HL)	0.108	0.185	0.292	0.031	0.051	0.086				
		(LH)	0.140	0.285	0.477	0.046	0.092	0.151				
F431NA	A → Y	(HH)	0.163	0.271	0.402	0.013	0.023	0.037	Α	1.0	Y	15
		(LL)	0.189	0.342	0.554	0.013	0.026	0.043	В	2.0		
	$B \ \to Y$	(HL)	0.098	0.173	0.272	0.016	0.026	0.043	С	2.0		
		(LH)	0.130	0.247	0.408	0.022	0.044	0.074				
	$C \ \to \ Y$	(HL)	0.097	0.171	0.270	0.015	0.026	0.043				
		(LH)	0.130	0.246	0.408	0.022	0.044	0.074				
F431NAP	$A \ \to \ Y$	(HH)	0.273	0.510	0.845	0.006	0.011	0.018	Α	1.0	Y	46
		(LL)	0.302	0.648	1.081	0.004	0.007	0.011	В	1.0		
	$B \ \to Y$	(HL)	0.260	0.475	0.806	0.004	0.007	0.011	С	1.0		
I		(LH)	0.353	0.665	1.148	0.006	0.011	0.018				1
	$C \ \to \ Y$	(HL)	0.296	0.536	0.896	0.004	0.007	0.011				
L		(LH)	0.352	0.710	1.242	0.006	0.011	0.018	<u> </u>			
L431NB	$A \ \to \ Y$	(HH)	0.123	0.215	0.332	0.025	0.045	0.072	A	1.0	Y	7
		(LL)	0.141	0.286	0.457	0.021	0.051	0.086	В	1.0		
 	$B \ \to Y$	(HH)	0.188	0.351	0.570	0.047	0.092	0.151	С	1.0		
	0 1/	(LL)	0.156	0.269	0.439	0.025	0.045	0.078				
	$C \ \to \ Y$	(HL)	0.106	0.183	0.288 0.480	0.030	0.051	0.085				
F431NB	A → Y	(LH) (HH)	0.140 0.162	0.289	0.480	0.047	0.092	0.151 0.037	A	1.0	Y	15
F43TNB	$A \ \to \ Y$	(HH)	0.162	0.270	0.400	0.013	0.023	0.037	В	1.0	'	15
I	в. У	(LL) (HH)	0.188	0.340	0.651	0.013	0.026	0.043	C	2.0		
	$B \ \to Y$	(LL)	0.220	0.404	0.651	0.022	0.044	0.074		2.0		
 	$C \ \to Y$	(HL)	0.200	0.333	0.273	0.016	0.026	0.043				
I	5 → 1	(LH)	0.030	0.173	0.273	0.010	0.020	0.043				
F431NBP	A → Y	(HH)	0.272	0.510	0.849	0.006	0.011	0.018	Α	1.0	Y	45
. 4511101	A 7 I	(LL)	0.297	0.639	1.068	0.005	0.007	0.012	В	1.0	'	
 	$B \ \to Y$	(HH)	0.403	0.785	1.356	0.006	0.007	0.012	C	1.0		1
 		(LL)	0.328	0.601	1.017	0.005	0.007	0.012				
	$C \ \to Y$	(HL)	0.297	0.536	0.898	0.005	0.007	0.012				
I	3 → 1	(LH)	0.356	0.722	1.265	0.006	0.011	0.018				
		(=)	2.300		00			2.3.0				

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1		l In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L431NC	$A \ \to Y$	(HH)	0.128	0.219	0.331	0.024	0.045	0.073	Α	1.0	Y	7
		(LL)	0.141	0.288	0.458	0.021	0.051	0.086	В	1.0		
	$B \ \to Y$	(HH)	0.187	0.351	0.570	0.047	0.092	0.151	С	1.0		
	C → Y	(LL) (HH)	0.157 0.222	0.268 0.419	0.440 0.678	0.025 0.047	0.045 0.092	0.078 0.151				
	0 → 1	(LL)	0.188	0.320	0.513	0.030	0.052	0.086				
F431NC	A → Y	(HH)	0.162	0.269	0.400	0.013	0.023	0.037	Α	1.0	Y	15
		(LL)	0.188	0.340	0.551	0.013	0.026	0.043	В	1.0		
	$B \ \to Y$	(HH)	0.221	0.406	0.652	0.022	0.044	0.074	С	1.0		
		(LL)	0.206	0.353	0.577	0.016	0.026	0.043				
	$C \rightarrow Y$	(HH)	0.227 0.210	0.415 0.363	0.663 0.595	0.022 0.016	0.044 0.026	0.074 0.043				
F431NCP	A → Y	(LL) (HH)	0.210	0.503	0.854	0.006	0.026	0.043	A	1.0	Y	45
14311101	A → I	(LL)	0.299	0.644	1.076	0.005	0.007	0.012	В	1.0	l '	40
	$B \to Y$	(HH)	0.404	0.788	1.362	0.006	0.011	0.018	c	1.0		
		(LL)	0.328	0.603	1.017	0.005	0.007	0.012				
	$C \ \to \ Y$	(HH)	0.437	0.854	1.469	0.006	0.011	0.018				
		(LL)	0.379	0.674	1.127	0.005	0.007	0.012				
L431ND	$A \ \to \ Y$	(HL)	0.088	0.183	0.253	0.021	0.051	0.085	A	1.0	Y	7
	B → Y	(LH) (HH)	0.073 0.192	0.117 0.355	0.161 0.578	0.025 0.046	0.046 0.092	0.073 0.151	B C	1.0 1.0		
	D → f	(LL)	0.152	0.355	0.378	0.046	0.092	0.131		1.0		
	$C \rightarrow Y$	(HL)	0.106	0.181	0.283	0.031	0.051	0.085				
		(LH)	0.143	0.293	0.489	0.046	0.092	0.151				
F431ND	$A \rightarrow Y$	(HL)	0.095	0.155	0.215	0.013	0.026	0.043	Α	2.0	Y	15
		(LH)	0.072	0.112	0.155	0.013	0.023	0.037	В	1.0		
	$B \ \to Y$	(HH)	0.223	0.410	0.657	0.022	0.044	0.074	С	2.0		
		(LL) (HL)	0.202 0.094	0.344 0.161	0.564 0.252	0.016 0.015	0.026 0.025	0.043 0.042				
	$C \rightarrow Y$	(LH)	0.094	0.161	0.232	0.013	0.023	0.042				
F431NDP	A → Y	(HL)	0.242	0.528	0.861	0.004	0.007	0.011	Α	1.0	Y	46
		(LH)	0.227	0.408	0.672	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HH)	0.402	0.782	1.344	0.006	0.011	0.018	С	1.0		
		(LL)	0.325	0.594	1.005	0.004	0.007	0.011				
	$C \rightarrow Y$	(HL)	0.294	0.530	0.884	0.004	0.007	0.011				
L431NE	A → Y	(LH) (HL)	0.356 0.084	0.718 0.181	1.253 0.251	0.006 0.021	0.011 0.051	0.018 0.085	A	1.0	Y	7
LASTINE	A → T	(LH)	0.084	0.101	0.251	0.021	0.031	0.083	В	1.0	'	,
	$B \to Y$	(HH)	0.190	0.359	0.577	0.047	0.092	0.151	С	1.0		
		(LL)	0.157	0.264	0.434	0.025	0.045	0.078				
	$C \ \to \ Y$	(HH)	0.226	0.426	0.690	0.047	0.092	0.151				
		(LL)	0.187	0.317	0.513	0.030	0.051	0.085				
F431NE	$A \ \to Y$	(HL) (LH)	0.094 0.072	0.155 0.112	0.215 0.155	0.013 0.013	0.026 0.023	0.043 0.037	A B	2.0 1.0	Y	15
	B → Y	(Ln) (HH)	0.072	0.112	0.155	0.013	0.023	0.037	C	1.0		
	B → I	(LL)	0.204	0.348	0.568	0.016	0.026	0.043		1.0		
	$C \rightarrow Y$	(HH)	0.225	0.413	0.662	0.022	0.044	0.074				
		(LL)	0.200	0.338	0.554	0.016	0.026	0.043				
F431NEP	$A \ \to Y$	(HL)	0.246	0.535	0.868	0.005	0.007	0.012	Α	1.0	Y	46
	_	(LH)	0.230	0.413	0.678	0.006	0.011	0.018	В	1.0		
	B → Y	(HH)	0.407	0.792	1.365	0.006	0.011	0.018	С	1.0		
	C → Y	(LL) (HH)	0.327 0.441	0.598 0.862	1.014 1.476	0.005 0.006	0.007 0.011	0.012 0.018				
	U → Y	(LL)	0.377	0.671	1.125	0.005	0.007	0.018				
		(LL)	0.011	0.07 1	20	0.000	0.001	0.012				

[MEMO]

Function	1-1-2-INPUT OR-AND-INVERTER SSI Family											
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with inv	′. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L432	2	L432NA	3	L432NB	3	L432NC	4	L432ND	4	L432NE	3
x1	F432	5	F432NA	5	F432NB	5	F432NC	6	F432ND	6	F432NE	5
x2	F432NP	5	F432NAP	6	F432NBP	6	F432NCP	7	F432NDP	7	F432NEP	6
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power	L432NF	4	L432NG	3	L432NH	3						
x1	F432NF	6	F432NG	5	F432NH	5						
x2	F432NFP	7	F432NGP	6	F432NHP	6						
x4												
x8												
Logic Diagra for "Noi D H04+ C H03+ B H02- A H01+	am rmal type") 0	D F C F N01 Y B F A F	fo 104 — 103 — 102 —	Diagram r "with inv. /	A type	» N01 Y	D H C H	03-			V01 Y
Logic Diagrafor "with D H04 C H03 A H01	am n inv. C type		D F C F	Logic Diagram for "with inv. D type" D H04+C C H03+C B H02- A H01+					Logic Diagram for "with inv. E type" D H04 C H03 A H01 N01			
Logic Diagra for "with D H04+O C H03+O B H02+ A H01+	am n inv. F type		D F C F N01 Y B F A F	fo 104 - 103 - 9	Diagram r "with inv. (3 type	" → N01 Y	D H C H B H A H	03-0			V01 Y

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1] In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L432	$A \ \to \ Y$	(HL)	0.116	0.213	0.315	0.033	0.068	0.117	Α	1.0	Y	7
		(LH)	0.083	0.134	0.191	0.025	0.045	0.072	В	1.0		
	$B \ \to Y$	(HL)	0.113	0.225	0.362	0.033	0.068	0.117	С	1.0		
	$C \rightarrow Y$	(LH) (HL)	0.099 0.120	0.161 0.210	0.235 0.369	0.024 0.038	0.045 0.068	0.072 0.116	D	1.0		
	$C \ \to \ Y$	(HL) (LH)	0.120	0.210	0.553	0.038	0.088	0.116				
	$D \ \to Y$	(HL)	0.175	0.241	0.411	0.038	0.068	0.117				
	D -> 1	(LH)	0.164	0.342	0.593	0.044	0.088	0.147				
F432	A → Y	(HL)	0.141	0.222	0.314	0.022	0.039	0.065	Α	2.0	Y	14
		(LH)	0.083	0.137	0.193	0.012	0.023	0.036	В	2.0		
	$B \ \to \ Y$	(HL)	0.119	0.235	0.366	0.022	0.040	0.065	С	2.1		
		(LH)	0.100	0.167	0.244	0.012	0.023	0.036	D	2.1		
	$C \rightarrow Y$	(HL)	0.147	0.266	0.422	0.024	0.039	0.065				
	5	(LH)	0.169	0.341	0.582	0.022	0.044	0.074				
	$D \ \to \ Y$	(HL) (LH)	0.147 0.169	0.266 0.341	0.422 0.583	0.024 0.022	0.039 0.044	0.065 0.074				
F432NP	A → Y	(LH) (HL)	0.169	0.341	1.015	0.022	0.044	0.074	A	1.0	Y	46
1432111	A → I	(LH)	0.238	0.428	0.705	0.006	0.007	0.018	В	1.0		10
	$B \ \to Y$	(HL)	0.309	0.627	1.056	0.004	0.007	0.011	c	1.0		
		(LH)	0.259	0.467	0.773	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.330	0.621	1.057	0.004	0.007	0.011				
		(LH)	0.383	0.756	1.325	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL)	0.340	0.644	1.099	0.004	0.007	0.011				
		(LH)	0.372	0.768	1.363	0.006	0.011	0.018				
L432NA	$A \ \to \ Y$	(HH)	0.133	0.235	0.357	0.024	0.045	0.072	A	1.0	Y	7
	5 1/	(LL)	0.163	0.321 0.229	0.519	0.033	0.069	0.119	В	1.0		
	$B \ \to Y$	(HL) (LH)	0.114 0.097	0.229	0.358 0.231	0.033 0.025	0.069 0.046	0.119 0.073	C	1.0 1.0		
	$C \rightarrow Y$	(LII) (HL)	0.120	0.139	0.362	0.023	0.040	0.073		1.0		
	C → I	(LH)	0.170	0.317	0.531	0.043	0.088	0.117				
	$D \ \to Y$	(HL)	0.131	0.247	0.406	0.038	0.068	0.117				
		(LH)	0.158	0.329	0.567	0.043	0.088	0.147				
F432NA	$A \ \to Y$	(HH)	0.179	0.309	0.472	0.013	0.023	0.037	Α	1.0	Y	14
		(LL)	0.217	0.406	0.657	0.022	0.040	0.066	В	2.0		
	$B \ \to Y$	(HL)	0.127	0.203	0.283	0.022	0.040	0.066	С	2.0		
		(LH)	0.076	0.126	0.175	0.013	0.023	0.037	D	2.0		
	$C \rightarrow Y$	(HL) (LH)	0.147 0.163	0.262 0.328	0.415 0.555	0.025 0.022	0.040 0.044	0.066 0.074				
	$D \ \to Y$	(HL)	0.145	0.260	0.412	0.025	0.044	0.066				
	D -> 1	(LH)	0.162	0.328	0.555	0.022	0.044	0.074				
F432NAP	A → Y	(HH)	0.285	0.531	0.888	0.006	0.011	0.018	Α	1.0	Y	46
		(LL)	0.361	0.730	1.236	0.005	0.007	0.012	В	1.0		
	$B \ \to \ Y$	(HL)	0.312	0.637	1.077	0.005	0.007	0.012	С	1.0		
		(LH)	0.258	0.467	0.778	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.335	0.633	1.076	0.005	0.007	0.012				
	5	(LH)	0.386	0.762	1.345	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL) (LH)	0.347 0.374	0.655 0.774	1.117 1.382	0.005 0.006	0.007 0.011	0.012 0.018				
L432NB	A → Y	(LII)	0.374	0.774	0.363	0.006	0.011	0.018	A	1.0	Y	7
LTOZIND	A → I	(LL)	0.164	0.320	0.518	0.033	0.043	0.072	В	1.0	Ι΄.	'
	$B \ \to Y$	(HH)	0.155	0.271	0.418	0.025	0.046	0.073	c	1.0		
		(LL)	0.180	0.358	0.590	0.033	0.069	0.118	D	1.0		
	$C \ \to \ Y$	(HL)	0.120	0.227	0.369	0.039	0.069	0.119				
		(LH)	0.169	0.315	0.529	0.043	0.088	0.147				
	$D \ \to \ Y$	(HL)	0.131	0.248	0.411	0.038	0.068	0.117				
		(LH)	0.157	0.327	0.565	0.043	0.088	0.147			l .	

FUNCTION BLOCK FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t ı	_D0 (ns)			t 1		In	put	Ou	itput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F432NB	$A \ \to \ Y$	(HH)	0.184	0.313	0.474	0.013	0.023	0.037	Α	1.0	Y	14
		(LL)	0.220	0.418	0.679	0.022	0.041	0.066	В	1.0		
	$B \ \to Y$	(HH)	0.171	0.285	0.423	0.013	0.023	0.037	C	2.0		
	$C \ \to \ Y$	(LL) (HL)	0.215 0.152	0.389 0.273	0.629 0.436	0.022 0.025	0.040 0.040	0.066 0.066	"	2.0		
	C → Y	(HL)	0.152	0.273	0.436	0.025	0.040	0.066				
l	$D \ \to Y$	(HL)	0.149	0.323	0.432	0.022	0.040	0.066				
l	<i>D</i> -> 1	(LH)	0.161	0.325	0.553	0.022	0.044	0.074				
F432NBP	A → Y	(HH)	0.289	0.536	0.893	0.006	0.011	0.018	Α	1.0	Y	46
l		(LL)	0.362	0.732	1.237	0.005	0.007	0.012	В	1.0		
l	$B \ \to \ Y$	(HH)	0.313	0.582	0.967	0.006	0.011	0.018	С	1.0		
l		(LL)	0.378	0.767	1.298	0.005	0.007	0.012	D	1.0		
l	$C \rightarrow Y$	(HL)	0.336	0.635	1.082	0.005	0.007	0.012				
	D ''	(LH)	0.385 0.347	0.761	1.343 1.124	0.006 0.005	0.011 0.007	0.018				
	$D \ \to \ Y$	(HL) (LH)	0.347	0.657 0.773	1.124	0.005	0.007	0.012 0.018				
L432NC	A → Y	(HH)	0.373	0.773	0.363	0.004	0.045	0.018	A	1.0	Y	7
2-102110	7. 7.1	(LL)	0.164	0.320	0.518	0.033	0.069	0.119	В	1.0	l '	
	$B \ \to Y$	(HH)	0.157	0.274	0.420	0.025	0.046	0.073	C	1.0		
l		(LL)	0.181	0.359	0.598	0.033	0.069	0.118	D	1.0		
l	$C \ \to \ Y$	(HH)	0.230	0.440	0.731	0.043	0.088	0.147				
l		(LL)	0.207	0.364	0.597	0.039	0.069	0.119				
l	$D \ \to \ Y$	(HL)	0.131	0.249	0.411	0.038	0.068	0.117				
- 100110		(LH)	0.158	0.329	0.569	0.043	0.088	0.147		4.0		
F432NC	$A \ \to \ Y$	(HH)	0.183	0.312	0.474	0.013	0.023	0.037	A	1.0	Y	14
l	$B \ \to Y$	(LL) (HH)	0.220 0.171	0.418 0.285	0.679 0.423	0.022 0.013	0.040 0.023	0.066 0.037	B C	1.0 1.0		
l	$D \to f$	(LL)	0.171	0.283	0.629	0.013	0.023	0.037	D	2.0		
l	$C \rightarrow Y$	(HH)	0.258	0.492	0.808	0.022	0.044	0.074		2.0		
l	· , .	(LL)	0.267	0.461	0.753	0.025	0.040	0.066				
l	$D \ \to \ Y$	(HL)	0.148	0.270	0.434	0.025	0.040	0.066				
		(LH)	0.161	0.325	0.557	0.022	0.044	0.074				
F432NCP	$A \ \to \ Y$	(HH)	0.295	0.543	0.899	0.006	0.011	0.018	A	1.0	Y	46
l		(LL)	0.368	0.742	1.253	0.004	0.007	0.011	В	1.0		
l	$B \ \to Y$	(HH)	0.308 0.370	0.574	0.953	0.006 0.004	0.011 0.007	0.018 0.011	C	1.0		
l	$C \ \to \ Y$	(LL) (HH)	0.370	0.754 0.878	1.279 1.527	0.004	0.007	0.011	"	1.0		
l	U → f	(LL)	0.443	0.768	1.301	0.004	0.007	0.018				
	$D \ \to Y$	(HL)	0.343	0.651	1.112	0.004	0.007	0.011				
		(LH)	0.372	0.768	1.366	0.006	0.011	0.018				
L432ND	$A \ \to \ Y$	(HH)	0.144	0.246	0.376	0.025	0.045	0.072	Α	1.0	Y	7
		(LL)	0.173	0.334	0.548	0.033	0.069	0.118	В	1.0		
	$B \ \to \ Y$	(HH)	0.152	0.267	0.412	0.025	0.046	0.073	С	1.0		
	0 1:	(LL)	0.176 0.230	0.349 0.439	0.578 0.729	0.033 0.044	0.069 0.088	0.119 0.147	D	1.0		
l	$C \ \to \ Y$	(HH) (LL)	0.230	0.439	0.729	0.044	0.088	0.147				
	$D \ \to Y$	(LL) (HH)	0.206	0.359	0.594	0.039	0.088	0.118				
	D → 1	(LL)	0.241	0.465	0.773	0.038	0.068	0.147				
F432ND	A → Y	(HH)	0.183	0.311	0.474	0.013	0.023	0.037	Α	1.0	Y	14
		(LL)	0.220	0.418	0.679	0.022	0.040	0.066	В	1.0		
	$B \ \to \ Y$	(HH)	0.171	0.285	0.423	0.013	0.023	0.037	С	1.0		
		(LL)	0.213	0.387	0.628	0.022	0.040	0.066	D	1.0		
	$C \ \to \ Y$	(HH)	0.261	0.496	0.812	0.022	0.044	0.074				
	_	(LL)	0.267	0.459	0.749	0.025	0.040	0.066				
	$D \ \to Y$	(HH)	0.259	0.493	0.808	0.022	0.044	0.074				
		(LL)	0.264	0.454	0.741	0.025	0.040	0.066	l			

Б			Swite	ching sp	eed							
Block	Path		t ı	_D0 (ns))		t 1		In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F432NDP	$A \ \to \ Y$	(HH)	0.293	0.541	0.896	0.006	0.011	0.018	A	1.0	Y	45
	D V	(LL) (HH)	0.366 0.308	0.739 0.574	1.245 0.953	0.004 0.006	0.007 0.011	0.011 0.018	B C	1.0 1.0		
	$B \ \to Y$	(LL)	0.370	0.753	1.280	0.004	0.007	0.018	D	1.0		
	C → Y	(HH)	0.442	0.878	1.527	0.006	0.011	0.018		1.0		
		(LL)	0.418	0.765	1.296	0.004	0.007	0.011				
	$D \ \to Y$	(HH)	0.454	0.905	1.570	0.006	0.011	0.018				
		(LL)	0.429	0.787	1.339	0.004	0.007	0.011				
L432NE	$A \ \to Y$	(HH)	0.139	0.240	0.362	0.024	0.045	0.072	A	1.0	Y	7
	D V	(LL)	0.164 0.113	0.321 0.229	0.521	0.033	0.069 0.069	0.119	В	1.0		
	$B \ \to Y$	(HL) (LH)	0.113	0.229	0.359 0.231	0.033 0.025	0.069	0.119 0.073	C	1.0 1.0		
	C → Y	(HH)	0.228	0.437	0.728	0.023	0.048	0.073		1.0		
	0 7 1	(LL)	0.206	0.359	0.588	0.039	0.069	0.118				
	$D \rightarrow Y$	(HL)	0.131	0.247	0.406	0.038	0.068	0.117				
		(LH)	0.159	0.331	0.571	0.043	0.088	0.147				
F432NE	$A \ \to Y$	(HH)	0.189	0.320	0.486	0.013	0.023	0.037	Α	1.0	Y	14
		(LL)	0.219	0.415	0.673	0.022	0.040	0.066	В	2.0		
	$B \rightarrow Y$	(HL)	0.127	0.202	0.283	0.022	0.040	0.066	С	1.0		
		(LH)	0.076	0.126	0.175	0.013	0.023	0.037	D	2.0		
	$C \rightarrow Y$	(HH)	0.256	0.485	0.796	0.022	0.044	0.074				
	$D \rightarrow Y$	(LL) (HL)	0.259 0.144	0.441 0.260	0.717 0.413	0.025 0.025	0.040 0.040	0.066 0.066				
	υ → τ	(LH)	0.163	0.329	0.557	0.023	0.044	0.074				
F432NEP	A → Y	(HH)	0.289	0.536	0.892	0.006	0.011	0.018	Α	1.0	Y	45
02.12.		(LL)	0.362	0.732	1.238	0.005	0.007	0.012	В	1.0		
	$B \ \to Y$	(HL)	0.312	0.637	1.077	0.005	0.007	0.012	С	1.0		
		(LH)	0.259	0.466	0.778	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HH)	0.444	0.883	1.543	0.006	0.011	0.018				
		(LL)	0.422	0.770	1.299	0.005	0.007	0.012				
	$D \rightarrow Y$	(HL)	0.346	0.656	1.119 1.385	0.005 0.006	0.007	0.012				
L432NF	A → Y	(LH) (HH)	0.375 0.145	0.777 0.247	0.377	0.006	0.011	0.018	A	1.0	Y	7
L43ZINF	A → f	(LL)	0.175	0.337	0.548	0.023	0.043	0.072	В	1.0	'	' I
	$B \rightarrow Y$	(HL)	0.113	0.229	0.360	0.033	0.069	0.119	c	1.0		
		(LH)	0.097	0.159	0.231	0.025	0.046	0.073	D	1.0		
	$C \rightarrow Y$	(HH)	0.225	0.431	0.721	0.043	0.088	0.147				
		(LL)	0.202	0.351	0.573	0.039	0.069	0.119				
	$D \ \to Y$	(HH)	0.240	0.465	0.773	0.043	0.088	0.147				
EAGONE		(LL)	0.218	0.383	0.633	0.038	0.068	0.117		4.0	.,	4.4
F432NF	$A \ \to Y$	(HH)	0.184 0.216	0.314 0.407	0.478 0.663	0.013 0.022	0.023 0.040	0.037 0.066	A B	1.0 2.0	Y	14
	B → Y	(LL) (HL)	0.216	0.407	0.863	0.022	0.040	0.066	C	1.0		
	D → 1	(LH)	0.075	0.123	0.174	0.013	0.023	0.037	D	1.0		
	C → Y	(HH)	0.261	0.496	0.810	0.022	0.044	0.074				
		(LL)	0.262	0.450	0.732	0.025	0.040	0.066				
	$D \ \to Y$	(HH)	0.258	0.493	0.806	0.022	0.044	0.074				
		(LL)	0.260	0.445	0.725	0.025	0.040	0.066				
F432NFP	$A \ \to Y$	(HH)	0.296	0.544	0.900	0.006	0.011	0.018	A	1.0	Y	45
	B → Y	(LL) (HL)	0.369 0.309	0.741 0.631	1.254 1.065	0.004 0.004	0.007 0.007	0.011 0.011	B C	1.0 1.0		
	D → Y	(HL) (LH)	0.309	0.464	0.772	0.004	0.007	0.011	D	1.0		
	C → Y	(HH)	0.436	0.404	1.517	0.006	0.011	0.018		1.0		
		(LL)	0.413	0.754	1.279	0.004	0.007	0.011				
	$D \rightarrow Y$	(HH)	0.453	0.905	1.571	0.006	0.011	0.018				
		(LL)	0.429	0.785	1.334	0.004	0.007	0.011				

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Divi			Swite	ching sp	eed							
Block	Path		t۱	LD0 (ns)	1		t 1		l in	put	Ou	tput
type	$IN \rightarrow $	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L432NG	$A \rightarrow Y$	(HL)	0.117	0.212	0.315	0.033	0.069	0.118	Α	1.0	Y	7
		(LH)	0.081	0.133	0.186	0.025	0.045	0.072	В	1.0		
	$B \ \to Y$	(HL)	0.112	0.222	0.354	0.033	0.069	0.118	С	1.0		
		(LH)	0.098	0.161	0.234	0.025	0.046	0.073	D	1.0		
	$C \rightarrow Y$	(HH)	0.220	0.428	0.716	0.043	0.088	0.147				
		(LL)	0.197	0.342	0.565	0.039	0.069	0.118				
	$D \ \to Y$	(HL)	0.129	0.242	0.397	0.038	0.068	0.117				
		(LH)	0.159	0.331	0.571	0.043	0.088	0.147				
F432NG	$A \ \to Y$	(HL)	0.121	0.233	0.357	0.022	0.040	0.066	Α	2.0	Y	14
		(LH)	0.098	0.162	0.236	0.013	0.023	0.037	В	2.0		
	$B \ \to Y$	(HL)	0.130	0.203	0.284	0.022	0.040	0.066	С	1.0		
		(LH)	0.076	0.126	0.175	0.013	0.023	0.037	D	2.0		
	$C \rightarrow Y$	(HH)	0.252	0.483	0.795	0.022	0.044	0.074				
		(LL)	0.254	0.432	0.705	0.025	0.040	0.066				
	$D \rightarrow Y$	(HL)	0.144	0.256	0.406	0.025	0.040	0.066				
E4001100		(LH)	0.164	0.331	0.561	0.022	0.044	0.074		4.0	Y	45
F432NGP	$A \ \to Y$	(HL)	0.319	0.625	1.035	0.005	0.007	0.012	A	1.0	Y	45
		(LH)	0.240	0.433	0.714	0.006	0.011	0.018	В	1.0		
	$B \to Y$	(HL)	0.314	0.637	1.075	0.005	0.007	0.012	С	1.0		
		(LH)	0.260	0.470	0.783	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HH)	0.437	0.878	1.537	0.006	0.011	0.018				
	,	(LL)	0.414 0.347	0.757 0.652	1.282 1.114	0.005	0.007 0.007	0.012				
	$D \ \to Y$	(HL)	0.347		1.114	0.005 0.006	0.007	0.012 0.018				
1.4000111	A 1/	(LH)		0.781					_	1.0	Y	7
L432NH	$A \ \to \ Y$	(HL) (LH)	0.117 0.081	0.211 0.133	0.315 0.186	0.033 0.025	0.069 0.045	0.118 0.072	A B	1.0	1	' I
	$B \to Y$	(LI I) (HL)	0.001	0.133	0.160	0.023	0.043	0.072	C	1.0		
	D → f	(LH)	0.098	0.222	0.334	0.033	0.009	0.118	D	1.0		
	C → Y	(HH)	0.030	0.434	0.723	0.023	0.040	0.073		1.0		
	0 → 1	(LL)	0.197	0.342	0.568	0.039	0.069	0.118				
	$D \to Y$	(HH)	0.242	0.466	0.774	0.043	0.088	0.147				
	D 7 1	(LL)	0.211	0.374	0.616	0.038	0.068	0.117				
F432NH	$A \rightarrow Y$	(HL)	0.121	0.233	0.357	0.022	0.040	0.066	Α	2.0	Y	14
	/ · · · ·	(LH)	0.098	0.162	0.237	0.013	0.023	0.037	В	2.0	'	'
	$B \to Y$	(HL)	0.130	0.202	0.284	0.022	0.040	0.066	c	1.0		
	- ' '	(LH)	0.076	0.126	0.175	0.013	0.023	0.037	D	1.0		
	$C \rightarrow Y$	(HH)	0.262	0.496	0.808	0.022	0.044	0.074				
		(LL)	0.256	0.434	0.708	0.025	0.040	0.066				
	D o Y	(HH)	0.264	0.499	0.813	0.022	0.044	0.074				
		(LL)	0.257	0.438	0.715	0.025	0.040	0.066				
F432NHP	$A \rightarrow Y$	(HL)	0.319	0.625	1.036	0.005	0.007	0.012	Α	1.0	Y	45
		(LH)	0.240	0.433	0.714	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.314	0.637	1.074	0.005	0.007	0.012	С	1.0		
		(LH)	0.260	0.470	0.783	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HH)	0.443	0.884	1.544	0.006	0.011	0.018				
		(LL)	0.414	0.758	1.283	0.005	0.007	0.012				
	$D \ \to Y$	(HH)	0.459	0.916	1.594	0.006	0.011	0.018				
		(LL)	0.429	0.785	1.334	0.005	0.007	0.012				

[MEMO]

Function	1-3-	INPU	T OR-ANI	D-INV	ERTER				S	SI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. B	with inv	. C	with inv	. D	with inv	ν. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L433	2	L433NA	3	L433NB	3	L433NC	4	L433ND	4	L433NE	3
x1	F433	4	F433NA	5	F433NB	5	F433NC	6	F433ND	6	F433NE	5
x2	F433NP	5	F433NAP	6	F433NBP	6	F433NCP	7	F433NDP	7	F433NEP	6
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power	L433NF	3	L433NG	4								
x1	F433NF	5	F433NG	6								
x2	F433NFP	6	F433NGP	7								
x4												
x8												
Logic Diagram for "Normal type" D H04 C H03 B H02 A H01 Logic Diagram for "with inv. A type" D H04 C H03 B H02 A H01 Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. B type" Logic Diagram for "with inv. C type" Logic Diagram for "with inv. E type"									0→ N	N01 Y		
D H04)	CF	104←0 103←0 102←0 101←	<u></u>		o→ N01 Y		03-02-0		0-1	₩01 Y
Logic Diagra for "with D H04— C H03— B H02— A H01	am n inv. F type		D F	fo 104-0 103-0 102-0	Diagram r "with inv. (G type	")⊶ N01 Y	L	ogic Diagra for "with		H type"	

Divid			Swite	ching sp	eed				Ι.			
Block	Path		t I	LD0 (ns))		t 1		In	put	Ou	tput
type	IN \rightarrow C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L433	$A \rightarrow Y$	(HL)	0.093	0.185	0.267	0.019	0.049	0.083	Α	1.0	Υ	6
		(LH)	0.083	0.132	0.187	0.025	0.046	0.073	В	1.0		
	$B \ \to Y$	(HL)	0.102	0.170	0.277	0.029	0.049	0.083	С	1.0		
		(LH)	0.201	0.381	0.646	0.066	0.135	0.226	D	1.0		
	$C \rightarrow Y$	(HL)	0.112	0.186	0.306	0.029	0.049	0.083				
		(LH)	0.210	0.436	0.756	0.066	0.135	0.226				
	$D \ \to Y$	(HL) (LH)	0.124 0.238	0.199 0.512	0.327 0.873	0.024 0.066	0.044 0.135	0.077 0.226				
F433	A → Y	(HL)	0.095	0.312	0.258	0.013	0.027	0.044	Α	2.0	Y	13
1 455	A → 1	(LH)	0.073	0.116	0.162	0.012	0.023	0.036	В	2.1	'	"
	$B \ \to Y$	(HL)	0.106	0.183	0.284	0.016	0.026	0.044	c	2.1		
	J , .	(LH)	0.196	0.401	0.686	0.033	0.067	0.112	D	2.1		
	$C \rightarrow Y$	(HL)	0.118	0.200	0.309	0.016	0.027	0.044				
		(LH)	0.214	0.452	0.773	0.033	0.067	0.112				
	$D \ \to Y$	(HL)	0.106	0.184	0.284	0.016	0.026	0.044				
		(LH)	0.195	0.402	0.686	0.032	0.067	0.112				
F433NP	$A \ \to \ Y$	(HL)	0.237	0.544	0.884	0.004	0.007	0.011	Α	1.0	Y	46
		(LH)	0.228	0.409	0.674	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.262	0.476	0.799	0.004	0.007	0.011	С	1.0		
		(LH)	0.426	0.840	1.499	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.297	0.534	0.891	0.004	0.007	0.011				
		(LH)	0.452	0.950	1.704	0.006	0.011	0.018				
	$D \ \to Y$	(HL)	0.298	0.540	0.903	0.004	0.007	0.011				
1.400014		(LH) (HH)	0.450 0.123	0.968 0.216	1.738 0.334	0.006 0.025	0.011	0.018 0.072	A	1.0	Υ	6
L433NA	$A \ \to Y$	(LL)	0.123	0.216	0.334	0.025	0.045	0.072	В	1.0	'	6
	$B \ \to Y$	(HL)	0.139	0.293	0.472	0.020	0.031	0.038	C	1.0		
	D → 1	(LH)	0.069	0.130	0.502	0.025	0.043	0.078	D	1.0		
	$C \rightarrow Y$	(HL)	0.108	0.188	0.294	0.030	0.051	0.086	-	1.0		
	0 7 1	(LH)	0.192	0.413	0.704	0.065	0.133	0.224				
	$D \ \to Y$	(HL)	0.111	0.193	0.305	0.030	0.050	0.084				
		(LH)	0.190	0.427	0.740	0.065	0.133	0.224				
F433NA	$A \rightarrow Y$	(HH)	0.158	0.260	0.387	0.013	0.023	0.037	Α	1.0	Y	13
		(LL)	0.179	0.359	0.580	0.012	0.027	0.044	В	2.0		
	$B \ \to Y$	(HL)	0.109	0.191	0.294	0.016	0.026	0.044	С	2.1		
		(LH)	0.191	0.395	0.677	0.033	0.067	0.113	D	2.1		
	$C \rightarrow Y$	(HL)	0.122	0.209	0.324	0.016	0.027	0.044				
		(LH)	0.211	0.451	0.770	0.033	0.067	0.113				
	$D \ \to Y$	(HL)	0.113	0.194	0.300	0.016	0.027	0.044				
F433NAP	A → Y	(LH) (HH)	0.195 0.271	0.400 0.510	0.687 0.851	0.033	0.067 0.011	0.113 0.018	A	1.0	Y	46
F433INAP	$A \rightarrow Y$	(HH)	0.271	0.655	1.095	0.006	0.011	0.018	В	1.0	'	40
	$B \ \to Y$	(LL) (HL)	0.293	0.655	0.812	0.005	0.007	0.012	C	1.0		
	D → I	(LH)	0.428	0.849	1.523	0.006	0.011	0.012	D	1.0		
	$C \rightarrow Y$	(HL)	0.300	0.542	0.907	0.005	0.007	0.012	_			
	0 -> 1	(LH)	0.455	0.964	1.728	0.006	0.011	0.018				
	$D \ \to Y$	(HL)	0.303	0.549	0.922	0.005	0.007	0.012				
		(LH)	0.453	0.977	1.762	0.006	0.011	0.018				
L433NB	$A \ \to Y$	(HH)	0.127	0.220	0.336	0.025	0.045	0.072	Α	1.0	Y	6
		(LL)	0.141	0.298	0.475	0.020	0.051	0.086	В	1.0		
	$B \ \to Y$	(HH)	0.217	0.421	0.702	0.065	0.133	0.224	С	1.0		
		(LL)	0.165	0.280	0.456	0.025	0.045	0.078	D	1.0		
	$C \ \to \ Y$	(HL)	0.108	0.188	0.294	0.030	0.051	0.086				
	_	(LH)	0.193	0.415	0.707	0.065	0.133	0.224				
	$D \ \to Y$	(HL)	0.111	0.193	0.305	0.030	0.050	0.084				
		(LH)	0.192	0.429	0.742	0.065	0.133	0.224				

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F433NB	$A \ \to \ Y$	(HH)	0.160	0.265	0.394	0.013	0.023	0.037	A	1.0	Y	13
	$B \ \to Y$	(LL) (HH)	0.181 0.286	0.366 0.557	0.595 0.922	0.013 0.033	0.027 0.067	0.044 0.113	B C	1.0 2.1		
	$B \ \to Y$	(LL)	0.218	0.370	0.603	0.033	0.007	0.113	D	2.1		
	$C \ \to Y$	(HL)	0.121	0.209	0.324	0.016	0.027	0.044		2.1		
	· , .	(LH)	0.211	0.454	0.775	0.033	0.067	0.113				
	$D \ \to Y$	(HL)	0.112	0.194	0.300	0.016	0.027	0.044				
		(LH)	0.195	0.404	0.688	0.033	0.067	0.113				
F433NBP	$A \ \to \ Y$	(HH)	0.275	0.515	0.854	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.295	0.659	1.097	0.005	0.007	0.012	В	1.0		
	$B \ \to Y$	(HH)	0.480	0.972	1.725	0.006	0.011	0.018	С	1.0		
		(LL)	0.338	0.615	1.039	0.005	0.007	0.012	D	1.0		
	$C \ \to \ Y$	(HL)	0.302 0.456	0.544 0.966	0.908 1.730	0.005 0.006	0.007 0.011	0.012 0.018				
	$D \ \to Y$	(LH) (HL)	0.456	0.549	0.920	0.006	0.011	0.018				
	D → f	(LH)	0.303	0.979	1.765	0.005	0.007	0.012				
L433NC	A → Y	(HH)	0.131	0.226	0.340	0.025	0.046	0.074	Α	1.0	Y	6
		(LL)	0.144	0.304	0.489	0.020	0.051	0.086	В	1.0		
	$B \ \to Y$	(HH)	0.222	0.428	0.712	0.065	0.133	0.224	С	1.0		
		(LL)	0.169	0.285	0.464	0.025	0.045	0.078	D	1.0		
	$C \ \to \ Y$	(HH)	0.278	0.553	0.923	0.065	0.133	0.224				
		(LL)	0.193	0.327	0.530	0.030	0.051	0.086				
	$D \ \to \ Y$	(HL)	0.113	0.195	0.308	0.030	0.050	0.084				
- 100NO		(LH)	0.194	0.438	0.753	0.065	0.133	0.224		4.0		40
F433NC	$A \ \to \ Y$	(HH)	0.163	0.269	0.396	0.013	0.023	0.037	A	1.0	Y	13
	$B \ \to Y$	(LL) (HH)	0.186 0.290	0.370 0.560	0.602 0.927	0.012 0.033	0.027 0.067	0.044 0.113	B C	1.0 1.0		
	D → 1	(LL)	0.230	0.366	0.527	0.033	0.007	0.113	D	2.1		
	$C \ \to Y$	(HH)	0.321	0.623	1.030	0.033	0.023	0.112		2.1		
	0 -> 1	(LL)	0.231	0.396	0.644	0.016	0.027	0.044				
	$D \ \to Y$	(HL)	0.113	0.194	0.300	0.016	0.027	0.044				
		(LH)	0.196	0.403	0.691	0.033	0.067	0.113				
F433NCP	$A \ \to \ Y$	(HH)	0.278	0.518	0.857	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.296	0.659	1.100	0.004	0.007	0.011	В	1.0		
	$B \ \to Y$	(HH)	0.478	0.963	1.703	0.006	0.011	0.018	С	1.0		
	0 1/	(LL)	0.337	0.614	1.040	0.004	0.007	0.011	D	1.0		
	$C \rightarrow Y$	(HH) (LL)	0.535 0.380	1.088 0.678	1.915 1.137	0.006 0.004	0.011 0.007	0.018 0.011				
	$D \ \to Y$	(LL)	0.300	0.545	0.913	0.004	0.007	0.011				
	5 7 1	(LH)	0.451	0.972	1.745	0.006	0.007	0.011				
L433ND	$A \rightarrow Y$	(HH)	0.131	0.226	0.340	0.025	0.046	0.074	Α	1.0	Y	6
		(LL)	0.144	0.304	0.488	0.020	0.051	0.086	В	1.0		
	$B \ \to \ Y$	(HH)	0.221	0.426	0.710	0.065	0.133	0.224	С	1.0		
		(LL)	0.167	0.282	0.459	0.025	0.045	0.078	D	1.0		
	$C \ \to \ Y$	(HH)	0.277	0.553	0.923	0.065	0.133	0.224				
	5	(LL)	0.191	0.327	0.528	0.030	0.051	0.086				
	$D \ \to \ Y$	(HH) (LL)	0.289 0.193	0.576 0.328	0.960 0.532	0.065 0.030	0.133 0.050	0.224 0.084				
F433ND	A → Y	(LL)	0.193	0.328	0.532	0.030	0.050	0.084	A	1.0	Y	13
F433ND	A → Y	(LL)	0.183	0.365	0.595	0.013	0.023	0.037	В	1.0	'	15
	$B \ \to Y$	(HH)	0.103	0.567	0.937	0.033	0.027	0.113	C	1.0		
	- / '	(LL)	0.218	0.375	0.613	0.016	0.026	0.044	D	1.0		
	$C \ \to \ Y$	(HH)	0.322	0.625	1.032	0.033	0.067	0.113				
		(LL)	0.231	0.394	0.643	0.016	0.027	0.044				
	$D \ \to \ Y$	(HH)	0.293	0.567	0.939	0.033	0.067	0.113				
		(LL)	0.220	0.376	0.613	0.016	0.027	0.044				

FUNCTION BLOCK

			Swite	ching sp	eed						_	
Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F433NDP	$A \ \to \ Y$	(HH)	0.278	0.519	0.857	0.006	0.011	0.018	A	1.0	Y	46
1	5 1/	(LL) (HH)	0.296 0.477	0.659 0.961	1.099 1.703	0.004 0.006	0.007 0.011	0.011 0.018	B C	1.0 1.0		
1	$B \ \to Y$	(LL)	0.477	0.961	1.035	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HH)	0.534	1.088	1.915	0.004	0.007	0.011		1.0		
1	0 -> 1	(LL)	0.379	0.677	1.132	0.004	0.007	0.010				
1	$D \ \to Y$	(HH)	0.545	1.111	1.953	0.006	0.011	0.018				
1		(LL)	0.380	0.680	1.140	0.004	0.007	0.011				
L433NE	$A \ \to \ Y$	(HL)	0.085	0.187	0.267	0.020	0.051	0.085	Α	1.0	Y	6
1		(LH)	0.073	0.113	0.161	0.025	0.046	0.073	В	1.0		
1	$B \ \to Y$	(HH)	0.213	0.418	0.701	0.065	0.133	0.224	С	1.0		
1	o v	(LL) (HL)	0.158 0.109	0.269 0.187	0.437 0.290	0.025 0.031	0.045 0.051	0.078 0.086	D	1.0		
1	$C \ \to \ Y$	(HL)	0.109	0.167	0.290	0.065	0.031	0.000				
1	$D \ \to Y$	(HL)	0.111	0.190	0.713	0.030	0.050	0.084				
1	5 - 1	(LH)	0.111	0.434	0.750	0.065	0.133	0.004			1	
F433NE	A → Y	(HL)	0.087	0.176	0.239	0.012	0.027	0.044	Α	2.0	Y	13
		(LH)	0.068	0.105	0.143	0.013	0.023	0.037	В	1.0	1	
1	$B \ \to \ Y$	(HH)	0.283	0.555	0.921	0.033	0.067	0.113	С	2.1	1	
1		(LL)	0.209	0.353	0.578	0.016	0.026	0.044	D	2.1		
1	$C \rightarrow Y$	(HL)	0.120	0.200	0.304	0.016	0.027	0.044				
1		(LH)	0.213	0.457	0.776	0.033	0.067	0.113				
1	$D \ \to \ Y$	(HL) (LH)	0.110 0.197	0.183 0.407	0.280 0.692	0.016 0.033	0.027 0.067	0.044 0.113				
F433NEP	A → Y	(LII)	0.197	0.407	0.899	0.005	0.007	0.113	A	1.0	Y	45
F433INEF	A → f	(LH)	0.231	0.416	0.684	0.006	0.007	0.012	В	1.0	Ι΄.	45
1	$B \ \to Y$	(HH)	0.479	0.976	1.738	0.006	0.011	0.018	c	1.0		
1		(LL)	0.331	0.604	1.023	0.005	0.007	0.012	D	1.0		
1	$C \ \to \ Y$	(HL)	0.304	0.543	0.905	0.005	0.007	0.012				
1		(LH)	0.462	0.980	1.752	0.006	0.011	0.018				
1	$D \ \to \ Y$	(HL)	0.305	0.549	0.918	0.005	0.007	0.012				
L433NF		(LH)	0.460	0.993	1.787	0.006	0.011	0.018		4.0	Y	6
L433NF	$A \ \to \ Y$	(HL) (LH)	0.085 0.073	0.187 0.113	0.265 0.161	0.020 0.025	0.051 0.046	0.085 0.073	A B	1.0 1.0	'	6
1	$B \ \to Y$	(HH)	0.073	0.424	0.707	0.025	0.133	0.073	C	1.0		
1	D - 1	(LL)	0.158	0.270	0.438	0.025	0.045	0.078	D	1.0		
1	$C \ \to \ Y$	(HH)	0.279	0.552	0.918	0.065	0.133	0.224		-		
1		(LL)	0.187	0.318	0.513	0.031	0.051	0.085				
1	$D \ \to \ Y$	(HL)	0.111	0.190	0.298	0.030	0.050	0.084			1	
L		(LH)	0.195	0.438	0.752	0.065	0.133	0.224	ļ.,		ļ.,.	
F433NF	$A \ \to \ Y$	(HL)	0.087	0.174	0.240	0.012	0.027	0.044	A	2.0	Y	13
1	$B \ \to Y$	(LH) (HH)	0.068 0.292	0.105 0.565	0.143 0.930	0.013 0.033	0.023 0.067	0.037 0.113	B C	1.0 1.0		
1	$B \to Y$	(LL)	0.292	0.355	0.930	0.033	0.007	0.113	D	2.1		
1	$C \rightarrow Y$	(HH)	0.321	0.627	1.031	0.033	0.067	0.113				
1	5 / 1	(LL)	0.224	0.382	0.621	0.016	0.027	0.044				
1	$D \ \to \ Y$	(HL)	0.110	0.183	0.282	0.016	0.027	0.044				
		(LH)	0.197	0.408	0.695	0.033	0.067	0.113				
F433NFP	$A \ \to \ Y$	(HL)	0.241	0.551	0.900	0.005	0.007	0.012	Α	1.0	Y	45
1		(LH)	0.232	0.417	0.685	0.006	0.011	0.018	В	1.0		
1	$B \ \to Y$	(HH)	0.484 0.332	0.982	1.744 1.024	0.006	0.011	0.018 0.012	С	1.0		
1	$C \rightarrow Y$	(LL) (HH)	0.332	0.604 1.111	1.024	0.005 0.006	0.007 0.011	0.012	D	1.0		
1	$C \rightarrow Y$	(LL)	0.343	0.675	1.130	0.005	0.007	0.018				
1	$D \ \to Y$	(HL)	0.305	0.549	0.917	0.005	0.007	0.012				
1	2 / 1	(LH)	0.461	0.997	1.790	0.006	0.011	0.018				
		\=/										

			Swite	ching sp	eed							
Block	Path		t I	_D0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L433NG	$A \rightarrow Y$	(HL)	0.083	0.187	0.262	0.020	0.051	0.085	Α	1.0	Y	6
		(LH)	0.073	0.115	0.156	0.025	0.046	0.074	В	1.0		
	$B \ \to Y$	(HH)	0.218	0.425	0.709	0.065	0.133	0.224	С	1.0		
		(LL)	0.160	0.268	0.434	0.025	0.045	0.079	D	1.0		
	$C \rightarrow Y$	(HH)	0.281	0.555	0.924	0.065	0.133	0.224				
		(LL)	0.188	0.320	0.520	0.030	0.051	0.086				
	$D \ \to Y$	(HH)	0.290	0.578	0.963	0.065	0.133	0.224				
		(LL)	0.193	0.326	0.526	0.030	0.050	0.084				
F433NG	$A \rightarrow Y$	(HL)	0.085	0.174	0.240	0.012	0.027	0.044	Α	2.0	Y	13
		(LH)	0.067	0.105	0.145	0.013	0.023	0.037	В	1.0		
	$B \ \to Y$	(HH)	0.296	0.569	0.939	0.033	0.067	0.112	С	1.0		
		(LL)	0.216	0.368	0.598	0.016	0.026	0.044	D	1.0		
	$C \rightarrow Y$	(HH)	0.324	0.629	1.036	0.033	0.067	0.112				
		(LL)	0.226	0.385	0.626	0.016	0.027	0.044				
	$D \ \to Y$	(HH)	0.298	0.574	0.946	0.033	0.067	0.112				
		(LL)	0.214	0.362	0.591	0.016	0.027	0.044				
F433NGP	$A \ \to \ Y$	(HL)	0.237	0.543	0.883	0.004	0.007	0.011	Α	1.0	Y	46
		(LH)	0.228	0.408	0.673	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HH)	0.475	0.960	1.698	0.006	0.011	0.018	С	1.0		
		(LL)	0.328	0.597	1.009	0.004	0.007	0.011	D	1.0		
	$C \ \to Y$	(HH)	0.537	1.090	1.914	0.006	0.011	0.018				
		(LL)	0.375	0.670	1.120	0.004	0.007	0.011				
	$D \ \to Y$	(HH)	0.546	1.112	1.953	0.006	0.011	0.018				
		(LL)	0.379	0.676	1.135	0.004	0.007	0.011				

[MEMO]

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Function	2-2-	INPU	T OR-ANI)-INV	ERTER				5	SSI Fa	mily		
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	wit	h inv	. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Na	me	cells
Low Power	L434	2	L434NA	3	L434NB	3	L434NC	4	L434ND	3	L434	INE	4
x1	F434	4	F434NA	5	F434NB	5	F434NC	6	F434ND	5	F434	INE	6
x2	F434NP	5	F434NAP	6	F434NBP	6	F434NCP	7	F434NDP	6	F434I	NEP	7
x4													
x8													
Block type	with inv	. F	with inv	. G	with inv	. H							
Drivability	Name	cells	Name	cells	Name	cells							
Low Power													
x1													
x2													
x4													
x8													
Logic Diagra for "Nor D H04 C H03 B H02 A H01	am mal type")	D F C F B F	fo 104 —	Diagram r "with inv. /	A type	" → N01 Y	D H C H B H	03-02-0		3 type')o→ n	101 Y
Logic Diagrafor "with D H04+-0 C H03+-0 B H02+-0 A H01+-0	am h inv. C type		D F C F	fo 104	Diagram r "with inv. I	O type	" → N01 Y	D H	03-0		E type'	,)o→ n	101 Y
Logic Diagra for "with	am i inv. F type) "	1		Diagram r "with inv. (G type	,	L	ogic Diagra for "with		H type	17	

- I			Swite	ching sp	eed				<u> </u>			
Block	Path		t I	LD0 (ns)			t 1] In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L434	$A \ \to \ Y$	(HL)	0.115	0.204	0.299	0.024	0.049	0.083	Α	1.0	Y	4
		(LH)	0.130	0.229	0.352	0.043	0.088	0.147	В	1.0		
	$B \ \to Y$	(HL)	0.127	0.222	0.329	0.024	0.049	0.083	C	1.0		
	$C \ \to Y$	(LH) (HL)	0.116 0.113	0.233 0.210	0.388 0.340	0.043 0.022	0.088 0.049	0.147 0.083	D	1.0		
	C → f	(LH)	0.113	0.210	0.598	0.022	0.049	0.063				
	$D \ \to Y$	(HL)	0.120	0.229	0.375	0.022	0.049	0.083				
	5 / .	(LH)	0.165	0.365	0.638	0.043	0.088	0.147				
F434	A → Y	(HL)	0.115	0.194	0.279	0.012	0.024	0.041	Α	2.1	Y	8
		(LH)	0.117	0.217	0.351	0.022	0.044	0.074	В	2.1		
	$B \ \to Y$	(HL)	0.116	0.195	0.280	0.012	0.024	0.041	С	2.1		
		(LH)	0.117	0.217	0.352	0.022	0.044	0.074	D	2.1		
	$C \ \to \ Y$	(HL)	0.118	0.220	0.343	0.011	0.024	0.041				
	D V	(LH)	0.175	0.374 0.220	0.636 0.343	0.022 0.011	0.044 0.024	0.074 0.041				
	$D \ \to \ Y$	(HL) (LH)	0.118 0.175	0.220	0.636	0.011	0.024	0.041				
F434NP	A → Y	(HL)	0.173	0.544	0.880	0.022	0.007	0.074	Α	1.0	Y	45
1,404,41	7. 7.1	(LH)	0.313	0.603	1.060	0.006	0.007	0.018	В	1.0	Ι΄.	
	$B \ \to Y$	(HL)	0.292	0.564	0.917	0.004	0.007	0.011	C	1.0		
		(LH)	0.300	0.614	1.097	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.276	0.576	0.948	0.004	0.007	0.011				
		(LH)	0.390	0.782	1.377	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL)	0.277	0.590	0.976	0.004	0.007	0.011				
		(LH)	0.377	0.792	1.414	0.006	0.011	0.018				
L434NA	$A \ \to \ Y$	(HH)	0.160	0.300	0.476	0.044	0.088	0.147	A	1.0	Y	4
	$B \ \to Y$	(LL) (HL)	0.160 0.118	0.304 0.209	0.487 0.303	0.025 0.025	0.050 0.050	0.084 0.084	B C	1.0 1.0		
	D → 1	(LH)	0.099	0.209	0.335	0.023	0.030	0.064	D	1.0		
	$C \rightarrow Y$	(HL)	0.113	0.215	0.335	0.023	0.051	0.085		1.0		
	0 -> 1	(LH)	0.169	0.343	0.577	0.043	0.088	0.147				
	$D \ \to Y$	(HL)	0.119	0.230	0.363	0.022	0.050	0.084				
		(LH)	0.156	0.354	0.614	0.043	0.088	0.147				
F434NA	$A \ \to \ Y$	(HH)	0.202	0.366	0.580	0.022	0.044	0.074	Α	1.0	Y	8
		(LL)	0.205	0.376	0.612	0.013	0.026	0.044	В	2.0		
	$B \ \to Y$	(HL)	0.123	0.203	0.290	0.014	0.027	0.045	С	2.0		
	0 V	(LH)	0.114 0.114	0.212 0.215	0.342 0.337	0.022 0.012	0.044 0.027	0.074 0.044	D	2.0		
	$C \rightarrow Y$	(HL) (LH)	0.114	0.215	0.590	0.012	0.027	0.044				
	$D \ \to Y$	(HL)	0.116	0.217	0.339	0.012	0.027	0.045				
	5 / .	(LH)	0.163	0.346	0.591	0.022	0.044	0.074				
F434NAP	$A \rightarrow Y$	(HH)	0.360	0.718	1.251	0.006	0.011	0.018	А	1.0	Υ	45
		(LL)	0.334	0.660	1.106	0.005	0.007	0.012	В	1.0		
	$B \ \to \ Y$	(HL)	0.293	0.566	0.920	0.005	0.007	0.012	С	1.0		
		(LH)	0.300	0.615	1.100	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.277	0.575	0.949	0.005	0.007	0.012				
	D 1/	(LH)	0.387	0.779	1.379	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL) (LH)	0.279 0.374	0.588 0.790	0.975 1.415	0.005 0.006	0.007 0.011	0.012 0.018				
L434NB	A → Y	(HH)	0.170	0.730	0.490	0.044	0.088	0.147	Α	1.0	Y	4
2.04140	7. 7.1	(LL)	0.166	0.313	0.501	0.025	0.050	0.084	В	1.0	Ι΄.	
	$B \ \to Y$	(HH)	0.177	0.333	0.529	0.044	0.088	0.147	С	1.0		
1		(LL)	0.169	0.321	0.517	0.025	0.050	0.084	D	1.0		
1	$C \ \to \ Y$	(HL)	0.112	0.222	0.346	0.023	0.051	0.085				
		(LH)	0.168	0.342	0.575	0.043	0.088	0.147				
	$D \ \to \ Y$	(HL)	0.118	0.237	0.374	0.022	0.050	0.084				
		(LH)	0.156	0.353	0.612	0.043	0.088	0.147				

- I			Swite	ching sp	eed							
Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F434NB	$A \ \to \ Y$	(HH)	0.210	0.377	0.591	0.022	0.044	0.074	A	1.0	Y	8
	D V	(LL) (HH)	0.207 0.215	0.379 0.384	0.619 0.601	0.013 0.022	0.026 0.044	0.044 0.074	B C	1.0 2.0		
	$B \ \to Y$	(LL)	0.216	0.395	0.641	0.022	0.044	0.074	D	2.0		
	$C \rightarrow Y$	(HL)	0.113	0.333	0.357	0.014	0.027	0.043		2.0		
	0 -> 1	(LH)	0.161	0.343	0.587	0.022	0.044	0.074				
	$D \ \to Y$	(HL)	0.115	0.230	0.361	0.012	0.027	0.045				
		(LH)	0.161	0.343	0.588	0.022	0.044	0.074				
F434NBP	$A \ \rightarrow \ Y$	(HH)	0.366	0.725	1.259	0.006	0.011	0.018	A	1.0	Y	45
		(LL)	0.336	0.663	1.109	0.005	0.007	0.012	В	1.0		
	$B \ \to Y$	(HH)	0.374 0.339	0.747 0.673	1.300 1.127	0.006 0.005	0.011 0.007	0.018 0.012	C	1.0 1.0		
	$C \ \to Y$	(LL) (HL)	0.339	0.573	0.958	0.005	0.007	0.012	0	1.0		
	$C \rightarrow Y$	(LH)	0.273	0.779	1.379	0.003	0.007	0.012				
	$D \ \to Y$	(HL)	0.277	0.773	0.984	0.005	0.007	0.010				
	2 , 1	(LH)	0.373	0.789	1.415	0.006	0.011	0.018				
L434NC	$A \ \to Y$	(HH)	0.166	0.309	0.485	0.044	0.088	0.147	Α	1.0	Y	4
		(LL)	0.162	0.305	0.489	0.025	0.050	0.084	В	1.0		
	$B \ \to \ Y$	(HH)	0.184	0.342	0.542	0.044	0.088	0.147	С	1.0		
		(LL)	0.177	0.337	0.541	0.025	0.050	0.084	D	1.0		
	$C \ \to \ Y$	(HH)	0.228	0.466	0.777	0.044	0.088	0.147				
	D V	(LL) (HH)	0.185 0.239	0.352 0.492	0.571 0.819	0.023 0.044	0.051 0.088	0.085 0.147				
	$D \ \to Y$	(HH) (LL)	0.239	0.492	0.819	0.044	0.088	0.147				
F434NC	A → Y	(HH)	0.191	0.377	0.589	0.022	0.030	0.084	Α	1.0	Y	8
1 434110	A → I	(LL)	0.208	0.379	0.619	0.013	0.026	0.044	В	1.0	l .	
	$B \ \to Y$	(HH)	0.215	0.384	0.597	0.022	0.044	0.074	С	1.0		
		(LL)	0.216	0.394	0.640	0.014	0.027	0.045	D	1.0		
	$C \ \to \ Y$	(HH)	0.258	0.512	0.844	0.022	0.044	0.074				
		(LL)	0.218	0.409	0.675	0.012	0.027	0.044				
	$D \ \to Y$	(HH)	0.260	0.515	0.848	0.022	0.044	0.074				
540 ANOD	,	(LL)	0.222	0.414	0.679	0.012	0.027	0.045		4.0	Y	46
F434NCP	$A \ \to \ Y$	(HH) (LL)	0.363 0.332	0.721 0.656	1.252 1.099	0.006 0.004	0.011 0.007	0.018 0.011	A B	1.0 1.0	'	46
	$B \ \to Y$	(HH)	0.380	0.756	1.309	0.004	0.007	0.011	C	1.0		
	D -> 1	(LL)	0.347	0.687	1.148	0.004	0.007	0.011	D	1.0		
	$C \ \to \ Y$	(HH)	0.447	0.904	1.580	0.006	0.011	0.018		-		
		(LL)	0.357	0.707	1.182	0.004	0.007	0.011				
	$D \ \to \ Y$	(HH)	0.458	0.931	1.626	0.006	0.011	0.018				
		(LL)	0.360	0.719	1.207	0.004	0.007	0.011	ļ.,		ļ.,.	
L434ND	$A \ \to \ Y$	(HH)	0.165	0.305	0.483	0.044	0.088	0.147	A	1.0	Y	4
	$B \ \to Y$	(LL) (HL)	0.162 0.119	0.305 0.208	0.489 0.303	0.025 0.025	0.050 0.050	0.084 0.084	B C	1.0 1.0		
	$B \to Y$	(HL)	0.119	0.206	0.335	0.025	0.030	0.064	D	1.0		
	$C \rightarrow Y$	(HH)	0.225	0.466	0.774	0.044	0.088	0.147				
	· · ·	(LL)	0.184	0.344	0.559	0.023	0.051	0.085				
	$D \ \to \ Y$	(HL)	0.119	0.230	0.362	0.022	0.050	0.084				
		(LH)	0.158	0.355	0.617	0.043	0.088	0.147				
F434ND	$A \ \to \ Y$	(HH)	0.206	0.371	0.585	0.022	0.044	0.074	A	1.0	Y	8
		(LL)	0.207	0.380	0.620	0.013	0.026	0.044	В	2.0		
	$B \ \to Y$	(HL)	0.123	0.203	0.289	0.014	0.027	0.045	C	1.0		
	$C \ \to Y$	(LH) (HH)	0.114 0.254	0.212 0.508	0.343 0.841	0.022 0.022	0.044 0.044	0.074 0.074	D	2.0		
	U → Y	(LL)	0.234	0.395	0.655	0.022	0.044	0.074				
	$D \ \to Y$	(HL)	0.116	0.217	0.340	0.012	0.027	0.045				
	2 , 1	(LH)	0.164	0.347	0.594	0.022	0.044	0.074				
		ν=/										

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F434NDP	$A \rightarrow Y$	(HH)	0.364	0.724	1.260	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.333	0.659	1.101	0.005	0.007	0.012	В	1.0		
	$B \ \to Y$	(HL)	0.293	0.567	0.919	0.005	0.007	0.012	С	1.0		
		(LH)	0.302	0.621	1.110	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HH)	0.446	0.905	1.586	0.006	0.011	0.018				
		(LL)	0.356	0.701	1.176	0.005	0.007	0.012				
	$D \ \to Y$	(HL)	0.281	0.592	0.977	0.005	0.007	0.012				
		(LH)	0.378	0.798	1.428	0.006	0.011	0.018				
L434NE	$A \ \to \ Y$	(HH)	0.165	0.304	0.482	0.044	0.088	0.147	Α	1.0	Y	4
		(LL)	0.162	0.305	0.489	0.025	0.050	0.084	В	1.0		
	$B \ \to Y$	(HL)	0.119	0.208	0.302	0.025	0.050	0.084	С	1.0		
		(LH)	0.100	0.206	0.335	0.044	0.088	0.147	D	1.0		
	$C \rightarrow Y$	(HH)	0.227	0.464	0.776	0.044	0.088	0.147				
		(LL)	0.186	0.345	0.562	0.023	0.051	0.085				
	$D \ \to Y$	(HH)	0.237	0.491	0.820	0.044	0.088	0.147				
		(LL)	0.192	0.363	0.592	0.022	0.050	0.084				
F434NE	$A \ \to \ Y$	(HH)	0.206	0.371	0.586	0.022	0.044	0.074	Α	1.0	Y	8
		(LL)	0.207	0.379	0.619	0.013	0.026	0.044	В	2.0		
	$B \ \to Y$	(HL)	0.123	0.202	0.289	0.014	0.027	0.045	С	1.0		
		(LH)	0.114	0.213	0.342	0.022	0.044	0.074	D	1.0		
	$C \rightarrow Y$	(HH)	0.257	0.512	0.847	0.022	0.044	0.074				
		(LL)	0.220	0.399	0.657	0.012	0.027	0.044				
	$D \ \to Y$	(HH)	0.259	0.514	0.850	0.022	0.044	0.074				
		(LL)	0.222	0.404	0.663	0.012	0.027	0.045				
F434NEP	$A \ \to Y$	(HH)	0.362	0.719	1.250	0.006	0.011	0.018	Α	1.0	Y	45
		(LL)	0.332	0.656	1.096	0.004	0.007	0.011	В	1.0		
	$B \ \to Y$	(HL)	0.292	0.565	0.916	0.004	0.007	0.011	С	1.0		
1		(LH)	0.301	0.617	1.100	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HH)	0.447	0.903	1.579	0.006	0.011	0.018				
1		(LL)	0.357	0.701	1.175	0.004	0.007	0.011				l
1	$D \ \to Y$	(HH)	0.457	0.930	1.624	0.006	0.011	0.018				
		(LL)	0.360	0.714	1.199	0.004	0.007	0.011				

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Function	2-3-	-INPU	T OR-ANI	D-INV	ERTER				5	SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with inv	и. Е
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L435	3										
x1	F435	5										
x2	F435NP	6										
x4												
x8												
Block type	with inv	/. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
for "Nor E H05- D H04- C H03- B H02- A H01- Logic Diagra	x4 x8 Logic Diagram for "Normal type" H05 H04 H03 H02 H02 H02 H02 H02 H02 H02 H03 H02 H02 H03 H02 H03 H03 H03 H03 H03 H03 H03 H03 H03 H03				Diagram "with inv. / Diagram "with inv. E				ogic Diagr for "with ogic Diagr for "with	h inv. E		
Logic Diagra for "with	am n inv. F type	∋"	1		Diagram r *with inv. (3 type'	,	ι	ogic Diagr. for "witl		H type"	

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → (OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L435	$A \rightarrow Y$	(HL)	0.109	0.228	0.332	0.021	0.049	0.083	Α	1.0	Y	2
		(LH)	0.130	0.226	0.354	0.043	0.088	0.147	В	1.0		
	$B \ \to Y$	(HL)	0.120	0.245	0.366	0.021	0.049	0.083	С	1.0		
		(LH)	0.116	0.236	0.384	0.043	0.088	0.147	D	1.0		
	$C \ \to Y$	(HL)	0.124	0.238	0.369	0.022	0.049	0.083	E	1.0		
		(LH)	0.264	0.563	0.971	0.065	0.134	0.225				
	$D \ \to Y$	(HL)	0.132	0.260	0.407	0.022	0.049	0.083				
		(LH)	0.274	0.620	1.087	0.065	0.134	0.225				
	$E \to Y$	(HL)	0.143	0.283	0.445	0.022	0.049	0.083				
		(LH)	0.293	0.682	1.186	0.066	0.134	0.225				
F435	$A \ \to Y$	(HL)	0.104	0.197	0.279	0.011	0.024	0.042	Α	2.1	Y	6
		(LH)	0.109	0.202	0.326	0.022	0.044	0.074	В	2.1		
	$B \ \to Y$	(HL)	0.106	0.197	0.281	0.011	0.025	0.042	С	2.1		
		(LH)	0.110	0.203	0.325	0.022	0.044	0.074	D	2.1		
	$C \ \to Y$	(HL)	0.127	0.233	0.362	0.011	0.025	0.042	E	2.1		
		(LH)	0.253	0.576	1.005	0.033	0.067	0.112				
	$D \ \to Y$	(HL)	0.137	0.250	0.387	0.011	0.025	0.042				
		(LH)	0.271	0.628	1.092	0.033	0.067	0.112				
	$E \ \to Y$	(HL)	0.128	0.234	0.360	0.011	0.025	0.042				
		(LH)	0.253	0.576	1.007	0.032	0.067	0.112				
F435NP	$A \ \to \ Y$	(HL)	0.283	0.610	0.996	0.005	0.007	0.012	Α	1.0	Y	46
		(LH)	0.345	0.675	1.192	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.295	0.634	1.031	0.005	0.007	0.012	С	1.0		
		(LH)	0.333	0.688	1.229	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.299	0.615	1.014	0.005	0.007	0.012	E	1.0		
		(LH)	0.544	1.148	2.085	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL)	0.311	0.638	1.055	0.005	0.007	0.012				
		(LH)	0.553	1.199	2.195	0.006	0.011	0.018				
	$E \ \to Y$	(HL)	0.316	0.660	1.091	0.005	0.007	0.012				
		(LH)	0.573	1.268	2.297	0.006	0.011	0.018				

Function	3-3-	-INPU	T OR-AND)-INV	ERTER					SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with in	/. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L436	3										
x1	F436	6										
x2	F436NP	6										
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
F H06+ E H05+ D H04+ C H03+ B H02- A H01+	rmal type"	<i></i>	N01 Y	for	Diagram "with inv. / Diagram "with inv. I				ogic Diagr for "with ogic Diagr for "with	h inv. E		
Logic Diagra for "with	am n inv. F type)"	I		Diagram r "with inv. (3 type"		L	ogic Diagr for "witl		l type"	

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FUNCTION BLOCK

D			Swite	ching sp	eed							
Block	Patl	า	t I	LD0 (ns)			t 1		In	put	Ou	tput
type	$IN \rightarrow $	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L436	$A \rightarrow Y$	(HL)	0.105	0.235	0.350	0.020	0.050	0.084	Α	1.0	Υ	1
		(LH)	0.160	0.298	0.488	0.065	0.134	0.224	В	1.0		
	$B \rightarrow Y$	(HL)	0.130	0.270	0.413	0.022	0.050	0.084	С	1.0		
		(LH)	0.194	0.413	0.696	0.065	0.134	0.224	D	1.0		
	$C \rightarrow Y$	(HL)	0.135	0.281	0.436	0.022	0.050	0.084	E	1.0		
		(LH)	0.191	0.426	0.733	0.065	0.134	0.224	F	1.0		
	$D \rightarrow Y$	(HL)	0.122	0.253	0.413	0.018	0.050	0.084				
		(LH)	0.250	0.601	1.051	0.065	0.133	0.224				
	$E \to Y$	(HL)	0.137	0.293	0.476	0.020	0.050	0.084				
		(LH)	0.284	0.717	1.265	0.065	0.133	0.224				
	$F \rightarrow Y$	(HL)	0.140	0.306	0.499	0.020	0.050	0.084				
		(LH)	0.282	0.730	1.300	0.065	0.133	0.224				
F436	$A \rightarrow Y$	(HL)	0.117	0.230	0.340	0.011	0.026	0.043	Α	2.1	Y	2
		(LH)	0.159	0.322	0.530	0.033	0.067	0.113	В	2.1		
	$B \rightarrow Y$	(HL)	0.127	0.248	0.366	0.012	0.026	0.043	С	2.1		
		(LH)	0.178	0.376	0.621	0.033	0.067	0.113	D	2.1		
	$C \rightarrow Y$	(HL)	0.119	0.233	0.343	0.012	0.026	0.043	E	2.1		
		(LH)	0.159	0.320	0.528	0.033	0.067	0.113	F	2.1		
	$D \rightarrow Y$	(HL)	0.140	0.286	0.444	0.010	0.026	0.043				
		(LH)	0.285	0.706	1.243	0.033	0.067	0.113				
	$E \rightarrow Y$	(HL)	0.149	0.305	0.470	0.011	0.026	0.044				
		(LH)	0.304	0.759	1.331	0.033	0.067	0.113				
	$F \rightarrow Y$	(HL)	0.143	0.292	0.450	0.011	0.026	0.044				
		(LH)	0.286	0.706	1.244	0.033	0.067	0.113				
F436NP	$A \rightarrow Y$	(HL)	0.267	0.612	0.995	0.005	0.007	0.012	Α	1.0	Y	46
		(LH)	0.426	0.870	1.565	0.006	0.011	0.018	В	1.0		
	$B \rightarrow Y$	(HL)	0.304	0.655	1.069	0.005	0.007	0.012	С	1.0		
		(LH)	0.459	0.990	1.778	0.006	0.011	0.018	D	1.0		
	$C \rightarrow Y$	(HL)	0.311	0.669	1.096	0.005	0.007	0.012	E	1.0		
		(LH)	0.456	1.003	1.814	0.006	0.011	0.018	F	1.0		
1	$D \rightarrow Y$	(HL)	0.277	0.656	1.070	0.005	0.007	0.012				
1		(LH)	0.527	1.194	2.189	0.006	0.011	0.018				
	$E \to Y$		0.303	0.695	1.145	0.004	0.007	0.012				
		(LH)	0.557	1.311	2.394	0.006	0.011	0.018				
	$F \rightarrow Y$	(HL)	0.298	0.700	1.157	0.005	0.007	0.012				
		(LH)	0.555	1.325	2.428	0.006	0.011	0.018				

Function	1-2-	-2-INP	UT OR-AI	ND-IN	VERTER				5	SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with inv	. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L437	3										
x1	F437	5										
x2	F437NP	6										
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
E H05 D H04 C H03 B H02 A H01 Logic Diagra	rmal type") 	N01 Y	for	Diagram "with inv. / Diagram "with inv. I				ogic Diagr for "witl ogic Diagr for "witl	h inv. E		
Logic Diagra for "with	am n inv. F type	ı		Diagram "with inv. (G type'	,	L	.ogic Diagr for "witl		H type"		

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L437	$A \rightarrow Y$	(HL)	0.107	0.278	0.429	0.026	0.068	0.117	Α	1.0	Υ	6
		(LH)	0.085	0.137	0.184	0.025	0.045	0.073	В	1.0		
	$B \ \to Y$	(HL)	0.116	0.296	0.467	0.033	0.073	0.123	С	1.0		
		(LH)	0.165	0.304	0.491	0.046	0.091	0.151	D	1.0		
	$C \ \to \ Y$	(HL)	0.150	0.337	0.537	0.032	0.068	0.117	E	1.0		
		(LH)	0.173	0.359	0.591	0.046	0.091	0.151				
	$D \ \to Y$	(HL)	0.145	0.328	0.530	0.032	0.069	0.119				
		(LH)	0.224	0.443	0.742	0.046	0.091	0.151				
	$E \to Y$	(HL)	0.164	0.373	0.606	0.033	0.068	0.117				
		(LH)	0.230	0.493	0.831	0.046	0.091	0.151				
F437	$A \ \to \ Y$	(HL)	0.131	0.243	0.357	0.018	0.039	0.064	Α	2.0	Y	13
		(LH)	0.090	0.144	0.205	0.013	0.023	0.037	В	2.0		
	$B \ \to Y$	(HL)	0.147	0.292	0.457	0.020	0.039	0.064	С	2.0		
		(LH)	0.160	0.314	0.524	0.022	0.044	0.074	D	2.0		
	$C \ \to Y$	(HL)	0.147	0.292	0.458	0.020	0.039	0.064	E	2.0		
		(LH)	0.160	0.314	0.523	0.022	0.044	0.074				
	$D \ \to Y$	(HL)	0.166	0.328	0.523	0.020	0.038	0.064				
		(LH)	0.202	0.438	0.746	0.022	0.044	0.074				
	$E \to Y$	(HL)	0.169	0.331	0.525	0.020	0.039	0.064				
		(LH)	0.203	0.438	0.747	0.022	0.044	0.074				
F437NP	$A \ \to \ Y$	(HL)	0.279	0.691	1.146	0.005	0.007	0.012	Α	1.0	Y	46
		(LH)	0.239	0.439	0.732	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.312	0.717	1.190	0.005	0.007	0.012	С	1.0		
		(LH)	0.379	0.754	1.307	0.006	0.011	0.018	D	1.0		
	$C \ \to Y$	(HL)	0.347	0.745	1.250	0.005	0.007	0.012	E	1.0		
		(LH)	0.385	0.806	1.407	0.006	0.011	0.018				
	$D \ \to \ Y$	(HL)	0.329	0.744	1.244	0.005	0.007	0.012				
		(LH)	0.459	0.908	1.575	0.006	0.011	0.018				
	$E \ \to Y$	(HL)	0.362	0.786	1.321	0.005	0.007	0.012				
		(LH)	0.462	0.959	1.666	0.006	0.011	0.018				

Function	2-2-	-2-INP	UT OR-AI	ND-IN	IVERTER				9	SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with in	v. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L438	3										
x1	F438	6										
x2	F438NP	6										
x4												
x8												
Block type	with inv	′. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
F H06 E H05 D H04 C H03 B H02 A H01 Logic Diagra	rmal type"	ノ 	N01 Y	for	Diagram r "with inv. / Diagram r "with inv. I				ogic Diagr. Logic Diagr. for "with	h inv. E		
Logic Diagra for "with	am n inv. F type	;	I		Diagram r "with inv. (G type"		L	ogic Diagr. for "witl		H type"	

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FUNCTION BLOCK

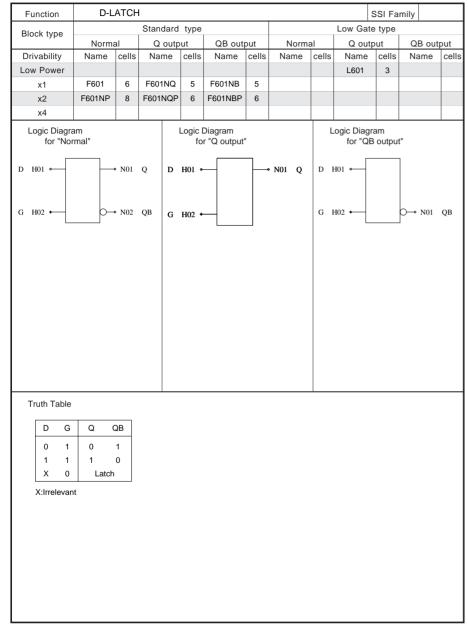
- I			Swite	ching sp	eed				Ι.			
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L438	$A \ \to Y$	(HL)	0.132	0.286	0.434	0.033	0.076	0.127	Α	1.0	Y	3
		(LH)	0.125	0.227	0.347	0.044	0.088	0.147	В	1.0		
	$B \ \to Y$	(HL)	0.144	0.316	0.486	0.033	0.076	0.127	С	1.0		
		(LH)	0.112	0.236	0.385	0.044	0.088	0.147	D	1.0		
	$C \ \to \ Y$	(HL)	0.153	0.355	0.563	0.031	0.073	0.123	E	1.0		
		(LH)	0.191	0.389	0.654	0.044	0.089	0.148	F	1.0		
	$D \ \to \ Y$	(HL)	0.178	0.404	0.634	0.034	0.077	0.127				
		(LH)	0.181	0.401	0.692	0.044	0.089	0.148				
	$E \ \to Y$	(HL)	0.165	0.412	0.658	0.032	0.078	0.129				
		(LH)	0.238	0.532	0.915	0.043	0.088	0.147				
	$F \ \to Y$	(HL)	0.173	0.437	0.702	0.030	0.077	0.127				
		(LH)	0.225	0.544	0.950	0.044	0.088	0.147				
F438	$A \ \to \ Y$	(HL)	0.143	0.270	0.413	0.016	0.037	0.062	Α	2.0	Y	5
		(LH)	0.133	0.250	0.406	0.022	0.044	0.074	В	2.0		
	$B \ \to \ Y$	(HL)	0.143	0.271	0.413	0.016	0.037	0.062	С	2.0		
		(LH)	0.131	0.250	0.406	0.022	0.044	0.074	D	2.0		
	$C \ \to \ Y$	(HL)	0.166	0.357	0.562	0.016	0.037	0.062	E	2.0		
		(LH)	0.194	0.421	0.717	0.022	0.044	0.074	F	2.0		
	$D \ \to \ Y$	(HL)	0.166	0.357	0.562	0.016	0.037	0.062				
		(LH)	0.194	0.421	0.717	0.022	0.044	0.074				
	$E \ \to Y$	(HL)	0.171	0.385	0.619	0.015	0.037	0.062				
		(LH)	0.238	0.558	0.966	0.022	0.044	0.074				
	$F \ \to Y$	(HL)	0.174	0.389	0.624	0.016	0.037	0.062				
		(LH)	0.238	0.560	0.965	0.022	0.044	0.074				
F438NP	$A \ \to Y$	(HL)	0.333	0.731	1.191	0.005	0.007	0.012	Α	1.0	Y	46
		(LH)	0.329	0.658	1.156	0.006	0.011	0.018	В	1.0		
	$B \ \to Y$	(HL)	0.350	0.766	1.248	0.004	0.007	0.012	С	1.0		
		(LH)	0.317	0.668	1.191	0.006	0.011	0.018	D	1.0		
	$C \ \to \ Y$	(HL)	0.347	0.792	1.308	0.004	0.007	0.012	E	1.0		
		(LH)	0.419	0.835	1.475	0.006	0.011	0.018	F	1.0		
	$D \ \to \ Y$	(HL)	0.386	0.853	1.398	0.005	0.007	0.012				
		(LH)	0.407	0.849	1.518	0.006	0.011	0.018				
	$E \ \to Y$	(HL)	0.362	0.865	1.420	0.005	0.007	0.012				
		(LH)	0.476	1.007	1.780	0.006	0.011	0.018				
	$F \ \to Y$	(HL)	0.368	0.889	1.464	0.004	0.007	0.012				
		(LH)	0.464	1.019	1.815	0.006	0.011	0.018				

Function	2-2-	-2-2-IN	IPUT OR-	AND-	INVERTE	R			5	SSI Fa	mily	
Block type	Norma	al	with inv	. A	with inv	. В	with inv	. C	with inv	. D	with inv	. E
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L454	5										
x1	F454	8										
x2												
x4												
x8												
Block type	with inv	. F	with inv	. G	with inv	. H						
Drivability	Name	cells	Name	cells	Name	cells						
Low Power												
x1												
x2												
x4												
x8												
H H08- G H03- F H06- E H05- D H04- C H03- B H02- A H01- Logic Diagra	rmal type")→ N0	1 Y	fo	Diagram r "with inv. / Diagram r "with inv. I				ogic Diagr for "with ogic Diagr for "with	h inv. E		
Logic Diagra for "with	am n inv. F type	:	I		Diagram r "with inv. (G type'		l	ogic Diagr for "witl		H type"	

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns)			t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L454	$A \rightarrow Y$	(HL)	0.171	0.444	0.721	0.039	0.095	0.159	Α	1.0	Υ	1
		(LH)	0.164	0.306	0.495	0.044	0.088	0.147	В	1.0		
	$B \ \to Y$	(HL)	0.186	0.483	0.787	0.039	0.095	0.159	С	1.0		
		(LH)	0.152	0.316	0.527	0.044	0.088	0.147	D	1.0		
	$C \ \to \ Y$	(HL)	0.194	0.531	0.881	0.038	0.095	0.159	E	1.0		
		(LH)	0.219	0.441	0.741	0.043	0.088	0.147	F	1.0		
	$D \ \to \ Y$	(HL)	0.210	0.571	0.952	0.038	0.095	0.159	G	1.0		
		(LH)	0.208	0.452	0.779	0.043	0.088	0.147	Н	1.0		
	$E \ \to Y$	(HL)	0.223	0.623	1.031	0.038	0.096	0.160				
		(LH)	0.273	0.592	1.027	0.043	0.088	0.147				
	$F \ \to Y$	(HL)	0.233	0.655	1.089	0.037	0.095	0.159				
		(LH)	0.261	0.604	1.057	0.043	0.088	0.147				
	$G \ \to Y$	(HL)	0.241	0.657	1.099	0.037	0.095	0.159				
		(LH)	0.319	0.738	1.280	0.044	0.089	0.148				
	$H \ \to \ Y$	(HL)	0.256	0.698	1.168	0.037	0.095	0.159				
		(LH)	0.309	0.753	1.322	0.044	0.089	0.148				
F454	$A \ \to \ Y$	(HL)	0.168	0.368	0.585	0.020	0.049	0.082	Α	2.1	Y	3
		(LH)	0.150	0.291	0.468	0.022	0.044	0.074	В	2.1		
	$B \ \to Y$	(HL)	0.168	0.367	0.585	0.020	0.049	0.082	С	2.1		
		(LH)	0.150	0.290	0.468	0.022	0.044	0.074	D	2.1		
	$C \ \to \ Y$	(HL)	0.204	0.489	0.790	0.020	0.049	0.082	E	2.1		
		(LH)	0.210	0.450	0.765	0.022	0.044	0.074	F	2.1		
	$D \ \to \ Y$	(HL)	0.204	0.489	0.790	0.020	0.049	0.082	G	2.1		
		(LH)	0.210	0.450	0.765	0.022	0.044	0.074	Н	2.1		
	$E \ \to Y$	(HL)	0.242	0.591	0.950	0.020	0.049	0.082				
		(LH)	0.266	0.616	1.058	0.022	0.045	0.074				
	$F \ \to Y$	(HL)	0.242	0.591	0.950	0.020	0.049	0.082				
		(LH)	0.266	0.616	1.058	0.022	0.045	0.074				
	$G \ \to \ Y$	(HL)	0.257	0.632	1.023	0.019	0.049	0.081				
		(LH)	0.305	0.758	1.317	0.022	0.045	0.075				
	$H \rightarrow Y$	(HL)	0.262	0.637	1.030	0.020	0.049	0.082				
		(LH)	0.305	0.757	1.320	0.022	0.045	0.075				



Divi			Swite	ching sp	eed							
Block	Path		t I	_D0 (ns)			t 1		l in	put	Ou	tput
type	IN \rightarrow C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F601	$D \rightarrow Q$	(HH)	0.435	0.776	1.298	0.012	0.023	0.036	D	1.0	Q	22
		(LL)	0.448	0.843	1.493	0.009	0.015	0.024	G	1.0	QB	23
	$D \ \to \ QB$	(HL)	0.339	0.599	0.995	0.010	0.015	0.025				
		(LH)	0.331	0.602	1.056	0.012	0.023	0.036				
	$G \ \to Q$	(HH)	0.497	0.919	1.547	0.012	0.023	0.036				
		(HL)	0.467	0.883	1.522	0.009	0.015	0.024				
	$G \ \to QB$	(HH)	0.351	0.643	1.085	0.012	0.023	0.036				
		(HL)	0.401	0.742	1.245	0.009	0.015	0.024				
	Set up time	D	0.511		0.836							
	Hold time	D	0.114		0.010							
FOOANID	Min Pulse	G (HH)	1.021	0.504	2.131	0.000	0.040	0.040	D	4.0		45
F601NP	$D \rightarrow Q$	(HH)	0.318 0.336	0.531 0.649	0.852 1.237	0.006 0.005	0.012 0.008	0.019 0.014	G	1.0 1.0	Q QB	45 45
	D 0D		0.536	0.649	1.560	0.005	0.008	0.014	G	1.0	QB	45
	$D \rightarrow QB$	(HL)	0.517	0.927	1.826	0.005	0.007	0.012				
	6 . 0	(LH) (HH)	0.376	0.981	1.087	0.006	0.011	0.018				
	$G \rightarrow Q$	(HH)	0.376	0.670	1.087	0.006	0.012	0.019				
	$G \rightarrow QB$	(HH)	0.522	1.039	1.935	0.005	0.008	0.014				
	G → QB	(HL)	0.575	1.066	1.796	0.005	0.007	0.012				
	Set up time	D (1.12)	0.540	1.000	1.470	0.000	0.007	0.012				
	Hold time	D	0.260		0.040							
	Min Pulse	G	1.000		2.345							
L601	$D \rightarrow Q$	(HH)	0.167	0.315	0.535	0.024	0.045	0.072	D	3.1	Q	10
		(LL)	0.189	0.321	0.539	0.016	0.026	0.043	G	1.0		
	$G \rightarrow Q$	(HH)	0.279	0.500	0.810	0.024	0.045	0.073				
		(HL)	0.319	0.581	0.974	0.016	0.026	0.043				
	Set up time	D	0.482		0.653							
	Hold time	D	0.388		0.400							
	Min Pulse	G	1.028		2.083							
F601NQ	$D \ \to \ Q$	(HH)	0.256	0.428	0.678	0.013	0.023	0.037	D	1.0	Q	22
		(LL)	0.281	0.533	0.992	0.009	0.016	0.025	G	1.0		
	$G \ \to \ Q$	(HH)	0.318	0.570	0.924	0.013	0.023	0.037				
		(HL)	0.301	0.597	1.086	0.009	0.015	0.025				
	Set up time	D	0.410		0.950							
	Hold time	D	0.320		0.180							
FCOANCE	Min Pulse	G	0.743	0.500	1.339	0.000	0.040	0.040		4.0	_	44
F601NQP	$D \rightarrow Q$	(HH)	0.316	0.528	0.845	0.006 0.005	0.012 0.008	0.019 0.014	D G	1.0 1.0	Q	44
	0 0	(LL) (HH)	0.335 0.374	0.649 0.666	1.235 1.082	0.005	0.008	0.014	ا	1.0		
	$G \rightarrow Q$	(HH)	0.374	0.666	1.082	0.006	0.012	0.019				
	Set up time	D (FIL)	0.330	0.707	1.210	0.005	0.006	0.014				
	Hold time	D	0.260		0.050							
	Min Pulse	G	0.794		1.560	1						
F601NB	D → QB	(HL)	0.316	0.572	0.951	0.009	0.014	0.023	D	1.0	QB	23
	- / 20	(LH)	0.313	0.572	1.002	0.012	0.023	0.037	G	1.0		
	$G \ \to QB$	(HH)	0.336	0.616	1.033	0.012	0.023	0.037				
		(HL)	0.382	0.717	1.204	0.009	0.014	0.023				
	Set up time	D	0.370		0.780							
	Hold time	D	0.330		0.160							
	Min Pulse	G	0.806		1.525							
F601NBP	$D \ \to QB$	(HL)	0.370	0.672	1.129	0.005	0.008	0.012	D	1.0	QB	44
		(LH)	0.356	0.645	1.123	0.006	0.011	0.018	G	1.0		
	$G \ \to \ QB$	(HH)	0.376	0.687	1.152	0.006	0.011	0.018				
		(HL)	0.434	0.818	1.384	0.005	0.007	0.012				
	Set up time	D	0.400		0.830							
	Hold time	D	0.290		0.050							

<u> </u>				Swite	ching sp	eed							
Block		Path	ı	t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN	\rightarrow	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Min Pu	ılse	G	0.851		1.680							

[MEMO]

Function	D-L	ATCH	HIGH SP	PEED						SSI Far	mily	
Block type			Standard	type					Low Ga	te type		
Blook typo	Norma	al	Q outp	ut	QB out	put	Norma	al	Q ou	tput	QB o	ıtput
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cel
Low Power												
x1	F6R1	6										
x2												
х4												
Logic Diagi for "No	ram rmal"			Logic I fo	Diagram r "Q output			L	ogic Diag. for "Q	jram B output	"	
D H01 ← G H02 ←		N01										
Truth Table												
D G	Q (ΩВ										
0 1	0	1										
1 1		0										
X 0	Latch											
X:Irreleva	nt											

FUNCTION BLOCK

			Swite	ching sp	eed						_	
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN \rightarrow C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F6R1	$D \rightarrow Q$	(HH)	0.276	0.455	0.724	0.013	0.023	0.037	D	1.0	Q	22
		(LL)	0.301	0.563	1.037	0.010	0.016	0.027	G	1.0	QB	22
	$D \rightarrow QB$	(HL)	0.412	0.724	1.206	0.009	0.015	0.024				
		(LH)	0.401	0.759	1.380	0.012	0.022	0.036				
	$G \rightarrow Q$	(HH)	0.334	0.592	0.962	0.013	0.023	0.037				
		(HL)	0.316	0.615	1.119	0.010	0.016	0.027				
	$G \rightarrow QB$	(HH)	0.416	0.808	1.462	0.012	0.022	0.036				
		(HL)	0.469	0.862	1.444	0.009	0.015	0.024				
	Set up time	D	1.558		2.103							
	Hold time	D	0.059		0.010							
	Min Pulse	G	0.921		2.002							

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Function	D-l	ATCH									SSI Fa	mily	
Block type			Stan	dard	type					Low Ga	te type		
	Norm			outp		QB out		Norm	_	Q ou	_	QB ou	_
Drivability	Name	cells	Naı	me	cells	Name	cells	Name	cells	Name		Name	cells
Low Power	F000		F000			FORGLIB	_			L602	4		
x1	F602	6	F602		6	F602NB	5						
x2 x4	F602NP	9	F602	NQP	7	F602NBP	6						
Logic Diagr for "No				L		Diagram r "Q output			L	l .ogic Diag for "Q	ram B output	t"	1
D H01 ←		→ N01	Q	D	H01 •			N01 Q	D	H01 ←			
G H02 ←		→ N02	QB	G	H02 +				G	H02 ←		→ N01	QB
	H03 R					HĎ3 R					HÖ3 R		
Truth Table													
D G	R (2 0	βB										
1 1	0	1	0										
0 1			1										
X 0	0	Latch											
x x	1 ()	1										
X:Irreleva	nt												

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F602	$D \rightarrow Q$	(HH)	0.562	1.055	1.831	0.012	0.022	0.036	D	1.0	Q	22
	D 0D	(LL) (HL)	0.471 0.448	0.882 0.847	1.554 1.468	0.009 0.010	0.015 0.016	0.024 0.027	G R	1.0 1.0	QB	22
	$D \rightarrow QB$	(HL)	0.340	0.621	1.089	0.010	0.016	0.027	, r	1.0		
	$G \to Q$	(HH)	0.620	1.193	2.068	0.012	0.023	0.036				
	0 → Q	(HL)	0.492	0.924	1.588	0.009	0.015	0.024				
	$G \ \to QB$	(HH)	0.360	0.664	1.123	0.012	0.023	0.036				
		(HL)	0.506	0.984	1.705	0.010	0.016	0.027				
	$R \rightarrow Q$	(HL)	0.322	0.692	1.141	0.009	0.016	0.026				
		(LH)	0.407	0.810	1.456	0.012	0.022	0.036				
	$R \ \to QB$	(HH)	0.191	0.303	0.459	0.012	0.023	0.036				
		(LL)	0.295	0.601	1.093	0.010	0.016	0.027				
	Set up time	D	0.521		0.925							
	Hold time	D	0.045		0.010							
	Release time Removal time	R R	1.450 0.253		1.990 0.020							
	Min Pulse	G	1.118	1	2.541							
	Min Pulse	R	1.001		2.437							
F602NP	$D \to Q$	(HH)	0.476	0.790	1.270	0.007	0.013	0.020	D	1.0	Q	43
		(LL)	0.350	0.684	1.301	0.005	0.008	0.014	G	1.0	QB	45
	$D \ \to QB$	(HL)	0.698	1.232	2.068	0.005	0.007	0.012	R	1.0		
		(LH)	0.533	1.037	1.926	0.006	0.011	0.018				
	$G \ \to Q$	(HH)	0.478	0.836	1.350	0.007	0.013	0.020				
		(HL)	0.360	0.727	1.392	0.005	0.008	0.014				
	$G \ \to QB$	(HH)	0.543	1.081	2.020	0.006	0.011	0.018				
	Б О	(HL)	0.699 0.359	1.279 0.759	2.151 1.301	0.005	0.007	0.012				
	$R \rightarrow Q$	(HL) (LH)	0.359	0.759	1.515	0.005 0.007	0.008 0.013	0.013 0.020				
	$R \rightarrow QB$	(HH)	0.538	1.090	1.855	0.006	0.013	0.020				
	IN → QD	(LL)	0.744	1.356	2.316	0.005	0.007	0.012				
	Set up time	D Ó	0.580		1.550							
	Hold time	D	0.060		0.000							
	Release time	R	0.500		1.390							
	Removal time	R	0.000		0.000							
	Min Pulse	G	1.126		2.469							
1,000	Min Pulse	R	1.185	0.400	2.695	0.005	0.045	0.070		0.4		40
L602	$D \rightarrow Q$	(HH) (LL)	0.220 0.205	0.408 0.353	0.672 0.589	0.025 0.020	0.045 0.031	0.073 0.050	D G	3.1 1.0	Q	10
	$G \to Q$	(LL)	0.336	0.594	0.970	0.025	0.031	0.030	R	1.0		
	G → Q	(HL)	0.342	0.621	1.031	0.020	0.031	0.050	'`	1.0		
	$R \rightarrow Q$	(HL)	0.262	0.507	0.809	0.020	0.031	0.050				
		(LH)	0.254	0.451	0.740	0.024	0.045	0.073				
	Set up time	D `	0.470		0.779							
	Hold time	D	0.319		0.351							
	Release time	R	1.238		1.519							
	Removal time	R	0.424	1	0.393							
	Min Pulse	G	0.983	1	2.067							
F602NQ	Min Pulse D → Q	R (HH)	1.019 0.404	0.664	2.319 1.055	0.014	0.025	0.039	D	1.0	Q	22
FOUZING	υ → Q	(HH) (LL)	0.404	0.574	1.055	0.014	0.025	0.039	G	1.0	"	22
	$G \rightarrow Q$	(LL)	0.406	0.717	1.150	0.010	0.016	0.020	R	1.0		
1	J → Q	(HL)	0.314	0.625	1.158	0.014	0.025	0.036	''			
	$R \rightarrow Q$	(HL)	0.308	0.659	1.120	0.009	0.015	0.025				
		(LH)	0.450	0.786	1.300	0.014	0.025	0.039				
	Set up time	D	0.420		1.050							
	Hold time	D	0.150		0.000							

			Swite	ching sp	eed							
Block	Path		t	_D0 (ns))		t 1] In	put	Ou	tput
type	IN \rightarrow (TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time	R	0.300		0.860							
	Removal time	R	0.000		0.000							
I	Min Pulse	G	0.810		1.422							
	Min Pulse	R	0.869		1.632							
F602NQP	$D \ \to \ Q$	(HH)	0.486	0.805	1.292	0.007	0.013	0.020	D	1.0	Q	43
I		(LL)	0.353	0.688	1.311	0.005	0.008	0.014	G	1.0		
I	$G \ \to \ Q$	(HH)	0.487	0.852	1.375	0.007	0.013	0.020	R	1.0		
I		(HL)	0.362	0.734	1.403	0.005	0.008	0.014				
I	$R \ \to \ Q$	(HL)	0.360	0.762	1.307	0.005	0.008	0.013				
I		(LH)	0.532	0.927	1.538	0.007	0.013	0.020				
I	Set up time	D	0.480		1.320							
I	Hold time	D	0.060		0.000							
I	Release time	R	0.400		1.120							
I	Removal time	R	0.000		0.000							
I	Min Pulse	G	0.888		1.623							
	Min Pulse	R	0.947		1.848							
F602NB	$D \ \to QB$	(HL)	0.406	0.781	1.351	0.009	0.015	0.025	D	1.0	QB	23
		(LH)	0.317	0.578	1.013	0.012	0.023	0.037	G	1.0		
	$G \rightarrow QB$	(HH)	0.340	0.623	1.042	0.012	0.023	0.037	R	1.0		
		(HL)	0.473	0.927	1.602	0.009	0.015	0.025				
	$R \rightarrow QB$	(HH)	0.184	0.289	0.428	0.012	0.023	0.037				
		(LL)	0.268	0.555	1.004	0.009	0.015	0.025				
	Set up time	D	0.380		0.790							
	Hold time	D	0.250		0.000							
	Release time	R	0.010		0.200							
I	Removal time	R	0.000		0.000							
I	Min Pulse	G	0.878		1.860							
FOOONIDD	Min Pulse	R (HL)	0.719	0.961	1.351 1.690	0.005	0.008	0.014	D	1.0	QB	45
F602NBP	$D \rightarrow QB$	٠, ,	0.490	0.961	1.135	0.005	0.008	0.014	G	1.0	QB	45
I	0 00	(LH) (HH)	0.382	0.694	1.163	0.006	0.011	0.018	R	1.0		
	$G \ \to QB$	(HL)	0.556	1.106	1.940	0.006	0.008	0.018	"	1.0		
	D 0D	(HH)	0.336	0.351	0.531	0.005	0.008	0.014				
 	$R \rightarrow QB$	(LL)	0.227	0.331	1.342	0.006	0.012	0.018				
 	Set up time	D (LL)	0.349	0.754	1.000	3.003	0.000	5.014				
 	Hold time	D	0.410		0.000							
I	Release time	R	0.180		0.480							
 	Removal time	R	0.000		0.000							
 	Min Pulse	G	0.954		2.162							
	Min Pulse	R	0.793		1.651							
		. `	3.700		1.001							

[MEMO]

						SPEED	-				SSI Far	mily	
Drivability Name cells	Block type												
Low Power x1 F6R2 7 x2 x4 Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output"		_					$\overline{}$						_
x1 F6R2 7 x2 x4 Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output"			cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	ce
x2 x4 Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output"													
x4 Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" D H01 → N01 Q G H02 → N02 QB		F6R2	/										
Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" D H01 → N01 Q G H02 → N02 QB													
for "Normal" for "Q output" for "QB output" D H01 → N01 Q G H02 → N02 QB H03		arom			Logiol	Diagram				ogio Diogr			
		H03											
	Truth Tal	ble	0	DR.									
	D	ble G R		DB 0									
1 1 0 1 0	D 1	ble G R 1 0	1	0									
1 1 0 1 0 0 1 0 0 1	D 1 0	ble G R 1 0 1 0	1 0	0									
1 1 0 1 0	D 1 0 X	G R 1 0 1 0 0 0 0	1 0 Latch	0									

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F6R2	$D \rightarrow Q$	(HH)	0.411	0.678	1.081	0.014	0.025	0.039	D	1.0	Q	21
		(LL)	0.311	0.594	1.101	0.010	0.017	0.027	G	1.0	QB	22
	$D \rightarrow QB$	(HL)	0.528	0.934	1.565	0.009	0.015	0.024	R	1.0		
		(LH)	0.419	0.802	1.464	0.012	0.022	0.036				
	$G \rightarrow Q$	(HH)	0.416	0.734	1.180	0.014	0.025	0.039				
		(HL)	0.328	0.649	1.196	0.010	0.017	0.027				
	$G \rightarrow QB$	(HH)	0.437	0.855	1.559	0.012	0.022	0.036				
		(HL)	0.534	0.992	1.665	0.009	0.015	0.024				
	$R \rightarrow Q$	(HL)	0.345	0.712	1.191	0.010	0.016	0.027				
		(LH)	0.475	0.830	1.372	0.014	0.025	0.039				
	$R \rightarrow QB$	(HH)	0.458	0.919	1.534	0.012	0.023	0.036				
		(LL)	0.591	1.086	1.855	0.009	0.015	0.024				
	Set up time	D	1.828		2.491							
	Hold time	D	0.030		0.010							
I	Release time	R	1.855		2.782							
1	Removal time	R	0.010		0.010							
I	Min Pulse	G	0.993		2.204							
	Min Pulse	R	1.190		2.865							

Normal Q output QB output Normal Q output QE	
Low Power x1 F603 7 F603NQ 5 F603NB 6 x2 F603NP 8 F603NQP 6 F603NBP 7 x4 Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" D H01 → N01 Q D H01	output
x1 F603 7 F603NQ 5 F603NB 6 x2 F603NP 8 F603NQP 6 F603NBP 7 x4 Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" D H01 → N01 Q	me cells
x2 F603NP 8 F603NQP 6 F603NBP 7	
Logic Diagram for "Normal" Logic Diagram for "Q output" D H01 N01 Q D H01 N01 Q D H01 O N02 QB G H02 H03 H03	
Logic Diagram for "Normal" Logic Diagram for "Q output" D H01 N01 Q D H01 N01 Q D H01 O N02 QB G H02 H03 H03	
for "Normal" D H01 → N01 Q D H01 → N01 Q G H02 → N02 QB G H02 → H03 H03 H03	
G H02 + N02 QB G H02 + G H03 H03	
H03 H03 H03	
	N01 QB
Truth Table	
D G RB Q QB	
1 1 1 0	
X 0 1 Latch	
X X 0 0 1	

X:Irrelevant

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns)			t 1] In	put	Ou	tput
type	IN o C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F603	$D \ \to \ Q$	(HH)	0.567	1.066	1.850	0.012	0.022	0.036	D	1.0	Q	22
		(LL)	0.477	0.888	1.565	0.009	0.015	0.024	G RB	1.0	QB	22
	$D \rightarrow QB$	(HL) (LH)	0.451 0.342	0.853 0.624	1.480 1.094	0.010 0.012	0.016 0.023	0.027 0.036	KB	1.0		
	$G \to Q$	(HH)	0.625	1.203	2.087	0.012	0.023	0.036				
	0 → Q	(HL)	0.495	0.931	1.599	0.009	0.015	0.024				
	$G \rightarrow QB$	(HH)	0.362	0.667	1.127	0.012	0.023	0.036				
		(HL)	0.509	0.990	1.717	0.010	0.016	0.027				
	$RB \ \to \ Q$	(HH)	0.486	0.953	1.676	0.012	0.022	0.036				
		(LL)	0.386	0.826	1.390	0.009	0.016	0.026				
	$RB \rightarrow QB$	(HL)	0.370	0.740	1.306	0.010	0.016	0.027				
	Set up time	(LH) D	0.253 0.516	0.432	0.701 1.006	0.012	0.023	0.036				
	Hold time	D	0.042		0.010							
	Release time	RB	1.516		2.227							
	Removal time	RB	0.198		0.010							
	Min Pulse	G	1.120		2.554							
	Min Pulse	RB	1.048		2.648							
F603NP	$D \ \to Q$	(HH)	0.461	0.769	1.238	0.007	0.013	0.020	D	1.0	Q	43
		(LL)	0.349	0.679	1.293	0.005	0.008	0.014	G	1.0	QB	46
	$D \rightarrow QB$	(HL)	0.665	1.193	2.016	0.004	0.007	0.012	RB	1.0		
		(LH)	0.524	1.022	1.906	0.006	0.011	0.018				
	$G \rightarrow Q$	(HH) (HL)	0.468 0.359	0.822 0.724	1.330 1.387	0.007 0.005	0.013 0.008	0.020 0.014				
	$G \rightarrow QB$	(HH)	0.535	1.067	2.001	0.005	0.008	0.014				
	G → QB	(HL)	0.672	1.248	2.107	0.004	0.007	0.012				
	$RB \rightarrow Q$	(HH)	0.433	0.767	1.274	0.007	0.013	0.020				
		(LL)	0.314	0.658	1.124	0.005	0.008	0.013				
	$RB \ \to \ QB$	(HL)	0.636	1.191	2.048	0.004	0.007	0.012				
		(LH)	0.482	0.976	1.661	0.006	0.011	0.018				
	Set up time	D	0.540		1.530							
	Hold time Release time	D RB	0.080 0.260		0.000 1.020							
	Removal time	RB	0.000		0.000							
	Min Pulse	G	1.098		2.424							
	Min Pulse	RB	1.086		2.393							
L603	$D \rightarrow Q$	(HH)	0.210	0.390	0.644	0.024	0.045	0.073	D	3.1	Q	10
		(LL)	0.189	0.330	0.553	0.016	0.026	0.043	G	1.0		
	$G \ \to Q$	(HH)	0.325	0.581	0.942	0.024	0.045	0.073	RB	1.0		
	DD 0	(HL)	0.327	0.598 0.302	0.995 0.490	0.016 0.024	0.026	0.043 0.073				
	$RB \rightarrow Q$	(HH) (LL)	0.170 0.178	0.302	0.490	0.024	0.045 0.026	0.073				
	Set up time	D (LL)	0.178	0.043	0.554	0.010	0.020	0.044				
	Hold time	D	0.337		0.382							
	Release time	RB	1.123		1.301							
	Removal time	RB	0.521		0.568							
	Min Pulse	G	0.985		2.079							
FORMULE	Min Pulse	RB	0.940	0.050	2.099	0.040	0.005	0.000		4.0	_	- 00
F603NQ	$D \rightarrow Q$	(HH)	0.396	0.652 0.572	1.037	0.013 0.010	0.025 0.016	0.039 0.026	D G	1.0 1.0	Q	22
	$G \to Q$	(LL) (HH)	0.297 0.402	0.572	1.065 1.141	0.010	0.016	0.026	RB	1.0		
	J → Q	(HL)	0.402	0.625	1.157	0.013	0.025	0.039	'.''	1.0		
	$RB \rightarrow Q$	(HH)	0.370	0.651	1.072	0.013	0.025	0.039				
		(LL)	0.264	0.561	0.943	0.009	0.015	0.025				
	Set up time	D	0.410		1.030							
	Hold time	D	0.160		0.000							

- I			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		l in	put	Ou	tput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time	RB	0.070		0.510							
1	Removal time	RB	0.000		0.000							
1	Min Pulse	G	0.806		1.416							
	Min Pulse	RB	0.797		1.373							
F603NQP	$D \ \to \ Q$	(HH)	0.477	0.790	1.269	0.007	0.013	0.020	D	1.0	Q	43
1		(LL)	0.351	0.685	1.304	0.005	0.008	0.014	G	1.0		
1	$G \ \to \ Q$	(HH)	0.482	0.843	1.360	0.007	0.013	0.020	RB	1.0		
1		(HL)	0.362	0.732	1.400	0.005	0.008	0.014				
	$RB \rightarrow Q$	(HH)	0.450	0.790	1.305	0.007	0.013	0.020				
1		(LL)	0.314	0.662	1.130	0.005	0.008	0.013				
	Set up time	D	0.480		1.300							
1	Hold time	D	0.070		0.000							
1	Release time	RB	0.160		0.760							
1	Removal time	RB	0.000		0.000							
1	Min Pulse	G	0.883		1.612							
	Min Pulse	RB	0.874		1.583							
F603NB	$D \ \to \ QB$	(HL)	0.406	0.781	1.351	0.009	0.015	0.025	D	1.0	QB	22
1		(LH)	0.317	0.579	1.013	0.012	0.023	0.037	G	1.0		
1	$G \ \to \ QB$	(HH)	0.340	0.623	1.042	0.012	0.023	0.037	RB	1.0		
1		(HL)	0.473	0.927	1.604	0.009	0.015	0.025				
1	$RB \rightarrow QB$	(HL)	0.334	0.678	1.194	0.009	0.015	0.025				
1		(LH)	0.230	0.392	0.635	0.012	0.023	0.037				
1	Set up time	D	0.380		0.790							
1	Hold time	D	0.250		0.000							
1	Release time	RB	0.000		0.340							
1	Removal time	RB	0.100		0.000							
	Min Pulse	G	0.878		1.860							
	Min Pulse	RB	0.755		1.457							
F603NBP	$D \ \to \ QB$	(HL)	0.491	0.964	1.695	0.005	0.008	0.014	D 0	1.0	QB	45
1		(LH)	0.361	0.654	1.138	0.006	0.011	0.018	G	1.0		
1	$G \ \to QB$	(HH)	0.382	0.695	1.166	0.006	0.011	0.018	RB	1.0		
1		(HL)	0.558 0.418	1.109 0.860	1.946 1.538	0.005	0.008	0.014 0.014				
1	$RB \rightarrow QB$	(HL)										
1	Set up time	(LH) D	0.268 0.410	0.454	0.739 1.010	0.006	0.012	0.018				
1	Hold time	D			0.000							
	Release time	D RB	0.180 0.000		0.000							
	Release time Removal time	RB RB	0.000		0.610							
	Min Pulse	G	0.030		2.167							
	Min Pulse	RB	0.955		1.767							
	willi Fuise	ďΩ	U.03 I		1.707							

[MEMO]

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Function	D-LATCH WITH RB HIGH SPEED SSI Family											
Block type			Stand	dard type					Low Gat	e type		
	Norma			output	QB out	-	Norma		Q out		QB	output
Drivability	Name	cells	Nan	ne cells	Name	cells	Name	cells	Name	cells	Nan	ne cells
Low Power												
x1	F6R5	6										
x2												
x4												
Logic Diagra for "No	rmal"	1704			Diagram r "Q output			L	ogic Diagı. for "QE	am 3 output	л	
D H01 ← G H02 ←		> N01										
	RB											

Truth Table

D	G	RB	Q	QB
1	1	1	1	0
0	1	1	0	1
Х	0	1	La	tch
Х	Χ	0	0	1

X:Irrelevant

			Swite	ching sp	eed							
Block	Path		tı	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F6R5	$D \rightarrow Q$	(HH)	0.411	0.676	1.081	0.014	0.025	0.039	D	1.0	Q	21
		(LL)	0.311	0.593	1.100	0.010	0.017	0.027	G	1.0	QB	22
	$D \rightarrow QB$	(HL)	0.528	0.931	1.564	0.009	0.015	0.024	RB	1.0		
		(LH)	0.419	0.800	1.463	0.012	0.022	0.036				
	$G \rightarrow Q$	(HH)	0.416	0.731	1.180	0.014	0.025	0.039				
		(HL)	0.328	0.645	1.196	0.010	0.017	0.027				
	$G \ \to QB$	(HH)	0.437	0.851	1.559	0.012	0.022	0.036				
		(HL)	0.534	0.988	1.664	0.009	0.015	0.024				
	$RB \rightarrow Q$	(HH)	0.395	0.686	1.136	0.014	0.025	0.039				
		(LL)	0.289	0.595	0.999	0.010	0.016	0.027				
	$RB \rightarrow QB$	(HL)	0.512	0.942	1.619	0.009	0.015	0.024				
		(LH)	0.403	0.801	1.341	0.012	0.023	0.036				
	Set up time	D	1.828		2.491							
	Hold time	D	0.030		0.010							
I	Release time	RB	1.786		2.550							
	Removal time	RB	0.010		0.010							
I	Min Pulse	G	0.993		2.203							
	Min Pulse	RB	1.124		2.648							

Function	D-L	ATCH	l WIT	H SB							SSI Far	mily	
Block type					type	I				Low Gate			
	Norm			outp		QB out	_	Norma		Q outp		QB ou	_
Drivability	Name	cells	Na	me	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power										L606	4		
x1													
x2													
x4													
Logic Diagr for "No				D	_ogic I fo		\neg	N01 Q		ogic Diagr for "QB	am output	T.	
Truth Table													
D (GB SB	C)										
1	0 1	1											
0	0 1	0											
X	1 1	Lat	ch										
Х	X 0	1											
X:Irrelevar	nt												

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FUNCTION BLOCK

			Swite	ching sp	eed						Outnut	
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L606	$D \rightarrow Q$	(HH)	0.211	0.370	0.610	0.025	0.045	0.072	D	3.1	Q	9
		(LL)	0.246	0.477	0.856	0.020	0.032	0.050	С	1.0		
	$C \rightarrow Q$	(HH)	0.320	0.551	0.892	0.025	0.045	0.073	SB	1.0		
		(HL)	0.394	0.748	1.285	0.020	0.031	0.050				
	$SB \rightarrow Q$	(HL)	0.284	0.516	0.875	0.020	0.031	0.050				
		(LH)	0.217	0.463	0.753	0.024	0.045	0.072				
	Set up time	D	1.216		1.844							
	Hold time	D	0.477		0.520							
	Release time	SB	1.278		1.880							
	Removal time	SB	0.369		0.205							
	Min Pulse	С	5.000		5.000							
	Min Pulse	SB	5.000		5.000							

Function	D-L	ATCH	I (GB)							SSI Fai	mily	
Block type			Standard	type					Low Ga	te type		
	Norma		Q outp		QB out	_	Norma		Q ou	_	QB ou	_
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cel
Low Power						_			L604	3		
x1	F604	6	F604NQ	5	F604NB	5						
x2	F604NP	8	F604NQP	6	F604NBP	6						
x4 Logic Diagrafor "Noi D H01 ← GB H02 ←	mal"	→ N01 → N02	Q D	Logic fo		_	→ N01 Q	D	ogic Diag for "Q H01 ←————————————————————————————————————	lram B output	." → N01	QB
1 0	GB Q 0 1 0 0 1 La	QB 0 1 1 ttch										

Dist			Swite	ching sp	eed							
Block	Path		tι	_D0 (ns)			t 1		l in	put	Ou	tput
type	IN \rightarrow C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F604	$D \rightarrow Q$	(HH)	0.435	0.776	1.297	0.012	0.023	0.036	D	1.0	Q	23
		(LL)	0.449	0.843	1.494	0.009	0.015	0.024	GB	1.0	QB	22
	$D \ \to QB$	(HL)	0.339	0.598	0.994	0.009	0.015	0.024				
		(LH)	0.332	0.602	1.056	0.012	0.023	0.036				
	$GB \ \to \ Q$	(LH)	0.487	0.884	1.497	0.012	0.023	0.036				
		(LL)	0.496	0.947	1.689	0.009	0.015	0.024				
	$GB \ \to QB$	(LH)	0.380	0.707	1.252	0.012	0.023	0.036				
		(LL)	0.390	0.707	1.194	0.009	0.015	0.024				
	Set up time	D	0.638		0.714							
	Hold time	D	0.110		0.010							
FOOAND	Min Pulse	GB	1.002	0.504	2.179	0.000	0.040	0.040	_	4.0		45
F604NP	$D \rightarrow Q$	(HH) (LL)	0.318 0.335	0.531 0.649	0.852 1.236	0.006 0.005	0.012 0.008	0.019 0.014	D GB	1.0 1.0	Q QB	45 45
	D 0D			0.649	1.560	0.005	0.008	0.014	GB	1.0	QB	45
	$D \rightarrow QB$	(HL)	0.517 0.507	0.927	1.826	0.005	0.007	0.012				
	OD O	(LH) (LH)	0.379	0.664	1.020	0.006	0.011	0.018				
I	$GB \ \to Q$	(LH)	0.379	0.664	1.413	0.006	0.012	0.019				
	$GB \to QB$	(LH)	0.542	1.064	2.002	0.006	0.000	0.014				
	GD → QD	(LL)	0.577	1.060	1.801	0.005	0.007	0.010				
	Set up time	D (,	0.680	1.000	1.410	0.000	0.007	0.0.2				
	Hold time	D	0.000		0.000							
	Min Pulse	GB	1.011		2.476							
L604	$D \to Q$	(HH)	0.169	0.319	0.549	0.024	0.045	0.072	D	3.1	Q	10
		(LL)	0.187	0.323	0.538	0.016	0.026	0.043	GB	1.0		
	$GB \ \to \ Q$	(LH)	0.315	0.581	1.001	0.024	0.044	0.072				
		(LL)	0.309	0.548	0.926	0.016	0.026	0.044				
	Set up time	D	0.454		0.663							
	Hold time	D	0.388		0.356							
	Min Pulse	GB	1.016		2.025							
F604NQ	$D \ \to \ Q$	(HH)	0.256	0.427	0.677	0.013	0.023	0.037	D	1.0	Q	22
		(LL)	0.281	0.533	0.990	0.009	0.016	0.025	GB	1.0		
	$GB \ \to Q$	(LH)	0.317	0.554	0.909	0.013	0.023	0.037				
	0-4 45	(LL)	0.324	0.630	1.178	0.009	0.015	0.025				
	Set up time Hold time	D	0.550		0.890							
	Min Pulse	D GB	0.050 0.751		0.000 1.492							
F604NQP	D → Q	(HH)	0.751	0.528	0.845	0.006	0.012	0.019	D	1.0	Q	44
1 004NQP	ט → ע	(LL)	0.335	0.526	1.235	0.006	0.012	0.019	GB	1.0	~	***
	$GB \ \to \ Q$	(LH)	0.377	0.660	1.086	0.006	0.000	0.014	55			
	05 → Q	(LL)	0.371	0.733	1.413	0.005	0.008	0.014				
	Set up time	D ()	0.620		1.160							
[Hold time	D	0.000		0.000	1						
	Min Pulse	GB	0.805		1.694							
F604NB	$D \rightarrow QB$	(HL)	0.316	0.571	0.948	0.009	0.014	0.023	D	1.0	QB	23
[(LH)	0.314	0.571	1.002	0.012	0.023	0.037	GB	1.0		
[$GB \ \to \ QB$	(LH)	0.365	0.680	1.199	0.012	0.023	0.037				
[(LL)	0.372	0.680	1.148	0.009	0.014	0.023				
I	Set up time	D	0.500		0.760	1						
I	Hold time	D	0.090		0.000	1						
500 (NISS	Min Pulse	GB	0.809	0.074	1.634	0.005	0.000	0.046	_	4.0	0.0	
F604NBP	$D \rightarrow QB$	(HL)	0.369	0.671	1.129	0.005	0.008	0.012	D	1.0	QB	44
	00 00	(LH)	0.356	0.645	1.125	0.006	0.011	0.018	GB	1.0		
	$GB \ \to QB$	(LH) (LL)	0.406 0.425	0.751	1.317 1.325	0.006 0.005	0.011 0.008	0.018 0.012				
[Set up time	D (LL)	0.425	0.781	0.840	0.005	0.008	0.012				
	Hold time	D	0.520		0.840	1						
	i iolu liitle	J	0.070		0.000	I			I			

Γ				Swite	ching sp	eed						0	
Block	Path			t	t LD0 (ns)			t 1		Input		Output	
type	IN -	\rightarrow	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Min Pulse GB		0.850 1.742										

[MEMO]

Function	D-L	ATCH				EED					SSI Far	mily	
Block type					type					Low Gate			
	Norma			outp		QB out		Norma		Q outp		QB out	_
Drivability	Name	cells	Na	me	cells	Name	cells	Name	cells	Name	cells	Name	cel
Low Power	F6R8	6											
x1 x2	FORO	О											
x4													
Logic Diagra for "Nor	rmal"	• N01	Q	ı		Diagram r "Q output			L	ogic Diagra for "QB		п	•
GB H02 ←C	o-	◆ N02	QB										
Truth Table													
D 0	GB Q	QB	7										
1	0 1	0	1										
	0 0	1											
1		tch											
X:Irrelevan	nt		_										

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN \rightarrow C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F6R8	$D \rightarrow Q$	(HH)	0.276	0.454	0.723	0.013	0.023	0.037	D	1.0	Q	22
		(LL)	0.301	0.563	1.037	0.010	0.016	0.027	GB	1.0	QB	22
	$D \rightarrow QB$	(HL)	0.412	0.723	1.204	0.009	0.015	0.024				
		(LH)	0.401	0.758	1.380	0.012	0.022	0.036				
	$GB \rightarrow Q$	(LH)	0.331	0.579	0.945	0.013	0.023	0.037				
		(LL)	0.338	0.652	1.218	0.010	0.016	0.027				
	$GB \rightarrow QB$	(LH)	0.439	0.847	1.561	0.012	0.022	0.036				
		(LL)	0.466	0.847	1.427	0.009	0.015	0.024				
I	Set up time	D	1.582		2.101							
I	Hold time	D	0.055		0.010							
	Min Pulse	GB	0.933		1.994							

Function	D-L	ATCH	I (GB) WI	TH RE	3					SSI Fai	mily	
Block type			Standard	type					Low Gat	e type		
	Norma	al	Q outp	ut	QB out	put	Norma	al	Q out	put	QB o	utput
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Nam	e cells
Low Power									L605	4		
x1	F605	7	F605NQ	5	F605NB	6						
x2	F605NP	8	F605NQP	6	F605NBP	7						
x4												
Logic Diagrafor "Not	rmal"	→ N01		fo H01			→ N01 Q	D	ogic Diag for "QI H01 ← H02 ← Q	ram B output H03 RB	" N0	1 QB

Truth Table

D	GB	RB	Q	QB
1	0	1	1	0
0	0	1	0	1
X	1	1	La	itch
X	Χ	0	0	1

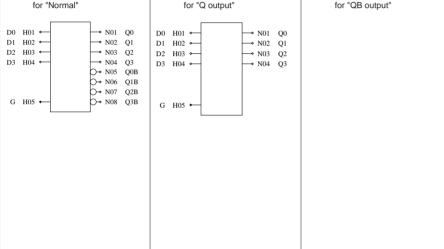
X:Irrelevant

[Swite	ching sp	eed				Ι.			
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F605	$D \rightarrow Q$	(HH) (LL)	0.567 0.476	1.066 0.889	1.849 1.566	0.012 0.009	0.022 0.015	0.036 0.024	D GB	1.0 1.0	Q QB	22 22
	$D \ \to \ QB$	(HL)	0.451	0.853	1.479	0.010	0.016	0.027	RB	1.0	Q.D	
	$GB \ \to Q$	(LH) (LH)	0.342 0.617	0.624 1.173	1.094 2.039	0.012 0.012	0.023 0.022	0.036 0.036				
		(LL)	0.522	0.990	1.751	0.009	0.015	0.024				
	$GB \ \to \ QB$	(LH)	0.389	0.726	1.279	0.012	0.023	0.036				
		(LL)	0.501	0.960	1.669	0.010	0.016	0.027				
	$RB \rightarrow Q$	(HH)	0.486 0.386	0.953 0.826	1.676 1.389	0.012 0.009	0.022 0.016	0.036 0.026				
	$RB \rightarrow QB$	(LL) (HL)	0.370	0.626	1.306	0.009	0.016	0.026				
	KD → QD	(LH)	0.253	0.740	0.701	0.010	0.010	0.027				
I 1	Set up time	D (2)	0.600	002	1.122	0.0.2	0.020	0.000				
	Hold time	D	0.033		0.010							
I 1	Release time	RB	1.537		2.224							
	Removal time	RB	0.189		0.010							
	Min Pulse	GB	1.087		2.487							
<u> </u>	Min Pulse	RB	1.039		2.648							
F605NP	$D \ \to \ Q$	(HH)	0.466	0.774	1.246	0.007	0.013	0.020	D	1.0	Q	43
		(LL)	0.348	0.679	1.292	0.005	0.008	0.014	GB	1.0	QB	45
	$D \rightarrow QB$	(HL)	0.666 0.529	1.196 1.028	2.018 1.912	0.004 0.006	0.007 0.011	0.012 0.018	RB	1.0		
	CB . O	(LH) (LH)	0.529	0.824	1.350	0.006	0.011	0.018				
	$GB \rightarrow Q$	(LL)	0.473	0.749	1.451	0.005	0.008	0.020				
	$GB \ \to QB$	(LH)	0.559	1.098	2.072	0.006	0.011	0.014				
	OD 7 QD	(LL)	0.675	1.247	2.123	0.004	0.007	0.012				
	$RB \ \to \ Q$	(HH)	0.439	0.774	1.282	0.007	0.013	0.020				
		(LL)	0.314	0.658	1.124	0.005	0.008	0.013				
	$RB \ \to \ QB$	(HL)	0.639	1.196	2.056	0.004	0.007	0.012				
		(LH)	0.487	0.982	1.670	0.006	0.011	0.018				
	Set up time	D	0.760		1.540							
	Hold time Release time	D RB	0.000 0.480		0.000 1.340							
	Removal time	RB	0.000		0.000							
	Min Pulse	GB	1.109		2.537							
	Min Pulse	RB	1.088		2.397							
L605	$D \to Q$	(HH)	0.210	0.390	0.645	0.024	0.045	0.073	D	3.1	Q	10
I 1		(LL)	0.189	0.329	0.552	0.016	0.026	0.043	GB	1.0		
 	$GB \ \to \ Q$	(LH)	0.347	0.645	1.104	0.024	0.045	0.072	RB	1.0		
		(LL)	0.315	0.559	0.942	0.016	0.026	0.044				
	$RB \rightarrow Q$	(HH)	0.170	0.302	0.490	0.024	0.045	0.073				
 	Set up time	(LL) D	0.178 0.496	0.349	0.554 0.650	0.016	0.026	0.044				
	Hold time	D	0.496		0.839							
	Release time	RB	1.147		1.303							
	Removal time	RB	0.514		0.523							
 	Min Pulse	GB	1.000		2.103		1					
	Min Pulse	RB	0.933		2.055							
F605NQ	$D \ \to \ Q$	(HH)	0.396	0.652	1.037	0.013	0.025	0.039	D	1.0	Q	22
		(LL)	0.297	0.571	1.065	0.010	0.016	0.026	GB	1.0		
	$GB \ \to \ Q$	(LH)	0.402	0.700	1.138	0.014	0.025	0.039	RB	1.0		
 	DD 0	(LL)	0.334	0.653 0.651	1.236	0.010 0.013	0.016 0.025	0.026				
 	$RB \rightarrow Q$	(HH) (LL)	0.370 0.265	0.651	1.072 0.943	0.013	0.025	0.039 0.025				
	Set up time	D (LL)	0.590	0.501	1.070	0.009	0.013	0.025				
	Hold time	D	0.000		0.000							

			Swite	ching sp	eed							
Block	Path		t ı	_D0 (ns))		t 1] In	put	Ou	tput
type	IN \rightarrow (TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time	RB	0.310		0.860							
	Removal time	RB	0.000		0.000							
	Min Pulse	GB	0.813		1.534							
	Min Pulse	RB	0.797		1.373							
F605NQP	$D \ \to \ Q$	(HH)	0.477	0.790	1.269	0.007	0.013	0.020	D	1.0	Q	43
I		(LL)	0.351	0.685	1.303	0.005	0.008	0.014	GB	1.0		
I	$GB \ \to \ Q$	(LH)	0.485	0.841	1.374	0.007	0.013	0.020	RB	1.0		
I		(LL)	0.381	0.755	1.463	0.005	0.008	0.014				
I	$RB \rightarrow Q$	(HH)	0.450	0.790	1.306	0.007	0.013	0.020				
I		(LL)	0.313	0.662	1.130	0.005	0.008	0.013				
I	Set up time	D	0.680		1.320							
I	Hold time	D	0.000		0.000							
I	Release time	RB	0.390		1.110							
I	Removal time	RB	0.000		0.000							
I	Min Pulse	GB	0.893		1.730							
	Min Pulse	RB	0.875		1.582							
F605NB	$D \ \to QB$	(HL)	0.406	0.781	1.350	0.009	0.015	0.025	D	1.0	QB	23
I		(LH)	0.317	0.579	1.013	0.012	0.023	0.037	GB	1.0		
	$GB \ \to \ QB$	(LH)	0.370	0.689	1.214	0.012	0.023	0.037	RB	1.0		
		(LL)	0.463	0.892	1.550	0.009	0.015	0.025				
	$RB \rightarrow QB$	(HL)	0.333	0.678	1.194	0.009	0.015	0.025				
		(LH)	0.230	0.392	0.635	0.012	0.023	0.037				
	Set up time	D	0.500		0.870							
I	Hold time	D	0.040		0.000							
I	Release time	RB	0.100		0.470							
I	Removal time	RB	0.000		0.000							
I	Min Pulse	GB	0.878		1.870							
	Min Pulse	RB	0.755		1.457							
F605NBP	$D \ \to QB$	(HL)	0.491	0.963	1.695	0.005	0.008	0.014	D	1.0	QB	45
I		(LH)	0.361	0.654	1.139	0.006	0.011	0.018	GB	1.0		
	$GB \to QB$	(LH)	0.413	0.762	1.338	0.006	0.011	0.018	RB	1.0		
		(LL)	0.548	1.075	1.895	0.005	0.008	0.014				
 	$RB \rightarrow QB$	(HL)	0.418	0.860	1.537	0.005	0.008	0.014				
I		(LH)	0.268	0.454	0.739	0.006	0.012	0.018				
I	Set up time	D	0.530		1.140							
 	Hold time	D	0.000		0.000							
I	Release time	RB	0.180		0.740							
 	Removal time	RB	0.000		0.000							
	Min Pulse	GB	0.955		2.181							
	Min Pulse	RB	0.832		1.767							

[MEMO]

Function	4-B	IT D-L	ATCH							SSI Fa	mily	
Block type			Standard	type					Low Gate	type		
Block type	Norm	al	Q outp	Q output QB ou			Normal		Q output		QB output	
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power									L901	10		
x1	F901	20										
x2												
x4												
Logic Diagram				Logic Diagram					Logic Diagram			



Truth Table

Dn	G	Qn	QnB
0	1	0	1
1	1	1	0
Х	0	La	itch

n= 0 to 3 X:Irrelevant

Divi			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN → C	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F901	D0 → Q0	(HH)	0.424	0.761	1.276	0.012	0.022	0.036	D0	1.0	Q0	23
		(LL)	0.442	0.832	1.476	0.009	0.015	0.024	D1	1.0	Q1	23
	D0 → Q0B	(HL) (LH)	0.331 0.328	0.587 0.598	0.979 1.049	0.009 0.012	0.015 0.023	0.024 0.036	D2 D3	1.0 1.0	Q2 Q3	23 23
	D1 → Q1	(LFI)	0.326	0.596	1.049	0.012	0.023	0.036	G	2.0	Q0B	23
	DI → QI	(LL)	0.442	0.832	1.477	0.009	0.022	0.030		2.0	Q1B	23
	D1 → Q1B	(HL)	0.331	0.587	0.979	0.009	0.015	0.024			Q2B	22
	J. 7 Q.15	(LH)	0.328	0.597	1.050	0.012	0.023	0.036			Q3B	23
	D2 → Q2	(HH)	0.424	0.761	1.276	0.012	0.022	0.036				
		(LL)	0.442	0.832	1.476	0.009	0.015	0.024				
	D2 \rightarrow Q2B	(HL)	0.331	0.587	0.979	0.009	0.015	0.024				
		(LH)	0.328	0.598	1.049	0.012	0.023	0.036				
	D3 → Q3	(HH)	0.425	0.761	1.275	0.012	0.022	0.036				
		(LL)	0.442	0.832	1.477	0.009	0.015	0.024				
	D3 → Q3B	(HL)	0.331	0.587 0.597	0.979	0.009 0.012	0.015 0.023	0.024 0.036				
	G → Q0	(LH) (HH)	0.328 0.559	1.020	1.050 1.710	0.012	0.023	0.036				
	G → Q0	(HL)	0.510	0.934	1.590	0.009	0.022	0.024				
	G → Q1	(HH)	0.559	1.020	1.710	0.012	0.022	0.036				
	ر ت	(HL)	0.510	0.934	1.590	0.009	0.015	0.024				
	$G \rightarrow Q2$	(HH)	0.559	1.020	1.710	0.012	0.022	0.036				
		(HL)	0.510	0.934	1.590	0.009	0.015	0.024				
	$G \rightarrow Q3$	(HH)	0.559	1.020	1.710	0.012	0.022	0.036				
		(HL)	0.510	0.934	1.590	0.009	0.015	0.024				
	$G \rightarrow Q0B$	(HH)	0.397	0.701	1.165	0.012	0.023	0.036				
		(HL)	0.465	0.846	1.414	0.009	0.015	0.024				
	G → Q1B	(HH) (HL)	0.397 0.465	0.701 0.846	1.165 1.414	0.012 0.009	0.023 0.015	0.036 0.024				
	G → Q2B	(HH)	0.465	0.701	1.165	0.009	0.013	0.024				
	G → Q2B	(HL)	0.465	0.846	1.414	0.009	0.025	0.024				
	G → Q3B	(HH)	0.397	0.701	1.165	0.012	0.023	0.036				
		(HL)	0.465	0.846	1.414	0.009	0.015	0.024				
	Set up time	D0	0.435		0.812							
	Set up time	D1	0.435		0.812							
	Set up time	D2	0.435		0.812							
	Set up time	D3	0.435		0.812							
	Hold time	D0	0.207		0.112							
	Hold time	D1 D2	0.208 0.207		0.112 0.112							
	Hold time Hold time	D3	0.207		0.112							
	Min Pulse	G	1.201		2.485							
L901	D0 → Q0	(HH)	0.166	0.323	0.539	0.025	0.045	0.072	D0	3.0	Q0	10
		(LL)	0.186	0.319	0.531	0.017	0.028	0.045	D1	3.0	Q1	10
	D1 \rightarrow Q1	(HH)	0.166	0.323	0.539	0.025	0.045	0.072	D2	3.0	Q2	10
		(LL)	0.186	0.319	0.531	0.017	0.028	0.045	D3	3.0	Q3	10
	D2 → Q2	(HH)	0.166	0.323	0.539	0.025	0.045	0.072	G	2.0		
		(LL)	0.186	0.319	0.531	0.017	0.028	0.045				
	D3 → Q3	(HH)	0.166	0.323 0.319	0.539	0.025	0.045 0.028	0.072				
	6 . 00	(LL) (HH)	0.186 0.321	0.556	0.531 0.891	0.017 0.024	0.028	0.045 0.073				
	G → Q0	(HL)	0.371	0.556	1.120	0.024	0.045	0.073				
	G → Q1	(HH)	0.321	0.556	0.891	0.024	0.027	0.073				
] = 7 %	(HL)	0.371	0.668	1.120	0.017	0.027	0.045				
	$G \rightarrow Q2$	(HH)	0.321	0.556	0.891	0.024	0.045	0.073				
		(HL)	0.371	0.668	1.120	0.017	0.027	0.045				
	$G \rightarrow Q3$	(HH)	0.321	0.556	0.891	0.024	0.045	0.073				

			Swite	ching sp	eed				l .			
Block	Pa	th	t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
		(HL)	0.371	0.668	1.120	0.017	0.027	0.045				
	Set up time	D0	0.484		0.857							
	Set up time	D1	0.484		0.857							
	Set up time	D2	0.484		0.857							
	Set up time	D3	0.484		0.857							
	Hold time	D0	0.450		0.541							
	Hold time	D1	0.450		0.541							
	Hold time	D2	0.450		0.541							
	Hold time	D3	0.450		0.541							
	Min Pulse	G	1.164		2.319							

[MEMO]

Function	4-B	IT D-L	ATCH HI	GH SF	PEED				,	SSI Fa	mily		
Block type			Standard	type					Low Gate	e type			
Вюск турс	Norma	al	Q outp	output QB output			Norma	al	Q outp	out	QB output		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	
Low Power													
x1	F971	20											
x2													
x4													
Logic Diagram				Logic Diagram					Logic Diagram				

for "Normal"	for "Q output"	for "QB output"
<u></u>		
D0 H01 ← N01 Q0		
D1 H02 ← N02 Q1		
D2 H03 ← N03 Q2		
D3 H04 ← N04 Q3		
O→ N05 Q0B		
O→ N06 Q1B		
O→ N07 Q2B		
G H05 ← ○ N08 Q3B		

Truth Table

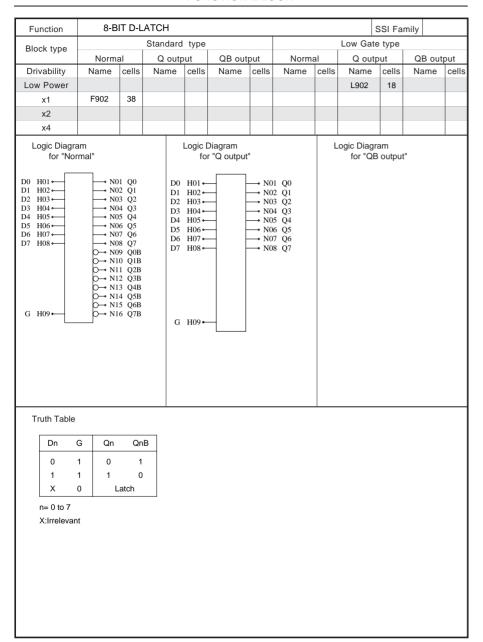
Dn	G	Qn	QnB
0	1	0	1
1	1	1	0
X	0	La	itch

n= 0 to 3 X:Irrelevant

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns)			t 1] In	put	Ou	tput
type	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F971	D0 → Q0	(HH)	0.264	0.442	0.699	0.013	0.023	0.037	D0	1.0	Q0	22
		(LL)	0.294	0.554	1.022	0.010	0.016	0.027	D1	1.0	Q1	22
	D0 → Q0B	(HL)	0.399	0.710	1.177	0.009	0.015	0.024	D2	1.0	Q2	22
		(LH)	0.395	0.749	1.365	0.012	0.022	0.036	D3	1.0	Q3	22
	D1 → Q1	(HH)	0.263	0.441	0.697	0.013	0.023	0.037	G	2.0	Q0B	22
		(LL)	0.294	0.552	1.019	0.010	0.016	0.027			Q1B	22
	D1 → Q1B	(HL)	0.398	0.709	1.177	0.009	0.015	0.024			Q2B	22
		(LH)	0.395	0.747	1.362	0.012	0.022	0.036			Q3B	22
	D2 → Q2	(HH)	0.263	0.441	0.699	0.013	0.023	0.037				
		(LL)	0.294	0.553	1.019	0.010	0.016	0.027				
	D2 → Q2B	(HL)	0.399	0.709	1.178	0.009	0.015	0.024				
		(LH)	0.394	0.748	1.362	0.012	0.022	0.036				
	D3 → Q3	(HH)	0.264	0.442	0.698	0.013	0.023	0.037				
		(LL)	0.295	0.553	1.023	0.010	0.016	0.027				
	D3 → Q3B	(HL)	0.400	0.710	1.180	0.009	0.015	0.024				
		(LH)	0.395	0.749	1.366	0.012	0.022	0.036				
	$G \rightarrow Q0$	(HH)	0.394	0.693	1.117	0.013	0.023	0.037				
		(HL)	0.370	0.698	1.219	0.010	0.016	0.027				
	$G \rightarrow Q1$	(HH)	0.394	0.693	1.118	0.013	0.023	0.037				
		(HL)	0.371	0.699	1.219	0.010	0.016	0.027				
	$G \rightarrow Q2$	(HH)	0.394	0.693	1.118	0.013	0.023	0.037				
		(HL)	0.371	0.699	1.219	0.010	0.016	0.027				
	G → Q3	(HH)	0.394	0.693	1.117	0.013	0.023	0.037				
		(HL)	0.370	0.698	1.219	0.010	0.016	0.027				
	$G \rightarrow Q0B$	(HH)	0.471	0.892	1.561	0.012	0.022	0.036				
		(HL)	0.530	0.963	1.601	0.009	0.015	0.024				
	$G \rightarrow Q1B$	(HH)	0.471	0.892	1.561	0.012	0.022	0.036				
		(HL)	0.530	0.963	1.601	0.009	0.015	0.024				
	$G \rightarrow Q2B$	(HH)	0.471	0.892	1.561	0.012	0.022	0.036				
	0 000	(HL)	0.530	0.963	1.601	0.009	0.015	0.024				
	G → Q3B	(HH)	0.471	0.892	1.561	0.012	0.022	0.036				
	Cat up time	(HL)	0.530	0.963	1.601	0.009	0.015	0.024				
I	Set up time Set up time	D0 D1	1.551		2.032 2.037							
I	Set up time Set up time	D1 D2	1.551 1.551		2.037							
I	Set up time Set up time	D2 D3	1.551		2.037							
I	Hold time	D3	0.145		0.073							
I	Hold time	D0 D1	0.145		0.073							
I	Hold time	D2	0.136		0.079							
I	Hold time	D2 D3	0.144		0.059							
I		G G										
	Min Pulse	U	1.143		2.349		I					

6 - 204 6 - 205



$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	+	Fanout 23 22 23 23 22
F902 D0 → Q0 (HH) 0.427 0.764 1.280 0.012 0.023 0.036 D0 1.0 (LL) 0.444 0.839 1.484 0.009 0.015 0.024 D1 1.0 D0 → Q0B (HL) 0.330 0.586 0.978 0.009 0.015 0.024 D2 1.0 (LH) 0.328 0.598 1.048 0.012 0.023 0.036 D3 1.0	Q0 Q1 Q2 Q3 Q4	23 22 23
(LL) 0.444 0.839 1.484 0.009 0.015 0.024 D1 1.0 D0 → Q0B (HL) 0.330 0.586 0.978 0.009 0.015 0.024 D2 1.0 (LH) 0.328 0.598 1.048 0.012 0.023 0.036 D3 1.0	Q1 Q2 Q3 Q4	22 23
D0 → Q0B (HL) 0.330 0.586 0.978 0.009 0.015 0.024 D2 1.0 (LH) 0.328 0.598 1.048 0.012 0.023 0.036 D3 1.0	Q2 Q3 Q4	23
(LH) 0.328 0.598 1.048 0.012 0.023 0.036 D3 1.0	Q3 Q4	1
	Q4	22
D1 \rightarrow Q1 (HH) 0.426 0.763 1.280 0.012 0.023 0.036 D4 1.0		23
(LL) 0.445 0.838 1.488 0.009 0.015 0.024 D5 1.0		22
D1 → Q1B (HL) 0.331 0.587 0.977 0.009 0.015 0.024 D6 1.0	Q6	23
(LH) 0.328 0.597 1.050 0.012 0.023 0.036 D7 1.0	Q7	22
$D2 \rightarrow Q2$ (HH) 0.427 0.764 1.280 0.012 0.023 0.036 G 2.0	Q0B	22
(LL) 0.444 0.839 1.484 0.009 0.015 0.024	Q1B	22
D2 → Q2B (HL) 0.330 0.586 0.978 0.009 0.015 0.024	Q2B	22
(LH) 0.328 0.598 1.048 0.012 0.023 0.036	Q3B	22
D3 → Q3 (HH) 0.426 0.763 1.280 0.012 0.023 0.036 (LL) 0.445 0.838 1.488 0.009 0.015 0.024	Q4B OFB	22 22
(LL) 0.445 0.838 1.488 0.009 0.015 0.024 D3 → Q3B (HL) 0.331 0.587 0.977 0.009 0.015 0.024	Q5B Q6B	22
(LH) 0.328 0.597 1.050 0.012 0.023 0.036	Q7B	22
$D4 \rightarrow Q4$ (HH) 0.427 0.764 1.280 0.012 0.023 0.036	4.5	
(LL) 0.444 0.839 1.484 0.009 0.015 0.024		
D4 → Q4B (HL) 0.330 0.586 0.978 0.009 0.015 0.024		
(LH) 0.328 0.598 1.048 0.012 0.023 0.036		
D5 → Q5 (HH) 0.426 0.763 1.280 0.012 0.023 0.036		
(LL) 0.445 0.838 1.488 0.009 0.015 0.024		
$ D5 \rightarrow Q5B (HL) 0.331 0.587 0.977 0.009 0.015 0.024 $		
(LH) 0.328 0.597 1.050 0.012 0.023 0.036 D6 → Q6 (HH) 0.427 0.764 1.280 0.012 0.023 0.036		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		
D6 → Q6B (HL) 0.330 0.586 0.978 0.009 0.015 0.024		
(LH) 0.328 0.598 1.048 0.012 0.023 0.036		
D7 → Q7 (HH) 0.426 0.763 1.280 0.012 0.023 0.036		
(LL) 0.445 0.838 1.488 0.009 0.015 0.024		
D7 → Q7B (HL) 0.331 0.587 0.977 0.009 0.015 0.024		
(LH) 0.328 0.597 1.050 0.012 0.023 0.036		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		
$G \rightarrow Q1$ (HH) 0.667 1.214 2.056 0.012 0.022 0.036		
(HL) 0.577 1.032 1.747 0.009 0.015 0.024		
$G \rightarrow Q2$ (HH) 0.667 1.214 2.056 0.012 0.022 0.036		
(HL) 0.577 1.032 1.747 0.009 0.015 0.024		
$G \rightarrow Q3$ (HH) 0.667 1.214 2.056 0.012 0.022 0.036		
(HL) 0.577 1.032 1.747 0.009 0.015 0.024		
$G \rightarrow Q4$ (HH) 0.667 1.214 2.056 0.012 0.022 0.036 (III) 0.577 1.202 1.214 0.022 0.024 0.024		
(HL) 0.577 1.032 1.747 0.009 0.015 0.024 G → Q5 (HH) 0.667 1.214 2.056 0.012 0.022 0.036		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		
$G \rightarrow Q6$ (HH) 0.667 1.214 2.056 0.012 0.022 0.036		
(HL) 0.577 1.032 1.747 0.009 0.015 0.024		
$G \rightarrow Q7$ (HH) 0.667 1.214 2.056 0.012 0.022 0.036	1	
(HL) 0.577 1.032 1.747 0.009 0.015 0.024	1	
$G \rightarrow Q0B (HH) 0.461 0.794 1.313 0.012 0.023 0.036$	1	
(HL) 0.571 1.036 1.751 0.009 0.015 0.025	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		
$G \rightarrow Q3B$ (HH) 0.461 0.794 1.313 0.012 0.023 0.036	1	
(HL) 0.571 1.036 1.751 0.009 0.015 0.025		

	IN	\sim T	1OI	ID	\mathbf{a}	CK
ΓL	JΝ		IUI	4 D	டப	Lη

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		l In	put	Ou	itput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	G → Q4B	(HH)	0.461	0.794	1.313	0.012	0.023	0.036				
		(HL)	0.571	1.036	1.751	0.009	0.015	0.025				
	$G \rightarrow Q5B$	(HH)	0.461	0.794	1.313	0.012	0.023	0.036				
		(HL)	0.571	1.036	1.751	0.009	0.015	0.025				
	G → Q6B	(HH)	0.461	0.794	1.313	0.012	0.023 0.015	0.036				
	G → Q7B	(HL) (HH)	0.571 0.461	1.036 0.794	1.751 1.313	0.009	0.015	0.025 0.036				
	G → Q/B	(HL)	0.571	1.036	1.751	0.009	0.025	0.030				
	Set up time	D0	0.429	1.000	0.736	0.005	0.010	0.020				
	Set up time	D1	0.429		0.736							
	Set up time	D2	0.429		0.736							
	Set up time	D3	0.429		0.736							
	Set up time	D4	0.429		0.736							
	Set up time	D5	0.429		0.736							
	Set up time	D6	0.429		0.736							
	Set up time	D7	0.429		0.736							
	Hold time	D0	0.402		0.454							
	Hold time	D1	0.403		0.454							
	Hold time Hold time	D2 D3	0.402 0.403		0.454 0.454							
	Hold time	D3 D4	0.403		0.454							
	Hold time	D5	0.403		0.454							
	Hold time	D6	0.402		0.454							
	Hold time	D7	0.403		0.454							
	Min Pulse	G	1.569		3.143							
L902	D0 → Q0	(HH)	0.165	0.322	0.549	0.024	0.045	0.072	D0	3.0	Q0	10
		(LL)	0.185	0.319	0.532	0.017	0.028	0.045	D1	3.0	Q1	10
	D1 → Q1	(HH)	0.165	0.322	0.549	0.024	0.045	0.072	D2	3.0	Q2	10
		(LL)	0.185	0.319	0.532	0.017	0.028	0.045	D3	3.0	Q3	10
	D2 → Q2	(HH)	0.165	0.322	0.549	0.024	0.045 0.028	0.072	D4 D5	3.0 3.0	Q4 Q5	10 10
	D3 → Q3	(LL) (HH)	0.185 0.165	0.319 0.322	0.532 0.549	0.017 0.024	0.028	0.045 0.072	D6	3.0	Q6	10
	D3 → Q3	(LL)	0.185	0.322	0.532	0.024	0.043	0.072	D7	3.0	Q7	10
	D4 → Q4	(HH)	0.165	0.322	0.549	0.024	0.045	0.072	G	2.0	~	
	5. / 3.	(LL)	0.185	0.319	0.532	0.017	0.028	0.045				
1	D5 → Q5	(HH)	0.165	0.322	0.549	0.024	0.045	0.072			1	
1		(LL)	0.185	0.319	0.532	0.017	0.028	0.045		1	1	1
1	D6 → Q6	(HH)	0.165	0.322	0.549	0.024	0.045	0.072		1	1	1
1		(LL)	0.185	0.319	0.532	0.017	0.028	0.045		1	1	1
1	D7 → Q7	(HH)	0.165	0.322	0.549	0.024	0.045	0.072		1	1	1
		(LL)	0.185	0.319	0.532	0.017	0.028	0.045				
	G → Q0	(HH) (HL)	0.369 0.455	0.626 0.829	1.017 1.404	0.025 0.017	0.045 0.027	0.073 0.045				
	$G \rightarrow Q1$	(HH)	0.369	0.626	1.017	0.017	0.027	0.043				
	ا ت ت	(HL)	0.455	0.829	1.404	0.017	0.027	0.045				
	G → Q2	(HH)	0.369	0.626	1.017	0.025	0.045	0.073				
		(HL)	0.455	0.829	1.404	0.017	0.027	0.045				
	$G \rightarrow Q3$	(HH)	0.369	0.626	1.017	0.025	0.045	0.073				
		(HL)	0.455	0.829	1.404	0.017	0.027	0.045				
1	$G \rightarrow Q4$	(HH)	0.369	0.626	1.017	0.025	0.045	0.073		1	1	1
		(HL)	0.455	0.829	1.404	0.017	0.027	0.045				
1	G → Q5	(HH)	0.369	0.626	1.017	0.025	0.045	0.073		1	1	1
		(HL)	0.455 0.369	0.829 0.626	1.404 1.017	0.017 0.025	0.027 0.045	0.045 0.073				
	G → Q6	(HH) (HL)	0.369	0.626	1.404	0.025	0.045	0.073				
1	G → Q7	(HH)	0.455	0.629	1.017	0.017	0.027	0.043		1	1	1
		(1117)	0.509	0.020	1.017	0.023	0.040	0.013				

			Swite	ching sp	eed						_	
Block	Path	ı	t	D0 (ns))		t 1		Input		Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
		(HL)	0.455	0.829	1.404	0.017	0.027	0.045				
	Set up time	D0	0.490		0.699							
	Set up time	D1	0.490		0.699							
	Set up time	D2	0.490		0.699							
	Set up time	D3	0.490		0.699							
	Set up time	D4	0.490		0.699							
	Set up time	D5	0.490		0.699							
	Set up time	D6	0.490		0.699							
	Set up time	D7	0.490		0.699							
	Hold time	D0	0.589		0.799							
	Hold time	D1	0.589		0.799							
	Hold time	D2	0.589		0.799							
	Hold time	D3	0.589		0.799							
	Hold time	D4	0.589		0.799							
	Hold time	D5	0.589		0.799							
1	Hold time	D6	0.589		0.799							
1	Hold time	D7	0.589		0.799							
	Min Pulse	G	1.467		2.849							

Function	8-B	IT D-L	ATCH HI	GH SF	PEED					SSI Far	mily	
Block type			Standard	type					Low Gate	e type		
5.00k typo	Norma	al	Q outp	out	QB out	put	Norma	al	Q out	out	QB ou	tput
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cel
Low Power												
x1	F972	38										
x2												
x4								Щ				
Logic Diagra for "No! D0 H01	NO NO NO NO NO NO NO NO	9 Q0B 0 Q1B 1 Q2B 2 Q3B 3 Q4B 4 Q5B 5 Q6B			Diagram	•			ogic Diagr	am 3 output		
Truth Table												
Dn	G Qn	Qnl	В									
	1 0	1										
	1 1	0										
Х	0 L	.atch										
n= 0 to 7 X:Irrelevar	it											

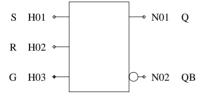
Division			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)	1		t 1		In	put	Ou	tput
type	IN → Ol	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F972	D0 → Q0	(HH)	0.264	0.441	0.699	0.013	0.023	0.037	D0	1.0	Q0	22
		(LL)	0.295	0.554	1.023	0.010	0.016	0.027	D1	1.0	Q1	22
	D0 → Q0B	(HL)	0.399	0.709	1.178	0.009	0.015	0.024	D2	1.0	Q2	22
	D4 04	(LH)	0.395	0.749	1.365	0.012	0.022	0.036	D3	1.0	Q3	22
	D1 → Q1	(HH)	0.263 0.294	0.440 0.553	0.696 1.021	0.013 0.010	0.023 0.016	0.037 0.027	D4 D5	1.0 1.0	Q4 Q5	22 22
	D1 → Q1B	(LL) (HL)	0.294	0.553	1.177	0.010	0.016	0.027	D6	1.0	Q5 Q6	22
	DI → QIB	(LH)	0.394	0.748	1.364	0.012	0.013	0.036	D7	1.0	Q7	22
	D2 → Q2	(HH)	0.263	0.440	0.698	0.013	0.023	0.037	G	2.0	Q0B	22
	D2 7 Q2	(LL)	0.294	0.552	1.020	0.010	0.016	0.027			Q1B	22
	D2 → Q2B	(HL)	0.398	0.708	1.177	0.009	0.015	0.024			Q2B	22
		(LH)	0.394	0.747	1.362	0.012	0.022	0.036			Q3B	22
	D3 → Q3	(HH)	0.264	0.441	0.697	0.013	0.023	0.037			Q4B	22
		(LL)	0.294	0.553	1.024	0.010	0.016	0.027			Q5B	22
	D3 → Q3B	(HL)	0.399	0.709	1.178	0.009	0.015	0.024			Q6B	22
		(LH)	0.395	0.749	1.367	0.012	0.022	0.036			Q7B	22
	D4 → Q4	(HH)	0.264	0.441	0.699	0.013	0.023	0.037				
		(LL)	0.295	0.554	1.023	0.010	0.016	0.027				
	D4 → Q4B	(HL)	0.399	0.709	1.178	0.009	0.015	0.024				
	DE . OE	(LH) (HH)	0.395 0.263	0.749 0.440	1.365 0.696	0.012 0.013	0.022 0.023	0.036 0.037				
	D5 → Q5	(LL)	0.294	0.440	1.021	0.013	0.023	0.037				
	D5 → Q5B	(HL)	0.398	0.708	1.177	0.009	0.015	0.024				
	D5 → Q5D	(LH)	0.394	0.748	1.364	0.012	0.022	0.036				
	D6 → Q6	(HH)	0.263	0.440	0.698	0.013	0.023	0.037				
		(LL)	0.294	0.552	1.020	0.010	0.016	0.027				
	D6 → Q6B	(HL)	0.398	0.708	1.177	0.009	0.015	0.024				
		(LH)	0.394	0.747	1.362	0.012	0.022	0.036				
	D7 → Q7	(HH)	0.264	0.441	0.697	0.013	0.023	0.037				
		(LL)	0.294	0.553	1.024	0.010	0.016	0.027				
	D7 → Q7B	(HL)	0.399	0.709	1.178	0.009	0.015	0.024				
		(LH)	0.395 0.494	0.749 0.877	1.367 1.451	0.012 0.013	0.022 0.023	0.036				
	G → Q0	(HH) (HL)	0.454	0.813	1.367	0.013	0.023	0.037 0.027				
	G → Q1	(HH)	0.494	0.877	1.451	0.013	0.010	0.027				
	G → Q1	(HL)	0.453	0.813	1.368	0.010	0.016	0.027				
	G → Q2	(HH)	0.494	0.877	1.451	0.013	0.023	0.037				
		(HL)	0.453	0.813	1.368	0.010	0.016	0.027				
	$G \rightarrow Q3$	(HH)	0.494	0.877	1.451	0.013	0.023	0.037				
		(HL)	0.453	0.813	1.367	0.010	0.016	0.027				
	$G \rightarrow Q4$	(HH)	0.494	0.877	1.451	0.013	0.023	0.037				
		(HL)	0.453	0.813	1.367	0.010	0.016	0.027				
	G → Q5	(HH)	0.494	0.877	1.451	0.013	0.023	0.037				
		(HL)	0.453	0.813	1.368	0.010	0.016	0.027				
	G → Q6	(HH)	0.494 0.453	0.877 0.813	1.451 1.368	0.013 0.010	0.023 0.016	0.037 0.027				
I	G → Q7	(HL) (HH)	0.494	0.877	1.451	0.010	0.016	0.027				
1	J 3 → Q/	(HL)	0.453	0.817	1.367	0.013	0.023	0.037				
1	G → Q0B	(HH)	0.554	1.006	1.708	0.012	0.022	0.036				
I	5 , 305	(HL)	0.631	1.147	1.937	0.009	0.015	0.024				
1	G → Q1B	(HH)	0.555	1.007	1.708	0.012	0.022	0.036				
		(HL)	0.631	1.147	1.937	0.009	0.015	0.024				
	$G \rightarrow Q2B$	(HH)	0.555	1.007	1.708	0.012	0.022	0.036				
		(HL)	0.631	1.147	1.937	0.009	0.015	0.024				
I	$G \rightarrow Q3B$	(HH)	0.554	1.006	1.708	0.012	0.022	0.036				
L		(HL)	0.631	1.147	1.937	0.009	0.015	0.024				

			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns)			t 1] In	put	Ou	tput
type	IN → C	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$G \rightarrow Q4B$	(HH)	0.554	1.006	1.708	0.012	0.022	0.036				
l		(HL)	0.631	1.147	1.937	0.009	0.015	0.024				
	$G \rightarrow Q5B$	(HH)	0.555	1.007	1.708	0.012	0.022	0.036				
l		(HL)	0.631	1.147	1.937	0.009	0.015	0.024				
l	$G \rightarrow Q6B$	(HH)	0.555	1.007	1.708	0.012	0.022	0.036				
l		(HL)	0.631	1.147	1.937	0.009	0.015	0.024				
	$G \rightarrow Q7B$	(HH)	0.554	1.006	1.708	0.012	0.022	0.036				
		(HL)	0.631	1.147	1.937	0.009	0.015	0.024				
	Set up time	D0	1.497		1.962							
	Set up time	D1	1.496		1.961							
	Set up time	D2	1.496		1.961							
	Set up time	D3	1.497		1.961							
l	Set up time	D4	1.497		1.962							
l	Set up time	D5	1.496		1.961							
	Set up time	D6	1.496		1.961							
l	Set up time	D7	1.497		1.961							
l	Hold time	D0	0.325		0.391							
l	Hold time	D1	0.334		0.403							
l	Hold time	D2	0.324		0.385							
	Hold time	D3	0.334		0.398							
	Hold time	D4	0.325		0.391							
l	Hold time	D5	0.334		0.403							
l	Hold time	D6	0.324	1	0.385							
l	Hold time	D7	0.334		0.398							
	Min Pulse	G	1.455		2.971							

[MEMO]

Function	RS-	RS-LATCH								SSI Fa	mily	
Block type		Standard type										
Block type	Norma	al	High sp	eed								
Drivability	Name	cells	Name	cells								
Low Power												
x1	F595	5										
x2												
x4												

Logic Diagram



Truth Table

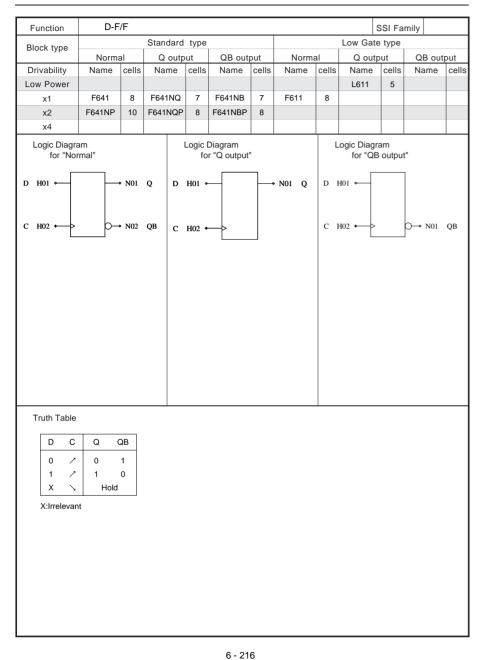
S	R	G	Q	QB	
0	0	1	Latch		
0	1	1	0	1	
1	0	1	1	0	
1	1	1	1	1	
1	1	1->0	Undefined		
X	X	0	Latch		

X:Irrelevant

FUNCTION BLOCK

			Swite	ching sp	eed							
Block type	Path	t LD0 (ns)			t 1			Input		Output		
	IN \rightarrow C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F595	$S \rightarrow Q$	(HH)	0.254	0.434	0.717	0.013	0.023	0.037	S	1.0	Q	22
		(LL)	0.345	0.714	1.265	0.010	0.016	0.026	R	1.0	QB	22
	$S \rightarrow QB$	(HL)	0.553	1.053	1.825	0.010	0.016	0.026	G	2.1		
	$R \rightarrow Q$	(HL)	0.553	1.053	1.826	0.010	0.016	0.026				
	$R \rightarrow QB$	(HH)	0.254	0.435	0.718	0.013	0.023	0.037				
		(LL)	0.347	0.717	1.269	0.010	0.016	0.026				
	$G \rightarrow Q$	(HH)	0.276	0.438	0.683	0.013	0.023	0.037				
		(HL)	0.570	1.053	1.788	0.010	0.016	0.026				
	$G \rightarrow QB$	(HH)	0.276	0.439	0.684	0.013	0.023	0.037				
		(HL)	0.570	1.052	1.786	0.010	0.016	0.026				
	Min Pulse	G	1.042		2.887							

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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → (DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L611	$C \rightarrow Q$	(HH)	0.341	0.613	0.999	0.025	0.045	0.072	D	3.1	Q	10
		(HL)	0.303	0.542	0.905	0.017	0.027	0.044	С	1.0		
	Set up time	D	0.383		0.774							
	Hold time	D	0.415		0.387							
	Min Pulse	С	1.090		2.050							
F641	$C \rightarrow Q$	(HH)	0.373	0.666	1.113	0.012	0.023	0.036	D	1.0	Q	22
		(HL)	0.439	0.812	1.367	0.009	0.015	0.025	С	1.0	QB	23
	$C \rightarrow QB$	(HH)	0.537	0.992	1.676	0.012	0.023	0.036				
	0-4	(HL)	0.491	0.908	1.555	0.009	0.015	0.024				
	Set up time Hold time	D D	0.432 0.286		0.937 0.148							
	Min Pulse	С	1.238		2.483							
F611	C → Q	(HH)	0.373	0.666	1.113	0.012	0.023	0.036	D	1.0	Q	22
FOII	C → Q	(HL)	0.439	0.812	1.367	0.009	0.025	0.035	C	1.0	QB	23
	$C \rightarrow QB$	(HH)	0.537	0.992	1.676	0.012	0.023	0.036		1.0	QD	20
	U → QD	(HL)	0.491	0.908	1.555	0.009	0.025	0.024				
	Set up time	D (1.12)	0.432	0.000	0.937	0.000	0.0.0	0.02				
	Hold time	D	0.286		0.148							
	Min Pulse	С	1.238		2.483							
F641NP	$C \rightarrow Q$	(HH)	0.399	0.712	1.187	0.006	0.011	0.018	D	1.0	Q	46
		(HL)	0.473	0.889	1.509	0.005	0.008	0.012	С	1.0	QB	46
	$C \rightarrow QB$	(HH)	0.626	1.164	1.978	0.006	0.011	0.018				
		(HL)	0.565	1.055	1.812	0.004	0.007	0.012				
	Set up time	D	0.480		0.750							
	Hold time	D	0.130		0.030							
	Min Pulse	С	1.061		2.365							
F641NQ	$C \rightarrow Q$	(HH)	0.359	0.642	1.070	0.012	0.023	0.037	D	1.0	Q	23
		(HL)	0.422	0.790	1.332	0.009	0.014	0.023	С	1.0		
	Set up time	D	0.480		0.750							
	Hold time	D C	0.130		0.030							
F641NQP	Min Pulse	(HH)	0.838	0.713	1.653	0.006	0.011	0.018	D	1.0	Q	44
F641NQP	$C \rightarrow Q$	(HH)	0.400	0.713	1.190 1.512	0.006	0.008	0.018	C	1.0	Q	44
	Set up time	D (11L)	0.474	0.091	0.750	0.003	0.008	0.012		1.0		
	Hold time	D	0.130		0.030							
	Min Pulse	C	0.130		1.808							
F641NB	C → QB	(HH)	0.358	0.644	1.050	0.013	0.023	0.037	D	1.0	QB	22
	0 , 45	(HL)	0.342	0.662	1.154	0.010	0.016	0.026	c	1.0		
	Set up time	D Ó	0.480		0.750							
	Hold time	D	0.130		0.040							
	Min Pulse	С	0.776		1.407							
F641NBP	$C \rightarrow QB$	(HH)	0.414	0.740	1.207	0.006	0.012	0.019	D	1.0	QB	43
		(HL)	0.390	0.779	1.446	0.005	0.008	0.014	С	1.0		
	Set up time	D	0.490		0.760							
	Hold time	D	0.130		0.030							
	Min Pulse	С	0.827		1.662							

Function	D-F	/F WI								SSI Fai	mily	
Block type			Standa	ard type			Low Gate type					
7.	Norma	_		utput	QB out	-	Norma	_	Q outp		QB ou	
Drivability	Name	cells	Nam	e cells	Name	cells	Name	cells	Name	cells	Name	cell
Low Power	F0.40		F0.40N	10 0	FO 40NID							
x1	F642 F642NP	9	F642N		F642NBP	8						
x2 x4	F64ZNP	11	F642N	QP 9	F642NBP	9						
Logic Diagram for "Normal"					Diagram or "Q output	"		L	ogic Diagr. for "QB	am B output	."	
D H01 •		• N01	Q	D H01 4			N01 Q	D I	Н01 ←			
C H02 ←	H03	• N02	QB	С Н02				CI	H02 •	H03	O→ N01	QB
	R				HŮ3 R					R		
Truth Table												
D C	R C) C	lB									
0 /	0 0		1									
1 /	0 1)									
X >	0	Hold										
X X	1 0		1									
X:Irrelevan	t											

- I			Swite	ching sp	eed				Ι.			
Block	Path		t i	LD0 (ns)			t 1		l In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F642	$C \rightarrow Q$	(HH)	0.392	0.700	1.182	0.013	0.023	0.037	D	1.0	Q	23
		(HL)	0.446	0.822	1.377	0.009	0.015	0.024	С	1.0	QB	23
	$C \rightarrow QB$	(HH) (HL)	0.544 0.597	0.998 1.137	1.677 1.987	0.012	0.023 0.015	0.036 0.025	R	2.2		
	$R \rightarrow Q$	(HL)	0.372	0.668	1.100	0.009	0.015	0.025				
	$R \rightarrow QB$	(HH)	0.172	0.334	0.493	0.013	0.023	0.037				
	Set up time	D `	0.460		1.330							
	Hold time	D	0.130		0.050							
	Release time	R	0.150		0.810							
	Removal time	R	0.000		0.000							
	Min Pulse Min Pulse	C R	1.002 0.790		2.274 1.431							
F642NP	C → Q	(HH)	0.440	0.783	1.324	0.006	0.011	0.018	D	1.0	Q	46
1 042111	0 <i>→</i> Q	(HL)	0.501	0.927	1.565	0.005	0.007	0.012	c	1.0	QB	46
	$C \ \to \ QB$	(HH)	0.656	1.210	2.050	0.006	0.011	0.018	R	2.2		
		(HL)	0.746	1.429	2.517	0.005	0.008	0.013				
	$R \ \to \ Q$	(HL)	0.430	0.850	1.423	0.005	0.007	0.012				
	$R \rightarrow QB$	(HH)	0.219	0.398	0.600	0.006	0.012	0.019				
	Set up time Hold time	D D	0.460 0.130		1.330 0.060							
	Release time	R	0.150		0.810							
	Removal time	R	0.000		0.000							
	Min Pulse	С	1.143		2.768							
	Min Pulse	R	0.841		1.724							
F642NQ	$C \ \to \ Q$	(HH)	0.391	0.701	1.181	0.012	0.023	0.037	D	1.0	Q	22
		(HL)	0.445	0.822	1.373	0.009	0.014	0.023	С	1.0		
	$R \rightarrow Q$ Set up time	(HL) D	0.332 0.460	0.644	1.052 1.330	0.009	0.014	0.023	R	2.2		
	Hold time	D	0.130		0.050							
	Release time	R	0.150		0.810							
	Removal time	R	0.000		0.000							
	Min Pulse	С	0.858		1.693							
	Min Pulse	R	0.753		1.380							
F642NQP	$C \rightarrow Q$	(HH)	0.441	0.786	1.329	0.006	0.011	0.018	D	1.0	Q	45
	Б О	(HL) (HL)	0.501 0.388	0.930 0.757	1.566 1.250	0.005 0.005	0.007 0.007	0.012 0.012	C R	1.0 2.2		
	$R \rightarrow Q$ Set up time	(HL) D	0.388	0.757	1.330	0.005	0.007	0.012	^	2.2		
	Hold time	D	0.130		0.060							
	Release time	R	0.150		0.810							
	Removal time	R	0.000		0.000							
	Min Pulse	С	0.905		1.856							
F0.40N/F	Min Pulse	R	0.801	0.000	1.550	0.040	0.000	0.007		4.0	QB	- 00
F642NB	$C \rightarrow QB$	(HH) (HL)	0.387 0.373	0.682 0.742	1.100 1.365	0.013 0.010	0.023 0.017	0.037 0.029	D C	1.0 1.0	l dg	22
	$R \rightarrow QB$	(HL)	0.265	0.742	0.781	0.010	0.017	0.029	R	2.2		
	Set up time	D (1.11.)	0.470		1.280				''			
	Hold time	D	0.140		0.070							
	Release time	R	0.150		0.750							
	Removal time	R	0.000		0.000							
	Min Pulse	С	0.799		1.564							
F642NBP	Min Pulse C → QB	R (HH)	0.683 0.453	0.789	1.121 1.271	0.006	0.012	0.019	D	1.0	QB	43
FU4ZINDP	C → ØB	(HH)	0.453	0.789	1.759	0.006	0.012	0.019	C	1.0	Ч	+3
	$R \rightarrow QB$	(HH)	0.324	0.606	0.955	0.006	0.012	0.019	R	2.2		
	Set up time	D Ó	0.470		1.220							
	Hold time	D	0.140		0.070							

Block			Swite	ching sp	eed						0.1.1	
	Path		t LD0 (ns)			t 1			Input		Output	
type	$IN \rightarrow 0$	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time	R	0.170		0.710							
	Removal time	R	0.000		0.000							
I	Min Pulse	С	0.859		1.917							
	Min Pulse	R	0.736		1.275							

[MEMO]

Function	D-F	/F WI	THS							(SSI Fai	mily	
Block type			Standa	ard typ	ре					Low Gate	type		
	Norma			utput		QB outp			_	Q outp		QB ou	_
Drivability	Name	cells	Nam	ie cel	lls	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	F0.40		F0.40N	10 0	+	FOADNID							
x1	F643 F643NP	9	F643N		_	F643NB F643NBP	8						
x2 x4	F043NP	11	F043IN	QP 8	,	F043NBP	9						
Logic Diagra				Log		iagram			L	ogic Diagr			
for "Nor	S H03	→ N01 → N02		D H01	for I ←	"Q output"		∙ N01 Q	D 1	for "QB		" N01	QB
Truth Table									<u> </u>				
D C	s Q	C	βB										
0 /	0 0		1										
1 /	0 1		0										
X	0	Hold											
X X	1 1		0										
X:Irrelevan	it												

D			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F643	$C \rightarrow Q$	(HH)	0.380	0.671	1.108	0.013	0.023	0.037	D	1.0	Q	23
		(HL)	0.530	1.021	1.762	0.010	0.016	0.026	С	1.0	QB	23
	$C \ \to \ QB$	(HH)	0.640	1.220	2.103	0.012	0.022	0.036	S	2.2		
	$S \rightarrow Q$	(HL) (HH)	0.504 0.183	0.916 0.291	1.547 0.429	0.009	0.014 0.023	0.023 0.037				
	$S \rightarrow Q$ $S \rightarrow QB$	(HL)	0.163	0.291	1.077	0.013	0.023	0.037				
	Set up time	D (1.12)	0.470	0.001	0.740	0.005	0.010	0.024				
	Hold time	D	0.140		0.050							
	Release time	S	0.000		0.000							
	Removal time	S	0.210		0.830							
	Min Pulse	С	1.075		2.504							
	Min Pulse	S	0.735		1.382							
F643NP	$C \ \to \ Q$	(HH)	0.424	0.746	1.231	0.006	0.011	0.018	D	1.0	Q	46
		(HL)	0.616	1.206	2.104	0.005	0.008	0.014	C	1.0	QB	45
	$C \rightarrow QB$	(HH)	0.802 0.610	1.549	2.700	0.006	0.011 0.007	0.018 0.012	S	2.2		
	$S \rightarrow Q$	(HL) (HH)	0.610	1.113 0.355	1.887 0.533	0.005 0.006	0.007	0.012				
	$S \rightarrow Q$ $S \rightarrow QB$	(HL)	0.424	0.842	1.387	0.005	0.008	0.013				
	Set up time	D ()	0.470		0.740							
	Hold time	D	0.140		0.050							
	Release time	S	0.000		0.000							
	Removal time	S	0.210		0.830							
	Min Pulse	С	1.240		3.110							
	Min Pulse	S	0.833		1.675				_			
F643NQ	$C \ \to \ Q$	(HH)	0.379	0.668	1.104	0.012	0.023	0.037	D	1.0	Q	22
	0 0	(HL) (HH)	0.530 0.181	1.022 0.289	1.758 0.426	0.010 0.012	0.016 0.023	0.026 0.037	C S	1.0 2.2		
	$S \rightarrow Q$ Set up time	D (ПП)	0.161	0.209	0.426	0.012	0.023	0.037	3	2.2		
	Hold time	D	0.140		0.050							
	Release time	s	0.000		0.000							
	Removal time	S	0.210		0.830							
	Min Pulse	С	0.927		2.016							
	Min Pulse	S	0.607		0.798							
F643NQP	$C \ \to \ Q$	(HH)	0.414	0.734	1.219	0.006	0.011	0.018	D	1.0	Q	45
		(HL)	0.614	1.202	2.098	0.005	0.008	0.014	С	1.0		
	S → Q	(HH)	0.219	0.343	0.518	0.006	0.011	0.018	S	2.2		
	Set up time Hold time	D D	0.470 0.140		0.740 0.050							
	Release time	S	0.000		0.000							
	Removal time	S	0.210		0.830							
	Min Pulse	C	1.003		2.321							
	Min Pulse	S	0.633		0.881	<u></u>						
F643NB	$C \ \to QB$	(HH)	0.383	0.677	1.094	0.013	0.023	0.037	D	1.0	QB	22
		(HL)	0.356	0.681	1.180	0.010	0.016	0.026	С	1.0		
	$S \rightarrow QB$	(HL)	0.347	0.863	1.537	0.009	0.016	0.025	S	2.2		
	Set up time Hold time	D D	0.480		0.760							
	Release time	S	0.140 0.000		0.060							
	Removal time	S	0.170		0.780							
	Min Pulse	c	0.794		1.431							
	Min Pulse	S	0.762		1.795							
F643NBP	C → QB	(HH)	0.445	0.780	1.261	0.007	0.012	0.019	D	1.0	QB	44
		(HL)	0.406	0.803	1.483	0.005	0.008	0.014	С	1.0		
	$S \ \to \ QB$	(HL)	0.404	0.987	1.791	0.005	0.008	0.014	S	2.2		
	Set up time	D	0.480		0.780							
	Hold time	D	0.140		0.060							

			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time	S	0.000		0.000							
	Removal time	S	0.150		0.760							
l	Min Pulse	С	0.851		1.697							
	Min Pulse	S	0.815		2.021							

[MEMO]

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Function	D-F	/F WI	TH R,S							SSI Fa	mily	
Block type			Standard	type					Low Gat	e type		
Blook type	Norma	al	Q outp	ut	QB out	put	Norma	al	Q out	put	QB ou	tput
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power									L614	7		
x1	F644	10	F644NQ	9	F644NB	9	F614	10				
x2	F644NP	12	F644NQP	10	F644NBP	10						
x4 Logic Diagration for "Not the property of	s H04	N01 N02	Q D		Diagram r "Q output" SH04 H03 R	7	N01 Q	D 1	ogic Diagu for "QE H01 ←————————————————————————————————————	ram 3 output S H04 H03 R	v" → N01	QB
Truth Table D C 0 / 1 / X \ X X X X X X X:Irrelevar	R S 0 0 0 0 0 0 0 1 1 0 1 1	Q 0 1 1 0 1 1	1 0 Hold 0 1	← Pro	hibition							

Blood			Switc	ching sp	eed							
Block	Path		t ı	LDO (ns)			t 1		ır	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L614	$C \ \to \ Q$	(HH)	0.392	0.723	1.197	0.043	0.088	0.147	D	3.1	Q	4
		(HL)	0.341 0.161	0.614 0.164	1.045 0.231	0.017 0.012	0.027 0.026	0.046 0.043	C R	1.0 2.3		
	$\begin{array}{ccc} R & \to Q \\ S & \to Q \end{array}$	(HL) (HH)	0.323	0.164	0.231	0.012	0.026	0.043	s	2.3		
	S → Q Set up time	D (1111)	0.680	0.504	1.580	0.044	0.000	0.146	"	2.1		
	Hold time	D	0.334		0.241							
	Release time	R	1.060		1.182							
	Release time	S	1.250		1.693							
	Removal time	R	0.641		0.703							
	Removal time	S	0.483		0.294							
	Min Pulse	С	1.074		2.065							
	Min Pulse	R	0.866		1.692							
FC44	Min Pulse	S	1.128	0.743	2.300	0.012	0.023	0.036	D	1.0	Q	23
F644	$C \rightarrow Q$	(HH) (HL)	0.413 0.564	1.082	1.265 1.870	0.012	0.023	0.036	C	1.0	QB	23
	$C \rightarrow QB$	(HH)	0.664	1.276	2.214	0.010	0.010	0.027	R	2.2	🐃	
	€ → Q D	(HL)	0.629	1.201	2.108	0.012	0.016	0.026	s	2.3		
	$R \rightarrow Q$	(HL)	0.475	0.932	1.599	0.010	0.016	0.026				
	$R \ \to QB$	(HH)	0.184	0.352	0.529	0.012	0.023	0.037				
	$S \ \to \ Q$	(HH)	0.191	0.301	0.457	0.012	0.023	0.036				
	$S \ \to \ QB$	(HL)	0.404	1.005	1.734	0.010	0.017	0.028				
	Set up time	D	0.733		1.615							
	Hold time Release time	D R	0.193 1.241		0.010 1.653							
	Release time	S	1.079		1.053							
	Removal time	R	0.529		0.358							
	Removal time	S	0.663		0.730							
	Min Pulse	С	1.325		2.690							
	Min Pulse	R	1.242		2.646							
	Min Pulse	S	1.133		2.745							
F614	$C \ \to \ Q$	(HH)	0.413	0.743	1.265	0.012	0.023	0.036	D	1.0	Q	23
	0 00	(HL)	0.564	1.082	1.870	0.010 0.012	0.016 0.022	0.027 0.036	C R	1.0 2.2	QB	22
	$C \rightarrow QB$	(HH) (HL)	0.664 0.629	1.276 1.201	2.214 2.108	0.012	0.022	0.036	S	2.2		
	$R \rightarrow Q$	(HL)	0.475	0.932	1.599	0.010	0.016	0.026	~	2.5		
	$R \rightarrow QB$	(HH)	0.184	0.352	0.529	0.012	0.023	0.037				
	S → Q	(HH)	0.191	0.301	0.457	0.012	0.023	0.036				
	$S \ \to \ QB$	(HL)	0.404	1.005	1.734	0.010	0.017	0.028				
	Set up time	D	0.733		1.615							
	Hold time	D	0.193		0.010							
	Release time	R	1.241		1.653							
	Release time Removal time	S R	1.079 0.529		1.188 0.358							
	Removal time	S	0.663		0.336							
	Min Pulse	C	1.325		2.690							
	Min Pulse	R	1.242		2.646							
	Min Pulse	S	1.133		2.745							
F644NP	$C \ \to \ Q$	(HH)	0.425	0.770	1.312	0.006	0.011	0.018	D	1.0	Q	46
		(HL)	0.589	1.159	2.036	0.005	0.008	0.014	С	1.0	QB	46
	$C \rightarrow QB$	(HH)	0.758	1.485	2.612	0.006	0.011	0.018	R	2.1		
	$R \rightarrow Q$	(HL) (HL)	0.725 0.515	1.411 1.108	2.501 1.917	0.005 0.005	0.008	0.013 0.013	°	2.2		
	$R \rightarrow Q$ $R \rightarrow QB$	(HH)	0.515	0.398	0.602	0.005	0.008	0.013				
	R → QB S → Q	(HH)	0.214	0.337	0.502	0.006	0.012	0.018				
	$S \rightarrow Q$ $S \rightarrow QB$	(HL)	0.513	1.197	2.098	0.005	0.009	0.014				
	Set up time	D	0.480		1.360							

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Divid			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns))		t 1		In	put	Ou	tput
type	$IN \rightarrow 0$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Hold time	D	0.120		0.030							
	Release time	R	0.150		0.820							
	Release time	S	0.000		0.000							
	Removal time	R	0.000		0.000							
	Removal time	S	0.210		0.850							
	Min Pulse Min Pulse	C R	1.199 0.910		3.020 2.168							
	Min Pulse	S	0.903		2.100							
F644NQ	C → Q	(HH)	0.381	0.693	1.178	0.012	0.023	0.036	D	1.0	Q	23
1011110	0 7 4	(HL)	0.508	0.988	1.712	0.009	0.015	0.025	c	1.0		
	$R \rightarrow Q$	(HL)	0.411	0.798	1.370	0.009	0.015	0.025	R	2.1		
	S → Q	(HH)	0.173	0.278	0.413	0.012	0.023	0.036	s	2.2		
	Set up time	D	0.480		1.350							
	Hold time	D	0.120		0.030							
	Release time	R	0.150		0.820							
	Release time	S	0.000		0.000							
	Removal time	R	0.000		0.000							
	Removal time	S	0.210		0.850							
	Min Pulse Min Pulse	C R	0.908 0.819		1.973 1.646							
	Min Pulse	S	0.598		0.785							
F644NQP	C → Q	(HH)	0.425	0.772	1.317	0.006	0.011	0.018	D	1.0	0	45
1 07711001	0 7 4	(HL)	0.590	1.163	2.043	0.005	0.008	0.014	c	1.0] ~	
	$R \rightarrow Q$	(HL)	0.495	0.975	1.710	0.005	0.008	0.013	R	2.1		
	S → Q	(HH)	0.215	0.337	0.511	0.006	0.011	0.018	s	2.2		
	Set up time	D	0.480		1.360							
	Hold time	D	0.120		0.030							
	Release time	R	0.150		0.820							
	Release time	S	0.000		0.000							
	Removal time	R	0.000		0.000							
	Removal time	S	0.210		0.850							
	Min Pulse Min Pulse	C R	0.984 0.896		2.272 1.953							
	Min Pulse	S	0.630		0.873							
F644NB	C → QB	(HH)	0.361	0.649	1.059	0.013	0.023	0.037	D	1.0	QB	22
1011115	0 7 45	(HL)	0.371	0.742	1.373	0.010	0.017	0.029	c	1.0		
	$R \rightarrow QB$	(HH)	0.274	0.474	0.752	0.013	0.023	0.037	R	2.1		
	$S \rightarrow QB$	(HL)	0.461	1.159	2.149	0.010	0.017	0.028	S	2.2		
	Set up time	D	0.490		1.280							
	Hold time	D	0.120		0.040							
	Release time	R	0.150		0.760							
	Release time	S	0.000	1	0.000							
	Removal time	R	0.000		0.000							
	Removal time Min Pulse	S C	0.170		0.780							
	Min Pulse	R	0.777 0.691		1.574 1.095							
	Min Pulse	S	0.871		2.357							
F644NBP	C → QB	(HH)	0.416	0.745	1.216	0.006	0.012	0.019	D	1.0	QB	44
' ' ' '		(HL)	0.435	0.890	1.759	0.005	0.009	0.016	C	1.0		
	$R \rightarrow QB$	(HH)	0.336	0.571	0.915	0.006	0.012	0.019	R	2.1		
	$S \rightarrow QB$	(HL)	0.546	1.350	2.554	0.005	0.009	0.015	S	2.2		
	Set up time	D	0.490		1.240							
	Hold time	D	0.120		0.040							
	Release time	R	0.180	1	0.710							
	Release time	S	0.000		0.000							
	Removal time	R	0.000	l	0.000				1			

		Swite	ching sp	eed							
Block	Path	t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN o OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Removal time S	0.140		0.750							
	Min Pulse C	0.829		1.915							
I	Min Pulse R	0.747		1.238							
	Min Pulse S	0.950		2.725							

Function	D-F	/F WI	TH RB								SSI Fa	mily	
Block type			Stand	lard	type					Low Gate	e type		
	Norma			outp		QB out	put	Norm	_	Q out		QB out	put
Drivability	Name	cells	Nam	ne	cells	Name	cells	Name	cells	Name	cells	Name	cell
Low Power													
x1	F615	9	F615N		8	F615NB	8						
x2	F615NP	11	F615N	IQP	9	F615NBP	9						
х4									<u> </u>				
Logic Diagra for "Nor				l		Diagram r "Q output'			L	ogic Diagr. for "QE		t"	
D H01 ⊶		N01	Q	D	H01 •		_	N01 Q	D I	но1 🕌			
С Н02 •		N02	QB	С	H02 +	—			C	H02	Ŷ	O→ N01	QB
	H03 RB					H03 RB					H03 RB		
Truth Table													
D (C RB	Q	QB										
0 ,	· 1	0	1										
1 ,	ž 1	1	0										
χ ,	1	Н	lold										
	Χ 0	0	1	1									

F615	$\begin{array}{c} C \ \to Q \\ \\ C \ \to QB \\ \\ RB \ \to Q \\ \\ RB \ \to QB \end{array}$	OUT (HH) (HL) (HH) (HL)	MIN. 0.424 0.459	TYP. 0.768	MAX.	MIN.	t 1 TYP.	MAX.	Symbol	put Fanin	Symbol	tput
F615	$\begin{array}{c} C \ \to Q \\ \\ C \ \to QB \\ \\ RB \ \to Q \\ \\ RB \ \to QB \end{array}$	(HH) (HL) (HH)	0.424			MIN.	TVP	MAX	Cumbal	Fanin	Cumbal	l =
	$\begin{array}{c} C \ \to QB \\ \\ RB \ \to Q \\ \\ RB \ \to QB \end{array}$	(HL) (HH)		0.768			111.	IVI/A/A.	Symbol	ranın	Symbol	Fanout
 	$\begin{array}{ccc} RB & \to & Q \\ RB & \to & QB \end{array}$	(HH)	0.459		1.289	0.013	0.023	0.037	D	1.0	Q	22
5	$\begin{array}{ccc} RB & \to & Q \\ RB & \to & QB \end{array}$		0.557	0.844 1.022	1.418 1.718	0.009	0.015 0.023	0.025 0.036	C RB	1.0 2.1	QB	22
S	$RB \ \to \ QB$		0.557	1.022	1.743	0.012 0.010	0.023	0.036	KD	2.1		
	$RB \ \to \ QB$	(LL)	0.217	0.384	0.644	0.009	0.015	0.025				
		(LH)	0.326	0.645	1.070	0.012	0.023	0.036				
	Set up time	D	0.541		1.046							
	Hold time	D	0.257		0.064							
	Release time	RB	1.001		1.043							
	Removal time	RB	0.712		0.834							
	Min Pulse Min Pulse	C RB	1.248 1.082		2.488 2.292							
F615NP	C → Q	(HH)	0.480	0.869	1.453	0.006	0.012	0.019	D	1.0	Q	45
1	٠, ٩	(HL)	0.506	0.939	1.582	0.005	0.007	0.012	С	1.0	QB	45
	$C \ \to \ QB$	(HH)	0.669	1.231	2.076	0.006	0.011	0.018	RB	2.2		
		(HL)	0.676	1.259	2.150	0.005	0.007	0.012				
	$RB \ \to \ Q$	(LL)	0.258	0.475	0.808	0.005	0.007	0.012				
,	RB → QB	(LH)	0.444	0.849	1.425	0.006	0.011	0.018				
I I	Set up time Hold time	D D	0.470 0.130		0.740 0.050							
	Release time	RB	0.000		0.000							
I I	Removal time	RB	0.310		0.750							
	Min Pulse	С	1.102		2.479							
I.	Min Pulse	RB	0.896		1.848							
F615NQ	$C \ \to \ Q$	(HH)	0.418	0.756	1.260	0.013	0.023	0.037	D	1.0	Q	22
		(HL)	0.448	0.830	1.388	0.009	0.015	0.024	С	1.0		
1 .	RB → Q	(LL)	0.206	0.373	0.621	0.009	0.014	0.024	RB	2.2		
	Set up time Hold time	D D	0.470 0.130		0.750 0.050							
I I	Release time	RB	0.000		0.000							
I I	Removal time	RB	0.310		0.750							
	Min Pulse	С	0.861		1.707							
N	Min Pulse	RB	0.638		0.999							
F615NQP	$C \ \to \ Q$	(HH)	0.469	0.857	1.439	0.006	0.012	0.019	D	1.0	Q	43
		(HL)	0.501	0.931	1.570	0.005	0.007	0.012	С	1.0		
,	RB → Q Set up time	(LL) D	0.256 0.470	0.471	0.802 0.740	0.005	0.007	0.012	RB	2.2		
	Hold time	D	0.470		0.740							
	Release time	RB	0.000		0.000							
	Removal time	RB	0.310		0.750							
	Min Pulse	С	0.905		1.861							
	Min Pulse	RB	0.681		1.153	L						
F615NB	$C \ \to \ QB$	(HH)	0.384	0.677	1.094	0.013	0.023	0.037	D	1.0	QB	22
	DD . CD	(HL) (LH)	0.353 0.353	0.673 0.843	1.167 1.448	0.010 0.013	0.016 0.023	0.026 0.037	C RB	1.0 2.2		
,	RB → QB Set up time	D (LH)	0.353	0.043	0.740	0.013	0.023	0.037	LD	۷.۷		
	Hold time	D	0.140		0.060							
	Release time	RB	0.000		0.000							
	Removal time	RB	0.300		0.720							
I I	Min Pulse	С	0.795		1.431							
	Min Pulse	RB	0.790	. ==:	1.852							
F615NBP	$C \ \to QB$	(HH) (HL)	0.446 0.404	0.780 0.796	1.261 1.469	0.006 0.005	0.012 0.009	0.019 0.014	D C	1.0	QB	43
	$RB \rightarrow QB$	(HL) (LH)	0.404	0.796	1.634	0.005	0.009	0.014	RB	1.0 2.2		
	Set up time	D (L11)	0.480	3.555	0.760	3.000	0.012	3.013	```			
	Hold time	D	0.140		0.060	<u> </u>					<u> </u>	

			Swite	ching sp	eed						_	
Block	Path		t	_D0 (ns))		t 1] In	put	Ou	tput
type	$IN \to C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time	RB	0.000		0.000							
l	Removal time	RB	0.270		0.680							
l	Min Pulse	С	0.851		1.686							
	Min Pulse	RB	0.849		2.013							

[MEMO]

Norma Name	al	Stand							;	SSI Far	iiiiy	
	al		dard	type					Low Gate	type		
Name			outp		QB out	_	Norma		Q outp		QB out	tput
	cells	Nar	ne	cells	Name	cells	Name	cells	Name	cells	Name	cell
F616	9	F616		8	F616NB	8						
F616NP	11	F616N	NQP	9	F616NBP	9						
al"			l	_ogic I	r "Q output			L	ogic Diagr. for "QB	output	n	
	> N01	Q	D	H01 ❖	ĻĠ		> N01 Q	D 1	Н01 ⊶	H03		
			C	H02 •							5	•
SB	Q	QB										
1	0	1										
1 0	1	lold 0										
U	'											
	SB SB 1 1 1 1	SB Q 1 0 1 1 1 1 1 1	SB Q QB 1 0 1 1 1 0 1 Hold	SB Q QB 1 0 1 1 1 0 1 Hold	SB Q QB 1 0 1 1 1 0 1 Hold	SB Q QB 1 0 1 1 1 0 1 1 Hold	SB Q QB 1 0 1 1 1 0 1 1 Hold	Logic Diagram for "Q output" SB N01 N01 Q D H01 N01 Q N02 QB C H02 SB Q R 1 1 1 1 1 1 0 1 Hold	Logic Diagram for "Q output" SB N01 N01 Q D H01 N01 Q D H02 N01 Q D C 1 SB Q R 1 1 1 1 1 1 1 1 Hold	Logic Diagram For "Q output" SB N01 Q D H01 → N01 Q D H02 → N02 QB C H02 → N02 QB T T T T T T T T T	Logic Diagram For "Q output" SB SB H03 SB	Logic Diagram For "Q output" Logic Diagram For "QB output" SB H03
			Swite	ching sp	eed							
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Block	Path		t I	LD0 (ns)			t 1] In	put	Ou	tput
type	IN \rightarrow C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F616	$C \ \to \ Q$	(HH)	0.384	0.678	1.131	0.012	0.023	0.037	D	1.0	Q	22
	0 00	(HL) (HH)	0.472 0.610	0.876 1.145	1.475 1.937	0.009 0.012	0.015 0.023	0.025 0.036	C SB	1.0 2.1	QB	22
	$C \rightarrow QB$	(HL)	0.508	0.924	1.572	0.012	0.023	0.036	35	2.1		
	$SB \rightarrow Q$	(LH)	0.397	0.772	1.374	0.012	0.023	0.036				
	SB → QB	(LL)	0.213	0.486	0.809	0.010	0.017	0.027				
	Set up time	D	0.524		1.017							
	Hold time	D	0.264		0.130							
	Release time	SB	1.168		1.392							
	Removal time Min Pulse	SB C	0.572		0.554							
	Min Pulse	SB	1.333 1.179		2.755 2.600							
F616NP	C → Q	(HH)	0.423	0.740	1.223	0.006	0.011	0.018	D	1.0	Q	46
1 0 10111	, <u> </u>	(HL)	0.512	0.961	1.621	0.005	0.007	0.012	С	1.0	QB	45
	$C \ \to \ QB$	(HH)	0.730	1.380	2.337	0.006	0.011	0.018	SB	2.2		
		(HL)	0.611	1.115	1.892	0.004	0.007	0.012				
1	$SB \ \to \ Q$	(LH)	0.434	0.992	1.742	0.006	0.011	0.018				
1	SB → QB	(LL) D	0.257	0.570	0.970	0.005	0.008	0.012				
	Set up time Hold time	D	0.490 0.150		0.850 0.060							
	Release time	SB	0.000		0.000							
	Removal time	SB	0.060		0.200							
	Min Pulse	C	1.157		2.695							
	Min Pulse	SB	0.884		2.158							
F616NQ	$C \ \to Q$	(HH)	0.377	0.665	1.100	0.013	0.023	0.037	D	1.0	Q	22
		(HL)	0.456	0.851	1.430	0.009	0.014	0.023	С	1.0		
	$SB \rightarrow Q$	(LH) D	0.352	0.704	1.217	0.013	0.023	0.037	SB	2.2		
	Set up time Hold time	D	0.490 0.150		0.840 0.060							
	Release time	SB	0.000		0.000							
	Removal time	SB	0.060		0.200							
	Min Pulse	С	0.867		1.749							
	Min Pulse	SB	0.796		1.647							
F616NQP	$C \ \to \ Q$	(HH)	0.424	0.742	1.228	0.006	0.012	0.018	D	1.0	Q	44
		(HL)	0.513	0.962	1.626	0.005	0.007	0.012	С	1.0		
	$SB \rightarrow Q$ Set up time	(LH) D	0.402 0.490	0.789	1.353 0.840	0.006	0.012	0.018	SB	2.2		
	Hold time	D	0.490		0.060							
	Release time	SB	0.000		0.000							
1	Removal time	SB	0.060		0.200							
	Min Pulse	С	0.917		1.916							
	Min Pulse	SB	0.842		1.769							
F616NB	$C \rightarrow QB$	(HH)	0.405	0.729	1.186	0.013	0.024	0.038	D	1.0	QB	22
	6B 05	(HL) (LL)	0.350 0.298	0.674 0.627	1.174 1.163	0.010 0.009	0.016 0.015	0.026 0.025	C SB	1.0 2.2		
	SB → QB Set up time	D (LL)	0.500	0.027	0.860	0.009	0.015	0.023	36	۷.۷		
	Hold time	D	0.150		0.070							
1	Release time	SB	0.000		0.000							
	Removal time	SB	0.040		0.160							
	Min Pulse	С	0.813		1.496							
E0.4	Min Pulse	SB	0.712		1.475							
F616NBP	$C \rightarrow QB$	(HH)	0.479	0.857	1.397	0.007	0.012	0.019	D	1.0	QB	43
	SB → QB	(HL) (LL)	0.400 0.354	0.794 0.749	1.473 1.415	0.005 0.005	0.008	0.014 0.013	C SB	1.0 2.2		
1	SB → QB Set up time	D (LL)	0.510	0.749	0.880	0.003	0.000	0.013	55	۷.۷		
	Hold time	D	0.150		0.060							
	HOIG UITE	<u> </u>	0.100		0.000	!						

l			Swite	ching sp	eed				l .		_	
Block	Path		t ı	_D0 (ns)			t 1] In	put	Ou	tput
type	IN → OU	Τ	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time S	SB	0.000		0.000							
l	Removal time S	SB	0.030		0.140							
l	Min Pulse C	2	0.881		1.689							
	Min Pulse S	SB	0.764		1.696							

[MEMO]

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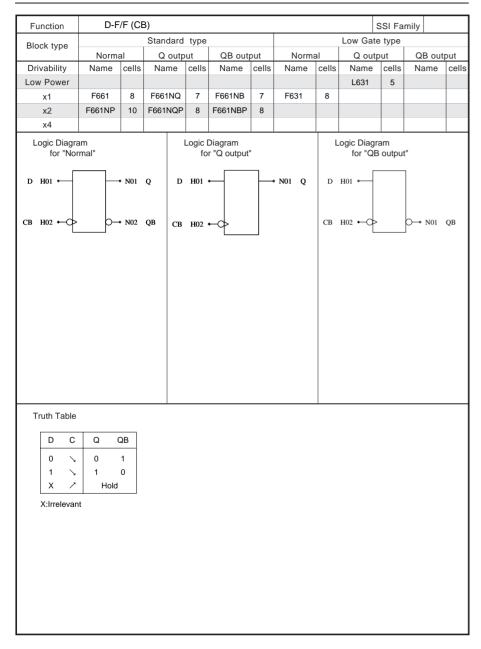
Function	D-F	/F WI	TH RB	s,SB							SSI Fai	mily		
Block type			Stand	dard ty	ре					Low Ga	te type			
	Norm			output		QB outp		Norma		Q ou	_		B out	put
Drivability	Name	cells	Nan	ne ce	lls	Name	cells	Name	cells	Name		Na	ame	cell
Low Power										L617	7			
x1	F647	10	F647			F647NB	9	F617	10					
x2	F647NP	12	F647N	NQP 1	0	F647NBP	10							
х4														
D H01 ←————————————————————————————————————	SB H04	> N01		D H0:	for 1 ←	SB H04 No output	7	N01 Q	D I	ogic Diag for "Q	SB H04		N01	QB
Truth Table					7									
	C RB	SB	Q	QB	-									
	/ 1	1	0	1										
	/ 1	1	1.	0										
	\ 1 \ 0	1		lold 1										
1	X 0 X 1	1 0	0	1 0										
	х I	0	0	0	_	- Prohibitio	n							
		•	1	•	1 `									

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L617	$\begin{array}{ccc} C & \to Q \\ \\ RB & \to Q \\ \\ SB & \to Q \end{array}$	(HH) (HL) (LL) (LH)	0.373 0.336 0.301 0.171	0.674 0.597 0.616 0.176	1.097 0.991 1.090 0.264	0.025 0.025 0.026 0.014	0.045 0.045 0.046 0.045	0.073 0.078 0.079 0.072	D C RB SB	3.1 1.0 2.2 2.3	Q	12
	Set up time Hold time Release time Release time Removal time Removal time	D D RB SB RB SB	0.382 0.374 1.154 0.984 0.561 0.703		0.873 0.314 1.358 1.039 0.560 0.815							
	Min Pulse Min Pulse Min Pulse	C RB SB	1.098 1.155 0.895		2.092 2.551 1.953							
F647	$\begin{array}{ccc} C & \rightarrow & Q \\ \\ C & \rightarrow & QB \end{array}$	(HH) (HL) (HH) (HL)	0.428 0.477 0.620 0.560	0.781 0.885 1.165 1.048	1.307 1.480 1.960 1.784	0.013 0.009 0.012 0.009	0.023 0.015 0.023 0.015	0.037 0.025 0.036 0.024	D C RB SB	1.0 1.0 2.3 2.3	Q QB	22 22
	$\begin{array}{ccc} RB & \to Q \\ RB & \to QB \\ SB & \to Q \\ SB & \to QB \end{array}$	(LL) (LH) (LH) (LL)	0.212 0.356 0.413 0.218 0.447	0.379 0.783 0.883 0.498	0.627 1.302 1.557 0.833 1.019	0.009 0.012 0.012 0.009	0.015 0.023 0.023 0.016	0.024 0.037 0.037 0.026				
	Set up time Hold time Release time Release time Removal time	D RB SB RB	0.447 0.278 1.004 1.162 0.725		0.100 1.046 1.344 0.842							
	Removal time Min Pulse Min Pulse Min Pulse	SB C RB SB	0.593 1.351 1.120 1.216		0.603 2.748 2.570 2.768							
F617	$\begin{array}{ccc} C & \rightarrow & Q \\ \\ C & \rightarrow & QB \end{array}$	(HH) (HL) (HH) (HL)	0.428 0.477 0.620 0.560	0.781 0.885 1.165 1.048	1.307 1.480 1.960 1.784	0.013 0.009 0.012 0.009	0.023 0.015 0.023 0.015	0.037 0.025 0.036 0.024	D C RB SB	1.0 1.0 2.3 2.3	Q QB	22 22
	$\begin{array}{c} RB \ \to Q \\ RB \ \to QB \\ SB \ \to Q \\ SB \ \to QB \\ Set \ up \ time \\ \end{array}$	(LL) (LH) (LH) (LL)	0.212 0.356 0.413 0.218 0.447	0.379 0.783 0.883 0.498	0.627 1.302 1.557 0.833 1.019	0.009 0.012 0.012 0.009	0.015 0.023 0.023 0.016	0.024 0.037 0.037 0.026				
	Hold time Release time Release time Removal time Removal time	D RB SB RB SB	0.278 1.004 1.162 0.725 0.593		0.100 1.046 1.344 0.842 0.603							
F647NP	Min Pulse Min Pulse Min Pulse	C RB SB (HH)	1.351 1.120 1.216 0.459	0.843	2.748 2.570 2.768 1.419	0.006	0.012	0.019	D	1.0	Q	45
F04/INP	$\begin{array}{ccc} C & \rightarrow Q \\ \\ C & \rightarrow QB \\ \\ RB & \rightarrow Q \end{array}$	(HL) (HH) (HL) (LL)	0.499 0.715 0.652 0.253	0.946 1.361 1.234 0.460	1.602 2.316 2.124 0.783	0.005 0.006 0.004 0.005	0.008 0.011 0.007 0.007	0.012 0.018 0.012 0.012	C RB SB	1.0 1.0 2.2 2.2	QB	45 45
	$\begin{array}{ccc} RB & \to QB \\ SB & \to Q \\ SB & \to QB \\ Set \ up \ time \end{array}$	(LH) (LH) (LL) D	0.469 0.455 0.260 0.510	0.997 1.113 0.576	1.684 1.960 0.984 0.880	0.006 0.006 0.004	0.012 0.012 0.008	0.019 0.018 0.013				

		OCK.	

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	0	utput
type	$IN \rightarrow 0$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Hold time	D	0.130		0.030							
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.310		0.760							
	Removal time	SB	0.060		0.200							
	Min Pulse	С	1.145		2.673							
	Min Pulse	RB	0.915		2.060							
50.45110	Min Pulse	SB	0.902	0.744	2.355	0.040	0.000	0.007		4.0	l a	22
F647NQ	$C \ \to \ Q$	(HH) (HL)	0.405 0.448	0.744 0.843	1.247 1.418	0.013 0.009	0.023 0.014	0.037 0.023	D C	1.0 1.0	ا	22
	$RB \rightarrow Q$	(LL)	0.448	0.368	0.612	0.009	0.014	0.023	RB	2.2		
	$SB \rightarrow Q$	(LL)	0.203	0.758	1.331	0.003	0.014	0.023	SB	2.2		
	Set up time	D (2.1.)	0.510	0.700	0.880	0.010	0.020	0.007	05	2.2		
	Hold time	D	0.130		0.030							
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.310		0.760							
	Removal time	SB	0.060	1	0.200							
	Min Pulse	С	0.862		1.742							
	Min Pulse	RB	0.635		0.990							
	Min Pulse	SB	0.823		1.744							
F647NQP	$C \ \to \ Q$	(HH)	0.460	0.846	1.425	0.006	0.012	0.019	О	1.0	Q	44
		(HL)	0.499	0.948	1.606	0.005	0.008	0.012	С	1.0		
	$RB \rightarrow Q$	(LL)	0.253	0.463	0.788	0.005	0.007	0.012	RB	2.2		
	$SB \ \to \ Q$	(LH)	0.438	0.867	1.516	0.006	0.012	0.019	SB	2.2		
	Set up time	D	0.510		0.880							
	Hold time	D	0.130		0.030							
	Release time	RB	0.000		0.000							
	Release time	SB RB	0.000		0.000							
	Removal time Removal time	SB	0.310 0.060		0.760 0.200							
	Min Pulse	C	0.909		1.901							
	Min Pulse	RB	0.678		1.140							
	Min Pulse	SB	0.877		1.915							
F647NB	C → QB	(HH)	0.393	0.714	1.167	0.013	0.024	0.038	D	1.0	QB	22
		(HL)	0.344	0.667	1.165	0.010	0.016	0.026	С	1.0		
	$RB \ \to \ QB$	(LH)	0.400	0.965	1.680	0.013	0.024	0.038	RB	2.2		
	$SB \rightarrow QB$	(LL)	0.305	0.624	1.164	0.009	0.015	0.025	SB	2.2		
	Set up time	D	0.520		0.900							
	Hold time	D	0.130		0.050							
	Release time	RB	0.000	1	0.000							
	Release time	SB	0.000	1	0.000							
	Removal time	RB	0.290		0.720							
	Removal time	SB	0.040	1	0.160							
	Min Pulse	С	0.804	1	1.480							
	Min Pulse	RB	0.832	1	2.056							
F647NBP	Min Pulse C → QB	SB (HH)	0.719 0.462	0.836	1.469 1.370	0.006	0.012	0.019	D	1.0	QB	43
F04/INBP	C → QB	(HL)	0.462	0.636	1.456	0.005	0.012	0.019	C	1.0	🖁	43
	$RB \rightarrow QB$	(LH)	0.393	1.100	1.913	0.005	0.008	0.014	RB	2.2		
	$SB \rightarrow QB$	(LL)	0.360	0.743	1.409	0.005	0.008	0.013	SB	2.2		
	Set up time	D (LL)	0.520	"	0.920	5.555	0.000	5.5.5	"			
	Hold time	D	0.130	1	0.040							
	Release time	RB	0.000		0.000							
	Release time	SB	0.000	1	0.000							
	Removal time	RB	0.260	l	0.670							
								_				

			Swite	ching sp	eed							
Block	Path		t ı	t LD0 (ns)			t 1		l In	put	Output	
type	IN → C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Removal time	SB	0.030		0.140							
I	Min Pulse	С	0.868		1.671							
I	Min Pulse	RB	0.901		2.262							
	Min Pulse	SB	0.769		1.686							



FUNCTION BLOCK

			Swite	ching sp	eed				Ι.			
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L631	CB → Q	(LH)	0.318	0.557	0.915	0.025	0.045	0.072	D	3.1	Q	10
		(LL)	0.352	0.665	1.186	0.017	0.027	0.045	СВ	1.0		
	Set up time	D	0.364		0.473							
	Hold time	D	0.421		0.533							
	Min Pulse	СВ	1.118		2.435				_			
F661	$CB \rightarrow Q$	(LH)	0.420	0.788	1.394	0.012	0.023	0.036	D CB	1.0	Q	22
		(LL)	0.411	0.751	1.269	0.009	0.015	0.025	CB	1.0	QB	23
	$CB \rightarrow QB$	(LH)	0.509 0.538	0.931	1.578 1.838	0.012	0.023	0.036				
	Set up time	(LL) D	0.538	1.031	0.827	0.009	0.015	0.024				
	Hold time	D	0.408		0.827							
	Min Pulse	CB	1.219		2.821							
F631	CB → Q	(LH)	0.420	0.788	1.394	0.012	0.023	0.036	D	1.0	Q	22
1 001	OD → Q	(LL)	0.411	0.751	1.269	0.009	0.015	0.025	СВ	1.0	QB	23
	CB → QB	(LH)	0.509	0.931	1.578	0.012	0.023	0.036				
		(LL)	0.538	1.031	1.838	0.009	0.015	0.024				
	Set up time	D `	0.408		0.827							
	Hold time	D	0.274		0.248							
	Min Pulse	CB	1.219		2.821							
F661NP	$CB \rightarrow Q$	(LH)	0.450	0.835	1.474	0.006	0.011	0.018	D	1.0	Q	46
		(LL)	0.446	0.824	1.411	0.005	0.008	0.012	СВ	1.0	QB	46
	$CB \ \to \ QB$	(LH)	0.600	1.100	1.882	0.006	0.011	0.018				
		(LL)	0.614	1.177	2.101	0.004	0.007	0.012				
	Set up time	D	0.340		0.740							
	Hold time	D	0.420		0.480							
5004110	Min Pulse	СВ	1.048		2.475				_			
F661NQ	$CB \rightarrow Q$	(LH)	0.406 0.394	0.759	1.353	0.012	0.023	0.037	D CB	1.0 1.0	Q	22
	Cat up time	(LL) D	0.394	0.727	1.235 0.740	0.009	0.014	0.023	CB	1.0		
	Set up time Hold time	D	0.340		0.740							
	Min Pulse	СВ	0.420		1.782							
F661NQP	CB → Q	(LH)	0.830	0.833	1.472	0.006	0.011	0.018	D	1.0	Q	44
1 00 11101	OD → Q	(LL)	0.448	0.829	1.419	0.005	0.008	0.012	СВ	1.0	٠ ١	
	Set up time	D (22)	0.340	0.020	0.740	0.000	0.000	0.012	""	1.0		
	Hold time	D	0.420		0.480							
	Min Pulse	СВ	0.889		1.893							
F661NB	CB → QB	(LH)	0.346	0.611	1.009	0.013	0.023	0.037	D	1.0	QB	22
		(LL)	0.363	0.709	1.326	0.010	0.016	0.026	СВ	1.0		
	Set up time	D	0.340		0.740							
	Hold time	D	0.430		0.490							
	Min Pulse	CB	0.778		1.634							
F661NBP	$CB \ \to QB$	(LH)	0.408	0.722	1.199	0.006	0.012	0.019	D	1.0	QB	43
		(LL)	0.408	0.808	1.557	0.005	0.008	0.014	СВ	1.0		
	Set up time	D	0.340		0.740							
	Hold time	D	0.430		0.500							
	Min Pulse	СВ	0.836		1.830	l			I		I	

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Function	D-F	/F (CE	3) WITH	RB						SSI Fai	mily	
Block type			Standa	rd type					Low Ga	te type		
	Norma	al	Q ou	tput	QB out	put	Norma	al	Q ou	tput	QB o	utput
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power												
x1	F665	9	F665N0	2 8	F665NB	8						
x2	F665NP	11	F665NQ	P 9	F665NBP	9						
x4												
Logic Diagra for "Nor D H01 ←	mal"	→ N01		fc D H01			→ N01 Q	D	ogic Diag for "Q H01 ←	gram B output	." ○→ N01	QB
	H03 RB				H03 RB				l	H03 RB	I	

Truth Table

D	СВ	RB	Q	QB
0	\	1	0	1
1	`	1	1	0
Х	1	1	н	old
Х	Χ	0	0	1

X:Irrelevant

Divi			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F665	$CB \ \to \ Q$	(LH)	0.469	0.885	1.558	0.013	0.023	0.037	D	1.0	Q	22
		(LL)	0.421	0.767	1.294	0.009	0.015	0.024	СВ	1.0	QB	23
	$CB \rightarrow QB$	(LH)	0.526	0.951 1.140	1.599	0.012	0.023	0.036	RB	2.2		
	$RB \rightarrow Q$	(LL) (LL)	0.597 0.207	0.374	2.016 0.623	0.009	0.014 0.015	0.023 0.024				
	$RB \rightarrow Q$ $RB \rightarrow QB$	(LL) (LH)	0.207	0.638	1.051	0.003	0.013	0.024				
	Set up time	D (=11)	0.340	0.000	0.740	0.010	0.020	0.007				
	Hold time	D	0.430		0.500							
	Release time	RB	0.000		0.000							
	Removal time	RB	0.500		1.090							
	Min Pulse	CB	1.034		2.420							
5005115	Min Pulse	RB	0.775	0.000	1.472	0.000	0.040	0.040		4.0		45
F665NP	$CB \rightarrow Q$	(LH) (LL)	0.525 0.475	0.993 0.872	1.746 1.483	0.006 0.005	0.012 0.007	0.019 0.012	D CB	1.0 1.0	Q QB	45 45
	$CB \rightarrow QB$	(LL) (LH)	0.475	1.163	1.463	0.005	0.007	0.012	RB	2.2	QB	45
	CB → QB	(LL)	0.718	1.377	2.434	0.005	0.007	0.010	l KB	2.2		
	$RB \rightarrow Q$	(LL)	0.258	0.475	0.808	0.005	0.007	0.012				
	$RB \rightarrow QB$	(LH)	0.444	0.849	1.423	0.006	0.011	0.018				
	Set up time	D	0.340		0.740							
	Hold time	D	0.430		0.500							
	Release time	RB	0.000		0.000							
	Removal time	RB	0.500		1.100							
	Min Pulse Min Pulse	CB RB	1.151 0.895		2.824 1.844							
F665NQ	CB → Q	(LH)	0.467	0.881	1.552	0.013	0.023	0.037	D	1.0	Q	22
1 000110	0B → Q	(LL)	0.421	0.767	1.293	0.009	0.015	0.024	СВ	1.0	~	
	$RB \ \to \ Q$	(LL)	0.206	0.373	0.620	0.009	0.015	0.024	RB	2.2		
	Set up time	D	0.340		0.740							
	Hold time	D	0.430		0.500							
	Release time	RB	0.000		0.000							
	Removal time Min Pulse	RB CB	0.500 0.904		1.090 1.962							
	Min Pulse	RB	0.638		0.999							
F665NQP	CB → Q	(LH)	0.521	0.985	1.737	0.006	0.012	0.019	D	1.0	Q	43
		(LL)	0.475	0.871	1.480	0.005	0.007	0.012	СВ	1.0		
	$RB \ \to \ Q$	(LL)	0.256	0.471	0.803	0.005	0.007	0.012	RB	2.2		
	Set up time	D	0.340		0.740							
	Hold time	D	0.430		0.500							
	Release time Removal time	RB RB	0.000 0.500		0.000 1.100							
	Min Pulse	CB	0.956		2.129							
	Min Pulse	RB	0.681		1.153							
F665NB	$CB \to QB$	(LH)	0.373	0.646	1.057	0.013	0.023	0.037	D	1.0	QB	22
1		(LL)	0.375	0.727	1.352	0.010	0.016	0.026	СВ	1.0		
1	$RB \rightarrow QB$	(LH)	0.353	0.842	1.447	0.013	0.023	0.037	RB	2.2		
1	Set up time	D	0.340		0.740							
	Hold time Release time	D RB	0.430 0.000		0.520 0.000							
	Removal time	RB	0.480		1.030							
	Min Pulse	CB	0.801		1.665							
	Min Pulse	RB	0.789		1.853							
F665NBP	$CB \to QB$	(LH)	0.441	0.767	1.258	0.006	0.012	0.019	D	1.0	QB	43
		(LL)	0.421	0.829	1.585	0.005	0.009	0.014	СВ	1.0		
1	$RB \rightarrow QB$	(LH)	0.417	0.954	1.633	0.006	0.012	0.019	RB	2.2		
	Set up time	D	0.340		0.740							
	Hold time	D	0.440		0.520	l	l			l	l	

			Swite	ching sp	eed						_	
Block	Path		t	LD0 (ns))		t 1	Input Input		Output		
type	$IN \to C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time	RB	0.000		0.000							
l	Removal time	RB	0.460		0.940							
l	Min Pulse	CB	0.864		1.864							
	Min Pulse	RB	0.849		2.012							

[MEMO]

Function	D-F	/F (CE	B) WITH							SSI Fai	mily	
Block type			Standa	ard type					Low Gat	e type		
**	Norma			utput	QB out	out	Norma		Q out	put	QB ou	tput
Drivability	Name	cells	Nam	e cells	Name	cells	Name	cells	Name	cells	Name	cell
Low Power												
x1	F666	9	F666N		F666NB	8						
x2	F666NP	11	F666N0	QP 9	F666NBP	9						
x4 Logic Diagra	am			Logic I	Diagram			L	ogic Diag	ram		
for "Nor D H01 ←	SB H03	> N01	OB	D H01		\neg	> N01 Q		for "QI H01 ←	SB H03	" ○→ N01	OR
Truth Table												
D C	B SB	Q	QB									
	\ 1	0	1									
	\ 1	1	0									
	· · · · · · · · · · · · · · · · · · ·		lold									
1	X 0	1	0									
X:Irrelevan	t											

Disal			Swite	ching sp	eed						0	4
Block	Path		t ı	LD0 (ns)			t 1		ırı	put	Ou	tput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F666	$CB \ \to \ Q$	(LH)	0.425	0.785	1.384	0.013	0.023	0.037	D	1.0	Q	23
		(LL)	0.422	0.776	1.318	0.009	0.015	0.024	CB SB	1.0	QB	22
	$CB \rightarrow QB$	(LH) (LL)	0.563 0.551	1.048 1.037	1.777 1.835	0.012 0.009	0.023 0.014	0.036 0.023	SB	2.2		
	$SB \ \to \ Q$	(LL) (LH)	0.387	0.767	1.348	0.009	0.014	0.023				
	$SB \rightarrow Q$ $SB \rightarrow QB$	(LL)	0.204	0.465	0.781	0.009	0.025	0.037				
	Set up time	D (22)	0.360	000	0.830	0.000	0.010	0.02				
	Hold time	D	0.440		0.510							
	Release time	SB	0.000		0.000							
	Removal time	SB	0.240		0.330							
	Min Pulse	СВ	1.008		2.237							
5000115	Min Pulse	SB	0.836	0.004	1.775	0.000	0.044	0.040		4.0		40
F666NP	$CB \ \to \ Q$	(LH) (LL)	0.473 0.478	0.864 0.886	1.517 1.509	0.006 0.005	0.011 0.007	0.018 0.012	D CB	1.0 1.0	Q QB	46 45
	$CB \rightarrow QB$	(LL) (LH)	0.478	1.305	2.227	0.005	0.007	0.012	SB	2.2	QB	45
	CB → QB	(LL)	0.660	1.238	2.185	0.004	0.007	0.010	55	2.2		
	$SB \rightarrow Q$	(LH)	0.434	0.992	1.743	0.006	0.011	0.018				
	SB → QB	(LL)	0.257	0.570	0.971	0.004	0.008	0.012				
	Set up time	D	0.360		0.830							
	Hold time	D	0.440		0.510							
	Release time	SB	0.000		0.000							
	Removal time	SB	0.240		0.330							
	Min Pulse Min Pulse	CB SB	1.141 0.883		2.646 2.158							
F666NQ	CB → Q	(LH)	0.663	0.781	1.382	0.013	0.023	0.037	D	1.0	Q	22
FOODING	CB → Q	(LL)	0.423	0.778	1.318	0.009	0.023	0.037	СВ	1.0	~	
	$SB \rightarrow Q$	(LH)	0.353	0.703	1.216	0.012	0.023	0.037	SB	2.2		
	Set up time	D `	0.360		0.830							
	Hold time	D	0.440		0.510							
	Release time	SB	0.000		0.000							
	Removal time	SB	0.240		0.330							
	Min Pulse Min Pulse	CB SB	0.863 0.796		1.808 1.645							
F666NQP	CB → Q	(LH)	0.790	0.861	1.512	0.006	0.012	0.018	D	1.0	Q	44
1 0001101	0b → Q	(LL)	0.480	0.890	1.517	0.005	0.007	0.012	СВ	1.0		''
	$SB \rightarrow Q$	(LH)	0.401	0.789	1.351	0.006	0.012	0.019	SB	2.2		
	Set up time	D Ó	0.360		0.830							
	Hold time	D	0.440		0.510							
	Release time	SB	0.000		0.000							
	Removal time	SB	0.240		0.330							
	Min Pulse Min Pulse	CB SB	0.908 0.842		1.924 1.768							
F666NB	CB → QB	(LH)	0.390	0.693	1.143	0.013	0.024	0.038	D	1.0	QB	22
1000115	05 → QB	(LL)	0.370	0.718	1.341	0.010	0.016	0.026	СВ	1.0		
	$SB \rightarrow QB$	(LL)	0.298	0.627	1.162	0.009	0.015	0.025	SB	2.2		
	Set up time	D	0.360		0.820							
	Hold time	D	0.440		0.520							
	Release time	SB	0.000		0.000							
	Removal time	SB CB	0.230		0.320							
	Min Pulse Min Pulse	SB	0.815 0.712		1.651 1.473							
F666NBP	CB → QB	(LH)	0.712	0.838	1.473	0.007	0.012	0.019	D	1.0	QB	43
10001151	05 → QB	(LL)	0.416	0.820	1.578	0.005	0.008	0.013	СВ	1.0	~-	
	$SB \rightarrow QB$	(LL)	0.354	0.748	1.414	0.005	0.008	0.013	SB	2.2		
	Set up time	D Ó	0.370		0.820							
	Hold time	D	0.450		0.530							

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow 0$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time	SB	0.000		0.000							
l	Removal time	SB	0.230		0.310							
l	Min Pulse	CB	0.890		1.852							
	Min Pulse	SB	0.764		1.694							

[MEMO]

Function	D-F	/F (CE	3) WITH	RB,SB						SSI Far	nily	
Block type			Standa	rd type					Low Gate	e type		
,,,,,,	Norma	al	Q oı	ıtput	QB out	put	Norm	al	Q out	out	QB out	tput
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power									L637	7		
x1	F667	10	F667N		F667NB	9	F637	10				
x2	F667NP	12	F667N0	QP 10	F667NBP	10						
х4												
Logic Diagra for "Not D H01 ← CB H02 ← CB H02 ←	SB H04	N01 N02				7	N01 Q	D	ogic Diagr for "QE H01 ← H02 ← C	SB H04) → N01	QB

Truth Table

D	СВ	RB	SB	Q	QB	
0	\	1	1	0	1	
1	`	1	1	1	0	
Х	1	1	1	Н	old	
Х	Χ	0	1	0	1	
Х	Χ	1	0	1	0	
Х	Χ	0	0	0	0	← Prohibition

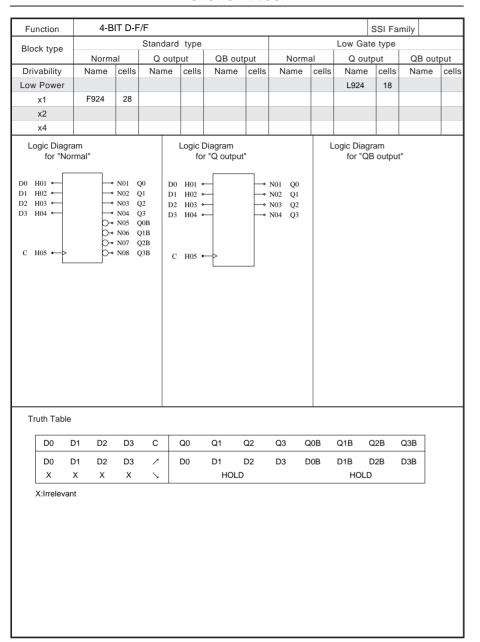
X:Irrelevant

Divi			Switc	ching sp	eed							
Block	Path		t ı	LD0 (ns)			t 1		ın	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L637	$CB \rightarrow Q$ $RB \rightarrow Q$	(LH) (LL) (LL)	0.344 0.377 0.301	0.612 0.713 0.617	1.006 1.263 1.089	0.025 0.025 0.026	0.045 0.045 0.045	0.073 0.078 0.079	D CB RB	3.1 1.0 2.1	Q	12
	$SB \rightarrow Q$ Set up time Hold time	(LH) D D	0.171 0.360 0.379	0.176	0.264 0.671 0.442	0.014	0.045	0.072	SB	2.3		
	Release time Release time	RB SB RB	1.146 0.976		1.357							
	Removal time Removal time Min Pulse	SB CB	0.566 0.708 1.105		0.687 0.942 2.377							
5007	Min Pulse Min Pulse	RB SB	1.160 0.900	0.000	2.678 2.081	0.040	0.000	0.007		4.0		20
F667	$\begin{array}{ccc} CB & \to Q \\ \\ CB & \to QB \end{array}$	(LH) (LL) (LH)	0.473 0.436 0.580	0.898 0.806 1.087	1.584 1.367 1.849	0.012 0.009 0.012	0.023 0.015 0.023	0.037 0.025 0.036	D CB RB	1.0 1.0 2.3	Q QB	22 22
	$\begin{array}{ccc} RB & \to Q \\ RB & \to QB \end{array}$	(LL) (LL) (LH)	0.605 0.212 0.356	1.163 0.375 0.781	2.060 0.626 1.302	0.009 0.009 0.012	0.015 0.015 0.023	0.024 0.024 0.037	SB	2.3		
	$\begin{array}{ccc} SB & \to Q \\ SB & \to QB \\ Set \ up \ time \end{array}$	(LH) (LL) D	0.412 0.218 0.545	0.882 0.497	1.558 0.833 1.040	0.012 0.009	0.023 0.015	0.037 0.026				
	Hold time Release time	D RB	0.256 0.960		0.196 1.018							
	Release time Removal time Removal time	SB RB SB	1.118 0.703 0.572		1.316 0.936 0.698							
	Min Pulse Min Pulse Min Pulse	CB RB SB	1.305 1.098 1.194		2.946 2.665 2.864							
F637	$CB \rightarrow Q$	(LH) (LL)	0.473 0.436	0.898 0.806	1.584 1.367	0.012 0.009	0.023 0.015	0.037 0.025	D CB	1.0	Q QB	22 22
	$CB \rightarrow QB$ $RB \rightarrow Q$	(LH) (LL) (LL)	0.580 0.605 0.212	1.087 1.163 0.375	1.849 2.060 0.626	0.012 0.009 0.009	0.023 0.015 0.015	0.036 0.024 0.024	RB SB	2.3 2.3		
	$\begin{array}{ccc} RB & \to QB \\ SB & \to Q \\ SB & \to QB \end{array}$	(LH) (LH) (LL)	0.356 0.412 0.218	0.781 0.882 0.497	1.302 1.558 0.833	0.012 0.012 0.009	0.023 0.023 0.015	0.037 0.037 0.026				
	Set up time Hold time Release time	D D RB	0.545 0.256 0.960		1.040 0.196 1.018							
	Release time Removal time	SB RB	1.118 0.703		1.316 0.936							
	Removal time Min Pulse Min Pulse	SB CB RB	0.572 1.305 1.098		0.698 2.946 2.665							
FECTALD	Min Pulse	SB	1.194	0.966	2.864	0.006	0.012	0.019	D	1.0	Q	45
F667NP	$CB \rightarrow Q$	(LH) (LL)	0.510 0.470	0.878	1.705 1.499	0.005	0.007	0.012	СВ	1.0	QB	45 45
	$CB \rightarrow QB$ $RB \rightarrow Q$	(LH) (LL) (LL)	0.686 0.701 0.252	1.294 1.356 0.460	2.214 2.409 0.783	0.006 0.004 0.005	0.011 0.007 0.007	0.018 0.012 0.012	RB SB	2.2 2.2		
	$\begin{array}{ccc} RB & \to QB \\ SB & \to Q \end{array}$	(LH) (LH)	0.469 0.454	0.997 1.113	1.683 1.960	0.006 0.006	0.012 0.012	0.019 0.018				
	$\begin{array}{ccc} SB & \to QB \\ Set \ up \ time \end{array}$	(LL) D	0.260 0.370	0.576	0.984 0.840	0.004	0.008	0.013				

			Swite	ching sp	eed							
Block	Path		t	D0 (ns)			t 1] In	put	Ou	tput
type	IN → (TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Hold time	D	0.430		0.490							
1	Release time	RB	0.000		0.000							
1	Release time	SB	0.000		0.000							
1	Removal time	RB	0.510		1.100							
1	Removal time	SB	0.250		0.340							
1	Min Pulse	СВ	1.132		2.787							
1	Min Pulse	RB	0.915		2.060							
F007NO	Min Pulse	SB	0.902	0.004	2.356	0.040	0.000	0.007	D	4.0	Q	22
F667NQ	$CB \rightarrow Q$	(LH) (LL)	0.453 0.419	0.861 0.776	1.523 1.318	0.013 0.009	0.023 0.014	0.037 0.023	CB	1.0 1.0	ا	22
1	$RB \rightarrow Q$	(LL)	0.205	0.776	0.612	0.009	0.014	0.023	RB	2.2		
1	$SB \rightarrow Q$	(LL)	0.382	0.758	1.329	0.003	0.014	0.023	SB	2.2		
1	Set up time	D (211)	0.370	0.700	0.850	0.012	0.020	0.007	05	2.2		
1	Hold time	D	0.430		0.490							
1	Release time	RB	0.000		0.000							
1	Release time	SB	0.000		0.000							
	Removal time	RB	0.510		1.100							
1	Removal time	SB	0.250		0.340							
1	Min Pulse	CB	0.891		1.936							
1	Min Pulse	RB	0.635		0.990							
	Min Pulse	SB	0.823		1.744							
F667NQP	$CB \ \to \ Q$	(LH)	0.508	0.962	1.700	0.006	0.012	0.019	D	1.0	Q	44
1		(LL)	0.472	0.883	1.507	0.005	0.008	0.012	СВ	1.0		
1	$RB \rightarrow Q$	(LL)	0.253	0.463	0.788	0.005	0.007	0.012	RB	2.2		
1	$SB \rightarrow Q$	(LH)	0.438	0.866	1.516	0.006	0.012	0.019	SB	2.2		
1	Set up time	D	0.370		0.850							
1	Hold time Release time	D RB	0.430 0.000		0.490 0.000							
1	Release time	SB	0.000		0.000							
1	Removal time	RB	0.510		1.100							
1	Removal time	SB	0.250		0.340							
1	Min Pulse	CB	0.943		2.095							
1	Min Pulse	RB	0.678		1.140							
1	Min Pulse	SB	0.877		1.914							
F667NB	$CB \to QB$	(LH)	0.380	0.681	1.130	0.013	0.024	0.038	D	1.0	QB	22
1		(LL)	0.365	0.711	1.332	0.010	0.016	0.026	СВ	1.0		
1	$RB \ \to \ QB$	(LH)	0.400	0.965	1.680	0.013	0.024	0.038	RB	2.2		
1	$SB \ \to \ QB$	(LL)	0.305	0.624	1.163	0.009	0.015	0.025	SB	2.2		
1	Set up time	D	0.370		0.830							
	Hold time	D	0.430		0.500							
	Release time	RB	0.000		0.000							
1	Release time	SB RB	0.000		0.000							
	Removal time Removal time	SB	0.480 0.240		1.030 0.320							
	Min Pulse	CB	0.240		1.641							
	Min Pulse	RB	0.832		2.056							
1	Min Pulse	SB	0.719		1.468							
F667NBP	CB → QB	(LH)	0.455	0.820	1.368	0.007	0.012	0.019	D	1.0	QB	43
	45	(LL)	0.410	0.812	1.563	0.005	0.008	0.014	СВ	1.0		
1	$RB \ \to \ QB$	(LH)	0.473	1.099	1.911	0.006	0.012	0.019	RB	2.2		
1	SB → QB	(LL)	0.360	0.741	1.407	0.005	0.008	0.013	SB	2.2		
	Set up time	D	0.370		0.840							
1	Hold time	D	0.440		0.510							
1	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.450		0.940	i .	i l	1	1	1	1	i

FUNCTION BLOCK

			Switc	hing sp	eed							
Block	Path		tι	D0 (ns)			t 1		l In	put	Ou	tput
type	IN → OU	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Removal time S	SB	0.230		0.310							
1	Min Pulse C	CB	0.876		1.838							
1	Min Pulse F	RB	0.901		2.263							
	Min Pulse S	SB	0.769		1.684							

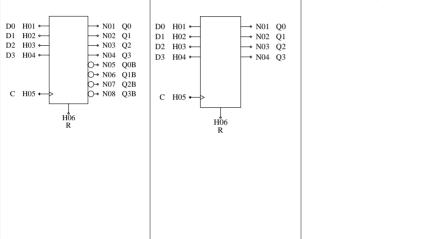


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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)	1		t 1		l In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F924	$C \rightarrow Q0$	(HH)	0.456	0.777	1.281	0.012	0.023	0.036	D0	1.0	Q0	22
		(HL)	0.560	1.007	1.696	0.009	0.015	0.025	D1	1.0	Q1	22
	$C \rightarrow Q1$	(HH)	0.454	0.774	1.277	0.012	0.023	0.036	D2	1.0	Q2	22
		(HL)	0.555	0.998	1.681	0.010	0.016	0.026	D3	1.0	Q3	22
	$C \rightarrow Q2$	(HH)	0.454	0.774	1.277	0.013	0.023	0.037	С	2.0	Q0B	23
		(HL)	0.553	0.995	1.678	0.009	0.015	0.024			Q1B	23
	C → Q3	(HH)	0.456 0.560	0.777	1.281 1.696	0.012	0.023 0.015	0.036 0.025			Q2B Q3B	23 23
	0 000	(HL) (HH)	0.657	1.007 1.187	2.005	0.009	0.015	0.025			Q3B	23
	C → Q0B	(HL)	0.657	1.017	1.718	0.012	0.022	0.036				
	C → Q1B	(HH)	0.647	1.171	1.979	0.009	0.015	0.024				
	C → QIB	(HL)	0.570	1.011	1.708	0.012	0.022	0.030				
	C → Q2B	(HH)	0.648	1.172	1.981	0.012	0.022	0.036				
	C → Q2B	(HL)	0.570	1.011	1.708	0.009	0.015	0.024				
	C → Q3B	(HH)	0.657	1.187	2.005	0.012	0.022	0.036				
	0 / 402	(HL)	0.573	1.017	1.718	0.009	0.015	0.024				
	Set up time	D0	0.444		0.724							
	Set up time	D1	0.444		0.724							
	Set up time	D2	0.444		0.724							
	Set up time	D3	0.444		0.724							
	Hold time	D0	0.435		0.434							
	Hold time	D1	0.438		0.443							
	Hold time	D2	0.422		0.436							
	Hold time	D3	0.406		0.436							
	Min Pulse	С	1.563		3.080							
L924	$C \rightarrow Q0$	(HH)	0.459	0.802	1.318	0.025	0.045	0.073	D0	3.0	Q0	10
		(HL)	0.385	0.652	1.072	0.018	0.028	0.046	D1	3.0	Q1	10
	C → Q1	(HH)	0.459	0.802	1.318	0.025	0.045	0.073	D2	3.0	Q2	10
		(HL)	0.385	0.652	1.072	0.018	0.028	0.046	D3	3.0	Q3	10
	$C \rightarrow Q2$	(HH) (HL)	0.459 0.385	0.802 0.652	1.318 1.072	0.025 0.018	0.045 0.028	0.073 0.046	С	2.1		
	0 00	(HL) (HH)	0.385	0.800	1.072	0.018	0.028	0.046				
	C → Q3	(HL)	0.456	0.648	1.066	0.025	0.045	0.073				
	Set up time	D0	0.385	0.040	0.566	0.010	0.020	0.040				
	Set up time	D1	0.385		0.566							
	Set up time	D2	0.385		0.566							
	Set up time	D3	0.385		0.566							
	Hold time	D0	0.575		0.629							
	Hold time	D1	0.575		0.629							
	Hold time	D2	0.575		0.629							
	Hold time	D3	0.575		0.629							
	Min Pulse	С	1.406	<u> </u>	2.564	L						

Function	4-B	IT D-F	F/F WIT	ΓHR						5	SSI Fa	mily	
Block type			Stand	ard typ	е					Low Gate	type		
2.001(1)p0	Norma	al	Qd	output		QB out	put	Norma	al	Q outp	out	QB out	put
Drivability	Name	cells	Nam	ne cel	ls I	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	L9			2 2	3								
x1	F922	33											
x2													
x4													
	Logic Diagram for "Normal"				c Diag	gram output	"		L	ogic Diagr. for "QB		in .	



Truth Table

D0	D1	D2	D3	С	R	Q0	Q1	Q2	Q3	Q0B	Q1B	Q2B	Q3B
D0	D1	D2	D3	1	0	D0	D1	D2	D3	D0B	D1B	D2B	D3B
Х	Χ	Х	Χ	`	0		HC	DLD			HC	DLD	
Х	Х	Х	Χ	Х	1	0	0	0	0	1	1	1	1

X:Irrelevant

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN → C	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F922	$C \rightarrow Q0$	(HH)	0.488	0.860	1.434	0.013	0.023	0.037	D0	1.0	Q0	22
		(HL) (HH)	0.559 0.495	1.017 0.876	1.720 1.460	0.009	0.015 0.023	0.025 0.037	D1 D2	1.0 1.0	Q1 Q2	22 22
	C → Q1	(HL)	0.495	1.037	1.750	0.009	0.023	0.037	D3	1.0	Q3	22
	C → Q2	(HH)	0.491	0.866	1.443	0.003	0.013	0.023	C	2.0	Q0B	22
	0 7 42	(HL)	0.560	1.020	1.724	0.009	0.015	0.025	R	2.0	Q1B	22
	C → Q3	(HH)	0.489	0.863	1.439	0.013	0.023	0.037			Q2B	22
		(HL)	0.567	1.028	1.734	0.009	0.015	0.025			Q3B	22
	$C \rightarrow Q0B$	(HH)	0.660	1.201	2.034	0.012	0.023	0.036				
		(HL)	0.619	1.122	1.905	0.009	0.015	0.024				
	C → Q1B	(HH)	0.668	1.213	2.048	0.012	0.023	0.036				
	0 000	(HL) (HH)	0.621 0.668	1.126 1.213	1.909 2.050	0.010 0.012	0.016 0.023	0.026 0.036				
	C → Q2B	(HL)	0.623	1.131	1.919	0.012	0.023	0.036				
	C → Q3B	(HH)	0.667	1.211	2.045	0.012	0.013	0.024				
	0 7 405	(HL)	0.619	1.123	1.906	0.009	0.015	0.024				
	$R \rightarrow Q0$	(HL)	0.389	0.670	1.093	0.009	0.015	0.025				
	$R \rightarrow Q1$	(HL)	0.391	0.674	1.100	0.009	0.015	0.025				
	$R \rightarrow Q2$	(HL)	0.390	0.670	1.094	0.009	0.015	0.025				
	$R \rightarrow Q3$	(HL)	0.389	0.669	1.092	0.009	0.015	0.025				
	R → Q0B	(HH)	0.491	0.933	1.528	0.012	0.023	0.036				
	R → Q1B	(HH)	0.499 0.499	0.933 0.947	1.526 1.546	0.012 0.012	0.023 0.023	0.036 0.037				
	$R \rightarrow Q2B$ $R \rightarrow Q3B$	(HH) (HH)	0.499	0.947	1.526	0.012	0.023	0.037				
	Set up time	D0	0.422	0.333	0.802	0.012	0.023	0.030				
	Set up time	D1	0.422		0.802							
	Set up time	D2	0.422		0.802							
	Set up time	D3	0.422		0.802							
	Hold time	D0	0.394		0.361							
	Hold time	D1	0.388		0.371							
	Hold time	D2 D3	0.397		0.372							
	Hold time Release time	R	0.386 1.209		0.363 1.595							
	Removal time	R	0.606		0.619							
	Min Pulse	С	1.528		3.047							
	Min Pulse	R	1.433		3.064							
L922	$C \rightarrow Q0$	(HH)	0.490	0.869	1.423	0.025	0.045	0.072	D0	3.0	Q0	10
		(HL)	0.389	0.659	1.080	0.016	0.027	0.044	D1	3.0	Q1	9
	C → Q1	(HH)	0.493	0.874	1.432	0.025	0.045	0.072	D2	3.0	Q2	10
	C → Q2	(HL) (HH)	0.394 0.490	0.669 0.869	1.096 1.423	0.017 0.025	0.028 0.045	0.046 0.072	D3 C	3.0 2.1	Q3	9
	U → Q2	(HL)	0.389	0.659	1.080	0.025	0.043	0.072	R	2.1		
	C → Q3	(HH)	0.493	0.876	1.434	0.025	0.045	0.072				
		(HL)	0.395	0.670	1.098	0.017	0.028	0.046				
	$R \rightarrow Q0$	(HL)	0.444	0.864	1.469	0.017	0.027	0.045				
	$R \rightarrow Q1$	(HL)	0.452	0.880	1.490	0.018	0.028	0.046				
	R → Q2	(HL)	0.444	0.864	1.469	0.017	0.027	0.045				
	R → Q3	(HL)	0.451 0.361	0.881	1.491 0.556	0.018	0.028	0.046				
	Set up time Set up time	D0 D1	0.361		0.556							
	Set up time	D2	0.361		0.556							
	Set up time	D3	0.361	1	0.556							
	Hold time	D0	0.587	1	0.623							
	Hold time	D1	0.583	1	0.620							
	Hold time	D2	0.587		0.623							
	Hold time	D3	0.583		0.620							

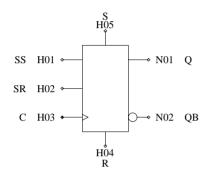
			Switc	hing sp	eed						_	
Block	Path		tι	.D0 (ns)			t 1] In	put	Ou	tput
type	IN → OU7	Г	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Release time R		1.389		1.810							
l	Removal time R		0.456		0.401							
l	Min Pulse C		1.469		2.702							
	Min Pulse R		1.563		3.276							

[MEMO]

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Function	RS-	F/F W	/ITH R,S						SSI Fa	mily	
Block type					S	tanda	rd type				
Block type	Norma	al	High sp	eed							
Drivability	Name	cells	Name	cells							
Low Power											
x1	F596	11									
x2											
x4											

Logic Diagram



Truth Table

SS	SR	С	R	S	Q	QB
- 00	OIX		- 11			QD
0	0	1	0	0	H-	old
1	0	1	0	0	1	0
Χ	1	1	0	0	0	1
Х	Χ	\	0	0	H	old
Х	Χ	Χ	0	1	1	0
Х	Χ	Χ	1	0	0	1
Х	X	X	1	1	1	1

X:Irrelevant

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F596	$C \rightarrow Q$	(HH)	0.412	0.749	1.273	0.013	0.023	0.037	S	1.0	Q	22
		(HL)	0.553	1.071	1.848	0.010	0.016	0.027	R	1.0	QB	22
	$C \rightarrow QB$	(HH)	0.698	1.347	2.332	0.012	0.022	0.036	С	1.0		
		(HL)	0.709	1.381	2.440	0.010	0.017	0.028	Rset	2.1		
	Rset \rightarrow Q	(HL)	0.469	0.986	1.687	0.010	0.016	0.026	Set	2.3		
	Rset → QB	(HH)	0.224	0.413	0.625	0.012	0.023	0.037				
	Set \rightarrow Q	(HH)	0.189	0.304	0.455	0.013	0.023	0.037				
	Set \rightarrow QB	(HL)	0.489	1.191	2.075	0.010	0.018	0.030				
	Set up time	S	1.712		2.543							
	Set up time	R	1.655		2.305							
	Hold time	S	0.163		0.010							
	Hold time	R	0.159		0.010							
	Release time	Rset	1.205		1.620							
	Release time	Set	1.055		1.132							
	Removal time	Rset	0.549		0.380							
	Removal time	Set	0.674		0.771							
	Min Pulse	С	1.369		2.921							
	Min Pulse	Rset	1.170		2.677							
	Min Pulse	Set	1.208		3.020							

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Function	T-F	/F WI	TH R,							SSI Fa	mily	
Block type			Stand	dard type	!				Low Gate	type		
	Norma			output	QB out	_	Norm		Q outp	_	QB ou	_
Drivability	Name	cells	Nar	ne cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power									L714	7		
x1	F744	9	F744				F714	9				
x2 x4	F744NP	11	F744	NQP 9								
Logic Diagrafor "No	S H03	N01			Diagram or "Q output S H03 H02 R	\neg	N01 Q	L	ogic Diagra for "QB		, w	
Truth Table								'				
T R	S C) C	βB									
/ 0		Invert										
\ \ 0	0	Hold										
X 1	0 0		1									
X 0	1 1		0	D4.31.00	_							
X 1	1 1		1 ←	- Prohibitio	on							
X:Irrelevar	nt											

5			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN \rightarrow (TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L714	$T \rightarrow Q$	(HH)	0.391	0.723	1.197	0.043	0.088	0.147	T	1.0	Q	4
	Б 0	(HL) (HL)	0.346 0.160	0.632 0.163	1.082 0.231	0.017 0.011	0.027 0.026	0.046 0.043	R S	2.3 2.2		
	$\begin{array}{ccc} R & \rightarrow Q \\ S & \rightarrow Q \end{array}$	(HH)	0.160	0.163	1.052	0.011	0.026	0.043	3	2.2		
	S → Q Release time	R (1111)	1.056	0.055	1.128	0.044	0.000	0.140				
	Release time	S	1.198		1.599							
	Removal time	R	0.665		0.757							
	Removal time	S	0.546		0.380							
	Min Pulse	Т	0.587		1.679							
	Min Pulse	R	0.381		1.311							
	Min Pulse	S	0.640		2.044							
F744	$T \rightarrow Q$	(HH)	0.408	0.743	1.271	0.013	0.023	0.037	Т	1.0	Q	22
		(HL)	0.544	1.052	1.823	0.010	0.016	0.027	R	2.2	QB	22
	$T \rightarrow QB$	(HH)	0.684	1.317	2.289	0.012	0.022	0.036	S	2.3		
		(HL)	0.695	1.353	2.392	0.010	0.016	0.027				
	$R \rightarrow Q$	(HL)	0.465	1.043 0.462	1.790 0.701	0.010 0.012	0.016	0.026				
	$R \rightarrow QB$	(HH) (HH)	0.218 0.188	0.462	0.701	0.012	0.023 0.023	0.037 0.037				
	$\begin{array}{ccc} S & \rightarrow & Q \\ S & \rightarrow & QB \end{array}$	(HL)	0.100	1.381	2.420	0.013	0.023	0.037				
	Release time	R (IIL)	1.179	1.501	1.586	0.010	0.013	0.000				
	Release time	S	1.039		1.117							
	Removal time	R	0.548		0.370							
	Removal time	S	0.666		0.745							
	Min Pulse	Т	1.240		3.470							
	Min Pulse	R	1.064		3.375							
	Min Pulse	S	1.093		3.944							
F714	$T \rightarrow Q$	(HH)	0.408	0.743	1.271	0.013	0.023	0.037	Т	1.0	Q	22
		(HL)	0.544	1.052	1.823	0.010	0.016	0.027	R	2.2	QB	22
	$T \rightarrow QB$	(HH)	0.684	1.317	2.289	0.012	0.022	0.036	S	2.3		
	В О	(HL)	0.695 0.465	1.353 1.043	2.392 1.790	0.010 0.010	0.016 0.016	0.027 0.026				
	$\begin{array}{ccc} R & \rightarrow Q \\ R & \rightarrow QB \end{array}$	(HL) (HH)	0.465	0.462	0.701	0.010	0.016	0.026				
	R → QB S → Q	(HH)	0.188	0.301	0.456	0.012	0.023	0.037				
	$S \rightarrow QB$	(HL)	0.474	1.381	2.420	0.010	0.019	0.033				
	Release time	R Ý	1.179		1.586							
	Release time	S	1.039		1.117							
	Removal time	R	0.548		0.370							
	Removal time	S	0.666		0.745							
	Min Pulse	Т	1.240		3.470							
	Min Pulse	R	1.064		3.375							
F744NP	Min Pulse	S	1.093	0.776	3.944	0.006	0.011	0.010	Т	1.0	Q	46
F/44NP	$T \; \to \; Q$	(HH) (HL)	0.427 0.589	0.776 1.162	1.322 2.036	0.006 0.005	0.011	0.018 0.014	l I R	1.0 2.1	QB	46 45
	$T \to QB$	(HH)	0.589	1.537	2.695	0.005	0.008	0.014	S	2.1	«B	0
	ı → QB	(HL)	0.771	1.512	2.681	0.005	0.008	0.014				
	$R \rightarrow Q$	(HL)	0.517	1.210	2.097	0.005	0.008	0.014				
	$R \rightarrow QB$	(HH)	0.240	0.487	0.740	0.006	0.012	0.019				
	$S \rightarrow Q$	(HH)	0.215	0.338	0.511	0.006	0.011	0.018				
	$S \ \to QB$	(HL)	0.556	1.504	2.656	0.005	0.010	0.016				
	Release time	R	0.150		0.810							
	Release time	S	0.000		0.000							
	Removal time	R	0.000		0.000							
	Removal time	S	0.210		0.830							
	Min Pulse	T	1.225		3.094							
	Min Pulse	R	0.913		2.348							
	Min Pulse	S	0.943		2.823						l .	

l			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F744NQ	$T \; \to \; Q$	(HH)	0.381	0.694	1.182	0.012	0.023	0.036	T	1.0	Q	23
		(HL)	0.503	0.978	1.696	0.010	0.015	0.025	R	2.1		
	$R \ \to \ Q$	(HL)	0.421	0.875	1.493	0.009	0.015	0.025	S	2.2		
	$S \ \to \ Q$	(HH)	0.171	0.276	0.409	0.012	0.023	0.036				
	Release time	R	0.140		0.790							
	Release time	S	0.000		0.000							
	Removal time	R	0.000		0.000							
	Removal time	S	0.200		0.820							
	Min Pulse	Т	0.907		1.961							
	Min Pulse	R	0.826		1.772							
	Min Pulse	S	0.598		0.783							
F744NQP	$T \ \to \ Q$	(HH)	0.428	0.776	1.325	0.006	0.011	0.018	T	1.0	Q	45
		(HL)	0.589	1.163	2.039	0.005	0.008	0.014	R	2.1		
	$R \rightarrow Q$	(HL)	0.508	1.065	1.839	0.005	0.008	0.013	S	2.2		
	$S \rightarrow Q$	(HH)	0.214	0.337	0.510	0.006	0.011	0.018				
	Release time	R	0.150		0.800							
	Release time	S	0.000		0.000							
	Removal time	R	0.000		0.000							
	Removal time	S	0.200		0.820							
	Min Pulse	T	0.983		2.270							
	Min Pulse	R	0.905		2.088							
	Min Pulse	S	0.630		0.873							

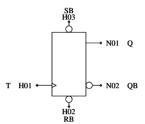
[MEMO]

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Function	T-F	/F WI	ΓH RB,S	SB							SSI Fa	mily		
Block type			Standa	rd ty	ре					Low Gat	e type			
Вюск турс	Norma	al	Q ou	utput		QB out	put	Norma	al	Q out	put	QI	B out	out
Drivability	Name	cells	Name	се	lls	Name	cells	Name	cells	Name	cells	Na	ame	cells
Low Power										L717	7			
x1	F747	9	F747N	47NQ 8 F7					9					
x2	F747NP	11	F747NC	QP 9)									
x4														
Logic Diagra for "Nor			Logic Diagram for "Q output"				L	ogic Diag. for "Ql	ram 3 outpu	t"				

O H02 RB

→ N01 Q







Truth Table

Т	RB	SB	Q	QB	
7	1	1	Inv	/ert	
\ \	1	1	н	old	
Х	0	1	0	1	
Х	1	0	1	0	
Х	0	0	0	0	4

 \leftarrow Prohibition

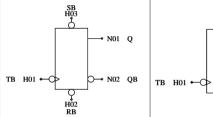
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Divid			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN \rightarrow C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L717	$T \ \to \ Q$	(HH)	0.369	0.673	1.102	0.025	0.045	0.072	Т	1.0	Q	12
		(HL)	0.332	0.599	1.002	0.024	0.044	0.076	RB	2.2		
	$RB \rightarrow Q$	(LL)	0.322	0.755	1.333	0.025	0.045	0.078	SB	2.3		
	SB → Q Release time	(LH) RB	0.171 1.167	0.180	0.272 1.342	0.014	0.045	0.072				
	Release time	SB	1.010		1.051							
	Removal time	RB	0.571		0.584							
	Removal time	SB	0.701		0.817							
	Min Pulse	T	0.568		1.632							
	Min Pulse	RB	0.673		2.321							
	Min Pulse	SB	0.373		1.492							
F747	$T \rightarrow Q$	(HH)	0.421	0.773	1.301	0.012	0.023	0.037	Т	1.0	Q	22
		(HL)	0.462	0.863	1.453	0.010	0.016	0.026	RB	2.3	QB	22
	$T \ \to \ QB$	(HH)	0.635	1.199	2.032	0.012	0.023	0.037	SB	2.2		
		(HL)	0.587	1.102	1.889	0.009	0.015	0.025				
	$RB \ \to \ Q$	(LL)	0.212	0.376	0.625	0.010	0.016	0.026				
	$RB \rightarrow QB$	(LH)	0.386	0.949	1.574	0.012	0.024	0.038				
	$SB \rightarrow Q$	(LH)	0.411	1.063	1.892	0.012	0.023	0.037				
	SB → QB Release time	(LL)	0.248	0.669	1.138 1.040	0.009	0.016	0.027				
	Release time	RB SB	0.994 1.150		1.040							
	Removal time	RB	0.703		0.805							
	Removal time	SB	0.703		0.572							
	Min Pulse	T	1.159		3.172							
	Min Pulse	RB	0.930		3.209							
	Min Pulse	SB	1.003		3.383							
F717	$T \rightarrow Q$	(HH)	0.421	0.773	1.301	0.012	0.023	0.037	Т	1.0	Q	22
		(HL)	0.462	0.863	1.453	0.010	0.016	0.026	RB	2.3	QB	22
	$T \ \to \ QB$	(HH)	0.635	1.199	2.032	0.012	0.023	0.037	SB	2.2		
		(HL)	0.587	1.102	1.889	0.009	0.015	0.025				
	$RB \ \to \ Q$	(LL)	0.212	0.376	0.625	0.010	0.016	0.026				
	$RB \rightarrow QB$	(LH)	0.386	0.949	1.574	0.012	0.024	0.038				
	SB → Q	(LH) (LL)	0.411 0.248	1.063 0.669	1.892 1.138	0.012 0.009	0.023 0.016	0.037 0.027				
	SB → QB Release time	RB	0.248	0.009	1.040	0.009	0.010	0.027				
	Release time	SB	1.150		1.331							
	Removal time	RB	0.703		0.805							
	Removal time	SB	0.572		0.572							
	Min Pulse	Т	1.159		3.172							
	Min Pulse	RB	0.930		3.209							
	Min Pulse	SB	1.003		3.383							
F747NP	$T \ \to \ Q$	(HH)	0.460	0.847	1.426	0.006	0.012	0.019	Т	1.0	Q	45
		(HL)	0.499	0.945	1.598	0.005	0.007	0.012	RB	2.2	QB	44
	$T \ \to \ QB$	(HH)	0.744	1.415	2.405	0.006	0.011	0.018	SB	2.1		
	DD 0	(HL)	0.681	1.295	2.227	0.005	0.007	0.012				
	$RB \rightarrow Q$ $RB \rightarrow QB$	(LL)	0.252 0.497	0.459 1.156	0.783 1.944	0.005 0.006	0.007 0.012	0.012 0.019				
	$SB \rightarrow QB$	(LH) (LH)	0.497	1.156	2.284	0.006	0.012	0.019				
	$SB \rightarrow Q$ $SB \rightarrow QB$	(LH)	0.455	0.729	1.251	0.005	0.012	0.018				
	Release time	RB	0.000	3.723	0.000	5.555	0.000	0.010				
	Release time	SB	0.000		0.000							
	Removal time	RB	0.310		0.770							
	Removal time	SB	0.060		0.210							
	Min Pulse	T	1.171		2.752							
	Min Pulse	RB	0.941		2.272							
	Min Pulse	SB	0.903		2.682							

I			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → (OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F747NQ	$T \rightarrow Q$	(HH)	0.402	0.741	1.239	0.013	0.023	0.037	T	1.0	Q	22
		(HL)	0.442	0.833	1.402	0.009	0.014	0.024	RB	2.2		
l	$RB \rightarrow Q$	(LL)	0.201	0.359	0.598	0.009	0.014	0.023	SB	2.1		
	$SB \ \to \ Q$	(LH)	0.397	0.885	1.556	0.013	0.023	0.037				
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.310		0.770							
	Removal time	SB	0.060		0.210							
	Min Pulse	Т	0.859		1.730							
	Min Pulse	RB	0.634		0.982							
	Min Pulse	SB	0.841		1.973							
F747NQP	$T \rightarrow Q$	(HH)	0.461	0.848	1.429	0.006	0.012	0.019	Т	1.0	Q	44
I		(HL)	0.498	0.943	1.599	0.005	0.007	0.012	RB	2.2		
I	$RB \rightarrow Q$	(LL)	0.250	0.458	0.783	0.005	0.007	0.012	SB	2.1		
I	$SB \ \to \ Q$	(LH)	0.459	1.008	1.763	0.006	0.012	0.019				
I	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.310		0.770							
I	Removal time	SB	0.060		0.210							
I	Min Pulse	T	0.907		1.896							
I	Min Pulse	RB	0.677		1.138							
	Min Pulse	SB	0.899		2.161							

[MEMO]

Function	T-F.	/F (TE	3) WIT	H RI	B,SB						SSI Fa	mily	
Block type			Stand	dard	type					Low Gat	e type		
Blook type	Norma	al	Q	outp	ut	QB out	put	Normal		Q output		QB output	
Drivability	Name	cells	Nar	me	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power										L737	7		
x1	F767	9	F767	7NQ 8 F7:					9				
x2	F767NP	11	F7671	NQP	9								
x4													
Logic Diagra for "Nor		Logic Diagram for "Q output"					L	ogic Diago. for "QE	am 3 output	t"			





SB H03 O

N01 Q

Truth Table

ТВ	RB	SB	Q	QB
`	1	1	Inv	vert
1	1	1	Н	old
Х	0	1	0	1
Х	1	0	1	0
Х	0	0	0	0

← Prohibition

X:Irrelevant

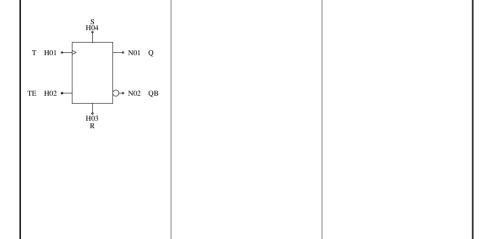
D			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L737	$TB \ \to \ Q$	(LH)	0.342	0.614	1.012	0.025	0.045	0.072	TB	1.0	Q	12
	DD O	(LL) (LL)	0.376 0.323	0.716 0.755	1.269 1.333	0.024 0.025	0.044 0.045	0.076 0.078	RB SB	2.2 2.3		
	$RB \rightarrow Q$ $SB \rightarrow Q$	(LL) (LH)	0.323	0.755	0.272	0.025	0.045	0.078	35	2.3		
	Release time	RB	1.121	0.100	1.315	0.014	0.043	0.072				
	Release time	SB	0.965		1.024							
	Removal time	RB	0.559		0.683							
	Removal time	SB	0.690		0.916							
	Min Pulse	TB	0.771		2.401							
	Min Pulse	RB	0.872		2.921							
	Min Pulse	SB	0.573		2.092							
F767	$TB \ \to \ Q$	(LH)	0.467	0.891	1.574	0.013	0.023	0.037	TB	1.0	Q	22
		(LL)	0.433	0.801	1.358	0.009	0.015	0.024	RB	2.3 2.2	QB	22
	$TB \ \to QB$	(LH) (LL)	0.607 0.631	1.138 1.220	1.936 2.157	0.012 0.009	0.023 0.015	0.036 0.025	SB	2.2		
	$RB \rightarrow Q$	(LL)	0.031	0.373	0.622	0.009	0.015	0.023				
	$RB \rightarrow QB$	(LH)	0.385	0.947	1.570	0.012	0.024	0.038				
	SB → Q	(LH)	0.410	1.062	1.888	0.012	0.023	0.037				
	$SB \rightarrow QB$	(LL)	0.247	0.666	1.133	0.009	0.016	0.027				
	Release time	RB	0.974		1.033							
	Release time	SB	1.130		1.324							
	Removal time	RB	0.703		0.942							
	Removal time	SB	0.572		0.709							
	Min Pulse	TB	1.126		3.307							
	Min Pulse Min Pulse	RB SB	0.926 1.004		3.205 3.380							
F737	TB → Q	(LH)	0.467	0.891	1.574	0.013	0.023	0.037	ТВ	1.0	Q	22
1707	15 - Q	(LL)	0.433	0.801	1.358	0.009	0.015	0.024	RB	2.3	QB	22
	$TB \to QB$	(LH)	0.607	1.138	1.936	0.012	0.023	0.036	SB	2.2		
		(LL)	0.631	1.220	2.157	0.009	0.015	0.025				
	$RB \rightarrow Q$	(LL)	0.211	0.373	0.622	0.009	0.015	0.024				
	$RB \rightarrow QB$	(LH)	0.385	0.947	1.570	0.012	0.024	0.038				
	SB → Q	(LH)	0.410	1.062	1.888	0.012	0.023	0.037				
	SB → QB Release time	(LL) RB	0.247 0.974	0.666	1.133 1.033	0.009	0.016	0.027				
	Release time	SB	1.130		1.324							
	Removal time	RB	0.703		0.942							
	Removal time	SB	0.572		0.709							
	Min Pulse	ТВ	1.126		3.307							
	Min Pulse	RB	0.926		3.205							
	Min Pulse	SB	1.004		3.380							
F767NP	$TB \ \to \ Q$	(LH)	0.509	0.966	1.704	0.006	0.012	0.019	TB	1.0	Q	45
		(LL)	0.471	0.877 1.349	1.499	0.005	0.007	0.012	RB SB	2.2 2.1	QB	44
	$TB \ \to QB$	(LH) (LL)	0.716 0.730	1.413	2.307 2.503	0.006 0.005	0.011 0.007	0.018 0.012	9B	2.1		
	$RB \rightarrow Q$	(LL)	0.730	0.459	0.783	0.005	0.007	0.012				
	$RB \rightarrow Q$ $RB \rightarrow QB$	(LL)	0.497	1.157	1.944	0.006	0.007	0.012				
	SB → Q	(LH)	0.453	1.290	2.282	0.006	0.012	0.018				
	SB → QB	(LL)	0.285	0.726	1.254	0.005	0.008	0.013				
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.500		1.070							
	Removal time	SB	0.250		0.340							
	Min Pulse	TB	1.158		2.871							
	Min Pulse	RB	0.941		2.272							
	Min Pulse	SB	0.903		2.680				l .	L	l .	

			Swite	ching sp	eed							
Block	Path		t ı	_D0 (ns)			t 1] In	put	Ou	tput
type	$IN \rightarrow 0$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F767NQ	$TB \ \to Q$	(LH)	0.449	0.854	1.511	0.013	0.023	0.037	ТВ	1.0	Q	22
l		(LL)	0.414	0.768	1.306	0.009	0.014	0.024	RB	2.2		
	$RB \rightarrow Q$	(LL)	0.202	0.358	0.599	0.009	0.014	0.023	SB	2.1		
	$SB \ \to \ Q$	(LH)	0.397	0.885	1.557	0.013	0.023	0.037				
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.490		1.060							
	Removal time	SB	0.250		0.340							
	Min Pulse	TB	0.888		1.926							
	Min Pulse	RB	0.634		0.982							
	Min Pulse	SB	0.841		1.974							
F767NQP	$TB \ \to \ Q$	(LH)	0.508	0.963	1.699	0.006	0.012	0.019	TB	1.0	Q	44
		(LL)	0.471	0.878	1.501	0.005	0.007	0.012	RB	2.2		
	$RB \rightarrow Q$	(LL)	0.250	0.458	0.783	0.005	0.007	0.012	SB	2.1		
	$SB \ \to \ Q$	(LH)	0.459	1.008	1.764	0.006	0.012	0.019				
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.490		1.070							
	Removal time	SB	0.250		0.340							
	Min Pulse	TB	0.943		2.094							
	Min Pulse	RB	0.677		1.137							
	Min Pulse	SB	0.899		2.162							

[MEMO]

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Function	T-F	/F WI	TH DAT	A-HOLI	R,S				;	SSI Fa	mily			
Block type			Standa	ard type					Low Gate	e type	QB outpu			
Blook type	Norma	al	Qo	utput	QB out	put	Norma	al	Q outp	out	QB out	put		
Drivability	Name	cells	Nam	e cells	Name	cells	Name	cells	Name	cells	Name	cells		
Low Power														
x1	F791	12												
x2														
x4														
Logic Diagra					Diagram or "Q output	t"		L	ogic Diagr. for "QE		Į"			



Truth Table

Т	TE	R	S	Q	QB
1	1	0	0	In	vert
`	1	0	0	н	old
Х	0	0	0	Н	old
Х	Χ	1	0	0	1
Х	Χ	0	1	1	0
Х	Χ	1	1	1	1

ibition

X:Irrelevant

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1		l In	put	l Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F791	$T \rightarrow Q$	(HH)	0.459	0.839	1.431	0.013	0.023	0.037	Т	1.0	Q	22
		(HL)	0.647	1.277	2.236	0.011	0.017	0.029	TE	2.1	QB	22
	$T \to QB$	(HH)	0.759	1.499	2.637	0.012	0.022	0.036	R	2.1		
		(HL)	0.702	1.350	2.371	0.010	0.016	0.026	S	2.4		
	$R \rightarrow Q$	(HL)	0.571	1.169	2.034	0.010	0.017	0.028				
	$R \rightarrow QB$	(HH)	0.194	0.370	0.554	0.012	0.023	0.037				
	$S \rightarrow Q$	(HH)	0.239	0.377	0.577	0.013	0.023	0.037				
	$S \rightarrow QB$	(HL)	0.478	1.130	1.944	0.010	0.017	0.029				
	Set up time	TE	1.798		2.852							
	Hold time	TE	0.023		0.010							
	Release time	R	1.213		1.638							
	Release time	S	1.069		1.181							
	Removal time	R	0.520		0.327							
	Removal time	S	0.641		0.693							
	Min Pulse	Т	1.266		3.024							
1	Min Pulse	R	1.192		2.990							
	Min Pulse	S	1.036		2.917							

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Function	T-F	/F (TE			HOLD RB,	SB				SSI Far	nily	
Block type			Stand	lard type					Low Gate	type		
	Norma			output	QB out		Norma		Q outp		QB ou	_
Drivability	Name	cells	Nar	ne cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power	F700	40										
x1	F792	12										
x2 x4												
Logic Diagram for "Noi TB H01 + C	SB H04	▶ N01			Diagram r "Q output			L	ogic Diagr for "QB			
Truth Table	TEB R	В	SB 1	Invert	В							
		1	1	Hold								
X		1	1	Hold								
X)	1	0 '								
X		1	0	1 (hibition						
X:Irrelevar			0			indition						

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F792	TB → Q	(LH)	0.538	1.024	1.807	0.013	0.023	0.037	TB	1.0	Q	22
		(LL)	0.504	0.940	1.605	0.010	0.016	0.026	TEB	2.2	QB	22
	$TB \to QB$	(LH)	0.651	1.230	2.102	0.012	0.023	0.036	RB	2.4		
		(LL)	0.671	1.293	2.293	0.009	0.015	0.024	SB	2.1		
	$RB \rightarrow Q$	(LL)	0.274	0.500	0.851	0.010	0.015	0.025				
	$RB \rightarrow QB$	(LH)	0.423	0.925	1.558	0.012	0.023	0.037				
	$SB \rightarrow Q$	(LH)	0.488	1.031	1.808	0.013	0.023	0.037				
	$SB \rightarrow QB$	(LL)	0.218	0.500	0.839	0.009	0.016	0.026				
	Set up time	TEB	1.717		2.665							
	Hold time	TEB	0.079		0.010							
	Release time	RB	0.967		1.026							
	Release time	SB	1.121		1.316							
	Removal time	RB	0.688		0.913							
	Removal time	SB	0.559		0.681							
I	Min Pulse	TB	1.233		2.934							
I	Min Pulse	RB	1.043		2.634							
	Min Pulse	SB	1.112		2.850							

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Standard type	Function	JK-	F/F									SSI Far	mily	
Normal Q output QB output Normal Q output QB output	Block type			Stand	dard	type					Low Gat	e type		
Low Power x1 F771 10 F771NQ 9 F771NB 9 x2 F771NP 12 F771NQP 10 F771NBP 10 x4 Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" J H01 → N01 Q C H03 → N01 Q			-											_
x1 F771 10 F771NQ 9 F771NB 9 x2 F771NP 12 F771NQP 10 F771NBP 10 x4 Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" J H01 → N01 Q N01 Q J H01 → N01 Q J H01 → C H03 → D		Name	cells	Nar	me	cells	Name	cells	Name	cells	Name	cells	Name	cell
x2														
Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" J H01 N01 Q J H01 C H03 C H03 C H03 C H03		_												
Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" J H01 N01 Q J H01 C H03 C H03 C H03 C H03		F771NP	12	F771I	NQP	10	F771NBP	10						
for "Normal" for "Q output" for "QB output" J H01 C H03 N01 Q J H01 C H03 C H03 O	x4													
	for "No J H01 ← C H03 ←	rmal"			C	fo H01 • H03 •	r "Q output'	7	• N01 Q	J 1	for "QE H01 ← H03 ←	3 output		QB

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		l In	put	Ou	tput
type	IN \rightarrow C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F771	$C \rightarrow Q$	(HH)	0.375	0.668	1.117	0.013	0.023	0.037	J	1.0	Q	22
		(HL)	0.449	0.826	1.387	0.009	0.015	0.024	K	1.0	QB	22
	$C \rightarrow QB$	(HH)	0.593	1.088	1.833	0.012	0.023	0.036	С	1.0		
		(HL)	0.552	1.028	1.772	0.010	0.015	0.025				
	Set up time	J	1.594		2.340							
	Set up time Hold time	K J	1.495 0.204		2.128 0.010							
	Hold time	J K	0.204		0.010							
	Min Pulse	C	1.244		2.483							
F771NP	C → Q	(HH)	0.419	0.748	1.221	0.006	0.012	0.019	J	1.0	Q	45
1 ' ' ' ' ' ' ' '	U → Q	(HL)	0.392	0.784	1.464	0.005	0.008	0.014	Ικ̈́	1.0	QB	45
	$C \rightarrow QB$	(HH)	0.565	1.119	2.061	0.006	0.011	0.018	c	1.0	"	
	0 / 45	(HL)	0.618	1.145	1.932	0.005	0.007	0.012				
	Set up time	J ` ´	0.450		1.080							
	Set up time	K	0.410		0.910							
	Hold time	J	0.000		0.000							
	Hold time	K	0.000		0.000							
	Min Pulse	С	1.038		2.470							
F771NQ	$C \ \to \ Q$	(HH)	0.356	0.640	1.044	0.013	0.023	0.037	J	1.0	Q	22
		(HL)	0.339	0.655	1.145	0.010	0.016	0.026	K	1.0		
	Set up time	J	0.430		1.050				С	1.0		
	Set up time	K	0.410		0.980							
	Hold time Hold time	J K	0.000		0.000							
	Min Pulse	C	0.000		1.399							
F771NQP	C → Q	(HH)	0.412	0.737	1.204	0.006	0.012	0.019	J	1.0	Q	44
1771110	0 → Q	(HL)	0.388	0.775	1.439	0.005	0.008	0.014	ĸ	1.0		
	Set up time	J (,	0.440		1.070				c	1.0		
	Set up time	K	0.410		0.910							
	Hold time	J	0.000		0.000							
	Hold time	K	0.000		0.000							
	Min Pulse	С	0.826		1.655							
F771NB	$C \ \to QB$	(HH)	0.356	0.640	1.044	0.013	0.023	0.037	J	1.0	QB	22
		(HL)	0.339	0.655	1.145	0.010	0.016	0.026	К	1.0		
	Set up time	J	0.410		0.970				С	1.0		
	Set up time	K	0.410		0.970							
	Hold time Hold time	J K	0.000		0.000							
	Min Pulse	K C	0.000 0.774		0.000 1.399							
F771NBP	C → QB	(HH)	0.774	0.737	1.204	0.006	0.012	0.019	J	1.0	QB	44
FITINDP	U → QB	(HL)	0.412	0.737	1.439	0.005	0.012	0.019	K	1.0	45	""
[Set up time	J	0.410	"	0.900	5.555	0.000	3.014	C	1.0		
[Set up time	K	0.420		1.000							
1	Hold time	J	0.000	1	0.000							
	Hold time	K	0.000		0.000							
	Min Pulse	С	0.826		1.655							

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Standard type	5 1 1 1	OI V	F/F W	ITH R,S	3					8	SSI Far	mily	
Drivability	Block type			Standa	rd type					Low Gate	type		
Logic Diagram for "Normal"													_
x1 F774 12 F774NQ 11 F774NB 11 11 x2 F774NP 14 F774NQP 12 F774NBP 12 Image: F774NP 12 Image: F774NP 12 Image: F774NP 12 Image: F774NP		Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
X2													
x4 Logic Diagram for "Normal" Logic Diagram for "Q output" S H05 H05 H05 C H03 K H02 N01 Q C H03 K H02 N01 Q D H04 R Logic Diagram for "QB output" Logic Diagram for "QB output" S H05 H05 H05 H05 H04 R N01 Q C H03 K H02 N01 QB H04 R Truth Table Truth Table													
Logic Diagram for "Normal" Logic Diagram for "Q output" Logic Diagram for "QB output" Log		F774NP	14	F774NC	QP 12	F774NBP	12						
for "Normal"	х4												
C H03 K H02 N02 QB K H02 H04 R Truth Table Truth Table Truth Table Truth Table Truth Table Truth Table Truth Table Truth Table Truth Table Truth Table		rmal"			Logic I	r "Q output	•		L	for "QB	output'	п	
J K C R S Q QB 0 0 / 0 0 Hold 0 1 / 0 0 1 1 0 / 0 0 1 1 1 / 0 0 Invert X X X 0 0 Hold X X X 0 1 1 X X X 0 1 1 0	C H03 ←)— H04			C H03 ◆	H04		N01 Q	C	H03 •————————————————————————————————————	H04 R	O→ N01	QB
0 0 / 0 0 Hold 0 1 / 0 0 0 1 1 0 / 0 0 1 1 1 0 / 0 0 Invert X X X 0 0 Hold X X X X 1 0 0 1 X X X X 0 1 1 0													
0 1													
1 0 0 0 1 0 1 1 2 0 0 Invert X X 0 0 Hold X X X 1 0 0 1 X X X 0 1 1 0			s s	Q	QB								
1 1 7 0 0 Invert X X X 0 0 Hold X X X 1 0 0 1 X X X X 0 1 1 0	J K	C R											
X X X 0 0 Hold X X X X 1 0 0 1 X X X X 0 1 1 0	J K 0 0	C R	0	Но	ld								
X X X 1 0 0 1 X X X 0 1 1 0	J K 0 0 0 1	C R	0 0 0	Ho 0 1	1 0								
X X X 0 1 1 0	J K 0 0 0 1 1 0 1 1	C R / 0 / 0 / 0 / 0 / 0	0 0 0	Ho 0 1 Inve	ld 1 0 ert								
	J K 0 0 0 1 1 0 1 1 X X	C R 2 0 0 2 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	Ho 0 1 Inve	ld 1 0 ert								
X X X 1 1 1 1 ← Prohibition	J K 0 0 0 1 1 0 1 1 X X X X	C R / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / X 1	0 0 0 0 0	Ho 0 1 Invo	lld 1 0 ert lld 1								
	J K 0 0 0 0 1 1 0 1 1 X X X X X X	C R 0 / 0 0 / 0 0 / 0 0 X 1 X 0 0	0 0 0 0 0	Ho 0 1 Inventor 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	old								

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)	1		t 1] In	put	Ou	tput
type	IN → C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F774	$C \ \to \ Q$	(HH)	0.404	0.735	1.257	0.013	0.023	0.037	J	1.0	Q	22
	0 00	(HL)	0.542 0.705	1.051 1.359	1.822 2.362	0.010 0.012	0.016 0.023	0.027 0.036	K C	1.0 1.0	QB	22
	$C \rightarrow QB$	(HH) (HL)	0.705	1.434	2.557	0.012	0.023	0.036	R	2.1		
	$R \rightarrow Q$	(HL)	0.731	1.006	1.729	0.010	0.017	0.026	S	2.1		
	$R \rightarrow QB$	(HH)	0.239	0.431	0.663	0.012	0.023	0.037				
	S → Q	(HH)	0.189	0.300	0.454	0.013	0.023	0.037				
	$S \rightarrow QB$	(HL)	0.631	1.249	2.200	0.011	0.019	0.031				
	Set up time	J	1.786		2.682							
	Set up time	K	1.649		2.373							
	Hold time	J	0.063		0.010							
	Hold time	K	0.043		0.010							
	Release time Release time	R S	1.213 1.069		1.637 1.181							
	Release time Removal time	S R	0.521		0.328							
	Removal time	S	0.641		0.693							
	Min Pulse	C	1.308		3.002							
	Min Pulse	R	1.073		2.712							
	Min Pulse	S	1.157		3.117							
F774NP	$C \rightarrow Q$	(HH)	0.423	0.767	1.310	0.006	0.011	0.018	J	1.0	Q	46
		(HL)	0.589	1.161	2.035	0.005	0.008	0.014	K	1.0	QB	46
	$C \rightarrow QB$	(HH)	0.807	1.577	2.767	0.006	0.011	0.018	С	1.0		
		(HL)	0.800	1.579	2.828	0.005	0.009	0.014	R	2.1		
	$R \rightarrow Q$	(HL) (HH)	0.518 0.258	1.176 0.459	2.039 0.705	0.005 0.006	0.008 0.012	0.013 0.019	S	2.3		
	$\begin{array}{ccc} R & \to QB \\ S & \to Q \end{array}$	(HH)	0.258	0.459	0.705	0.006	0.012	0.019				
	S → QB	(HL)	0.591	1.383	2.444	0.005	0.009	0.015				
	Set up time	J (1.1 <u>-</u>)	0.450	1.000	1.610	0.000	0.000	0.010				
	Set up time	K	0.420		1.000							
	Hold time	J	0.000		0.000							
	Hold time	K	0.000		0.000							
	Release time	R	0.150		0.820							
	Release time	S	0.000		0.000							
	Removal time	R	0.000		0.000							
	Removal time Min Pulse	S C	0.220 1.245		0.840 3.155							
	Min Pulse	R	0.913		2.285							
	Min Pulse	S	0.972		2.617							
F774NQ	$C \rightarrow Q$	(HH)	0.376	0.686	1.166	0.012	0.023	0.036	J	1.0	Q	23
		(HL)	0.501	0.976	1.689	0.010	0.015	0.025	К	1.0		
	$R \ \to \ Q$	(HL)	0.424	0.846	1.441	0.009	0.015	0.025	С	1.0		
	$S \ \to \ Q$	(HH)	0.171	0.276	0.409	0.012	0.023	0.036	R	2.1		
	Set up time	J	0.450		1.610				S	2.3		
	Set up time	K	0.410		0.990							
	Hold time Hold time	J K	0.000		0.000							
	Release time	R R	0.000		0.000							
	Release time	S	0.000		0.000							
	Removal time	R	0.000		0.000							
	Removal time	S	0.220		0.840							
	Min Pulse	С	0.905		1.957							
	Min Pulse	R	0.827		1.722							
	Min Pulse	S	0.598		0.784				<u> </u>			
F774NQP	$C \rightarrow Q$	(HH)	0.424	0.770	1.314	0.006	0.011	0.018	J	1.0	Q	46
	р . С	(HL) (HL)	0.589 0.511	1.162 1.036	2.037 1.801	0.005 0.005	0.008	0.014 0.013	K C	1.0 1.0		
	$R \rightarrow Q$	(HL)	0.511	1.030	1.601	0.005	U.UU8	0.013	L	1.0		

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		l In	put	Ou	tput
type	IN → C	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$\begin{array}{c} S \to Q \\ \text{Set up time} \\ \text{Set up time} \end{array}$	(HH) J K	0.215 0.450 0.420	0.339	0.512 1.610 1.000	0.006	0.011	0.018	R S	2.1 2.3		
	Hold time Hold time	J K	0.000 0.000		0.000 0.000							
	Release time Release time Removal time	R S R	0.150 0.000 0.000		0.830 0.000 0.000							
	Removal time Min Pulse	S C	0.000 0.220 0.984		0.000 0.840 2.270							
	Min Pulse Min Pulse	R S	0.908 0.631		2.045 0.876							
F774NB	$\begin{array}{ccc} C & \to QB \\ \\ R & \to QB \end{array}$	(HH) (HL) (HH)	0.359 0.368 0.286	0.646 0.736 0.525	1.056 1.357 0.835	0.013 0.010 0.013	0.023 0.017 0.023	0.037 0.029 0.037	K C	1.0 1.0 1.0	QB	22
	$S \rightarrow QB$ Set up time	(HL) J	0.563 0.450	1.177	2.236 1.550	0.011	0.018	0.029	R	2.1 2.4		
	Set up time Hold time	K J	0.420 0.000		1.010 0.000							
	Hold time Release time Release time	K R S	0.000 0.150 0.000		0.000 0.750 0.000							
	Removal time Removal time	R S	0.000 0.000 0.180		0.000 0.000 0.770							
	Min Pulse Min Pulse	C R	0.775 0.697		1.562 1.173							
	Min Pulse	S	0.962		2.428							
F774NBP	$C \rightarrow QB$	(HH)	0.414	0.741	1.211	0.006	0.012	0.019	J K	1.0	QB	44
	$\begin{array}{ccc} R & \to QB \\ S & \to QB \\ \\ Set \ up \ time \end{array}$	(HH) (HL) J	0.342 0.654 0.460	0.628 1.375	1.004 2.646 1.500	0.006 0.006	0.012 0.010	0.019 0.016	C R S	1.0 2.1 2.4		
	Set up time Hold time	K J	0.430 0.000		1.050 0.000							
	Hold time Release time Release time	K R S	0.000 0.180 0.000		0.000 0.700 0.000							
	Removal time Removal time	R S	0.000 0.000 0.150		0.000 0.000 0.750							
	Min Pulse Min Pulse	C R	0.827 0.749		1.907 1.321							
	Min Pulse	S	1.048		2.814							

[MEMO]

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Standard type	Function	JK-	F/F W	ITH R	B,SB							SSI Far	mily	
Normal Q output QB output Normal Q output QB output	Block type			Stand	dard ty	ре					Low Ga	te type		
Low Power x1 F777 12 F777NQ 11 F777NB 11 F777NB 11 F777NB 11 F777NB 12 F777NBP 12 F777NBP <td></td> <td>Norma</td> <td>al</td> <td>Q</td> <td>output</td> <td></td> <td>QB out</td> <td>put</td> <td>Norm</td> <td>al</td> <td>Q ou</td> <td>tput</td> <td>QB ou</td> <td>tput</td>		Norma	al	Q	output		QB out	put	Norm	al	Q ou	tput	QB ou	tput
x1 F777 12 F777NQ 11 F777NB 11 11 11 11 11 11 12 <td>Drivability</td> <td>Name</td> <td>cells</td> <td>Nan</td> <td>ne ce</td> <td>lls</td> <td>Name</td> <td>cells</td> <td>Name</td> <td>cells</td> <td>Name</td> <td>cells</td> <td>Name</td> <td>cells</td>	Drivability	Name	cells	Nan	ne ce	lls	Name	cells	Name	cells	Name	cells	Name	cells
X2 F777NP 14 F777NQP 12 F777NBP 12 X4 Logic Diagram for "Normal" Logic Diagram for "Q output" SB H05 J H01 C H03 N01 Q J H01 C H03 K H02 H04 PB H04 H04 H04 H04 R H04	Low Power													
Logic Diagram for "Normal" Logic Diagram for "Q output" SB H05 J H01 C H03 N01 Q J H01 C H03 K H02 H04 H04 PB Logic Diagram for "QB output" Logic Diagram for "QB output" C H03 K H02 H04 H04 H04 H04 H04 Logic Diagram for "QB output"	x1	F777	12	F777	NQ 1	1	F777NB	11						
Logic Diagram for "Normal" Logic Diagram for "Q output" SB H05 J H01 C H03 N01 Q J H01 C H03 K H02 H04 H04 H04 R Logic Diagram for "QB output" Logic Diagram for "QB output" C H03 N01 Q J H01 C H03 K H02 H04 H04 H04 H04 H04	x2	F777NP	14	F777N	NQP 1	2	F777NBP	12						
for "Normal" for "Q output" for "QB output" SB H05 J H01 → N01 Q J H01 → N01 Q C H03 → N02 QB K H02 → N01 Q H04 H04 H04 H04 R For "QB output" For "QB output" C H03 → N01 Q J H01 → N01 QB K H02 → N01 QB	х4													
	J H01 ← C H03 ← →	SB H05			J Н0	for 1 ← 3 ←	"Q output	7	N01 Q	J I	for "Q H01 ← H03	SB H05		QB
			1	1	1									
			1	1										
1 1 / 1 1 Invert	1		1	1										
1 1 / 1 1 Invert X X \ 1 1 Hold			0	1	0									
1 1 7 1 1 Invert X X X 1 1 Hold X X X 0 1 0 1			1	0	1									
1 1 7 1 1 Invert X X X 1 1 Hold X X X 0 1 0 1 X X X 1 0 1 0	X	X X	0	0	0		0 ← P	rohibitio	on					
1 1 7 1 1 Invert X X X 1 1 1 Hold X X X 0 1 0 1 X X X 1 0 1 0	X:Irrelevan	nt												

D			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F777	$\begin{array}{ccc} C & \rightarrow & Q \\ \\ C & \rightarrow & QB \end{array}$	(HH) (HL) (HH) (HL)	0.420 0.462 0.664 0.611	0.773 0.861 1.253 1.156	1.304 1.454 2.128 1.986	0.013 0.009 0.013 0.010	0.023 0.015 0.023 0.015	0.037 0.024 0.037 0.025	J K C RB	1.0 1.0 1.0 2.4	Q QB	22 22
	$\begin{array}{c} RB & \to Q \\ RB & \to QB \\ SB & \to Q \\ SB & \to QB \\ Set \ up \ time \\ Set \ up \ time \\ Hold \ time \\ Hold \ time \\ Release \ time \\ Release \ time \\ Removal \ time \\ \end{array}$	(LL) (LH) (LH) (LL) J K J K RB SB RB	0.211 0.415 0.520 0.333 1.751 1.574 0.093 0.087 0.997 1.151 0.700	0.372 0.891 1.008 0.611	0.621 1.496 1.794 1.039 2.697 2.245 0.010 0.010 1.044 1.333 0.802	0.009 0.012 0.012 0.010	0.015 0.023 0.023 0.016	0.024 0.037 0.037 0.026	SB	2.1		
	Removal time Min Pulse Min Pulse Min Pulse	SB C RB SB	0.572 1.249 1.018 1.051		0.570 2.657 2.517 2.728							
F777NP	$\begin{array}{c} C \rightarrow Q \\ \hline C \rightarrow QB \\ \hline RB \rightarrow Q \\ RB \rightarrow QB \\ SB \rightarrow QB \\ SB \rightarrow QB \\ Set up time \\ Set up time \\ Hold time \\ Hold time \\ Hold time \\ Release time \\ Release time \\ Removal time \\ Removal time \\ Removal time \\ Min Pulse \\ Min Pulse \\ Min Pulse \\ Min Pulse \\ Min Pulse \\ \end{array}$	83 0 8 8 8 7 7 £ £ £ £ £ £ £ £ £ £ £ £ £ £ £	0.456 0.499 0.770 0.699 0.252 0.455 0.306 0.420 0.420 0.000 0.000 0.000 0.310 0.060 1.194 0.965 0.902	0.839 0.944 1.465 1.334 0.460 1.101 1.234 0.672	1.416 1.598 2.496 2.303 0.783 1.865 2.178 1.163 1.040 1.130 0.000 0.000 0.000 0.000 0.760 0.190 2.825 2.221 2.573	0.006 0.005 0.006 0.005 0.005 0.006 0.006 0.006	0.012 0.007 0.011 0.007 0.007 0.012 0.012 0.012	0.019 0.012 0.018 0.012 0.012 0.019 0.018 0.013	J K C RB SB	1.0 1.0 1.0 2.3 2.1	Q QB	45 44
F777NQ	$C \rightarrow Q$ $RB \rightarrow Q$ $SB \rightarrow Q$ Set up time Set up time Hold time Hold time Release time Release time Removal time Removal time Min Pulse Min Pulse	刊 出 出 出 出 出 出 出 出 に に に に に に に に に に に	0.399 0.442 0.202 0.400 0.420 0.440 0.000 0.000 0.000 0.310 0.658 0.634 0.842	0.731 0.831 0.358 0.839	1.226 1.401 0.597 1.472 1.040 0.000 0.000 0.000 0.000 0.760 0.200 1.727 0.982	0.013 0.009 0.009 0.012	0.023 0.014 0.014 0.023	0.037 0.023 0.023 0.037	J K C RB SB	1.0 1.0 1.0 2.3 2.1	Q	22
F777NQP	$\begin{array}{c} C \to Q \\ \\ RB \to Q \end{array}$	(HH) (HL) (LL)	0.457 0.498 0.253	0.841 0.944 0.461	1.417 1.599 0.785	0.006 0.005 0.005	0.012 0.007 0.007	0.019 0.012 0.012	J K C	1.0 1.0 1.0	Q	44

			Swite	ching sp	eed							
Block	Path		t ı	LD0 (ns))		t 1] In	put	Ou	tput
type	IN \rightarrow (DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$SB \rightarrow Q$	(LH)	0.463	0.962	1.683	0.006	0.012	0.019	RB	2.3		
l	Set up time	J	0.420		1.040				SB	2.1		
	Set up time	K	0.450		1.130							
I	Hold time	J	0.000		0.000							
I	Hold time	K	0.000		0.000							
I	Release time	RB	0.000		0.000							
I	Release time	SB	0.000		0.000							
I	Removal time	RB	0.310		0.760							
I	Removal time	SB	0.060		0.200							
I	Min Pulse	С	0.908		1.898							
I	Min Pulse	RB	0.678		1.142							
F777NB	Min Pulse C → QB	SB (HH)	0.901	0.710	2.082 1.161	0.013	0.024	0.038	J	1.0	QB	22
F///ND	U → QB	(HL)	0.343	0.660	1.150	0.013	0.024	0.036	K	1.0	QB	22
I	RB → QB	(LH)	0.455	0.968	1.684	0.013	0.024	0.038	C	1.0		
I	SB → QB	(LL)	0.325	0.697	1.306	0.010	0.016	0.026	RB	2.4		
I	Set up time	J (,	0.420	0.007	1.020	0.0.0	0.010	0.020	SB	2.1		
I	Set up time	K	0.450		1.130							
I	Hold time	J	0.000		0.000							
I	Hold time	K	0.000		0.000							
I	Release time	RB	0.000		0.000							
I	Release time	SB	0.000		0.000							
I	Removal time	RB	0.290		0.710							
I	Removal time	SB	0.040		0.160							
I	Min Pulse	С	0.801		1.475							
I	Min Pulse	RB	0.888		2.057							
	Min Pulse	SB	0.736		1.602							
F777NBP	$C \rightarrow QB$	(HH)	0.459	0.832	1.363	0.007	0.012	0.019	J	1.0	QB	43
I		(HL)	0.391	0.780	1.447	0.005	0.008	0.014	K	1.0		
I	$RB \rightarrow QB$	(LH)	0.534	1.104	1.916	0.006	0.012	0.019	С	1.0		
I	SB → QB	(LL)	0.381	0.823	1.557	0.005	0.008	0.014	RB	2.4		
I	Set up time	J	0.420		0.960				SB	2.1		
I	Set up time	K	0.460		1.160							
I	Hold time Hold time	J K	0.000		0.000							
 	Release time	RB	0.000		0.000							
 	Release time	SB	0.000		0.000							
 	Removal time	RB	0.000		0.670							
 	Removal time	SB	0.030		0.130							
	Min Pulse	C	0.866		1.663							
 	Min Pulse	RB	0.961		2.262							
 	Min Pulse	SB	0.788		1.826							
		35	500									

[MEMO]

Function	JK-	F/F (C	B)								SSI Fa	mily		
		(0		dard	type						Sate type			
Block type	Norma	al			output QB output			Normal Q ou					put	
Drivability	Name	cells	Nai	_	cells	Name	cells	Name	cells	Name	cells	Name	cells	
Low Power														
x1	F781	10	F781	NQ	9	F781NB	9							
x2	F781NP	12	F781	NQP	10	F781NBP	10							
x4														
Logic Diagra for "Nor J H01 ← CB H03 ← K H02 ←	mal"	→ N01 → N02		Ј СВ		>		→ N01 Q	J CB	ogic Diagr for "QB H01 ← H03 ← H02 ← H02 ←		o→ N01	QB	
Truth Table														
J	K CB	Q	QB											
0	0 \	F	lold											
0	1 🔻	0	1											

X:Irrelevant

X X /

1 0 Invert

Hold

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns))		t 1		l In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F781	$CB \rightarrow Q$	(LH)	0.429	0.802	1.419	0.013	0.023	0.037	J	1.0	Q	22
		(LL)	0.422	0.765	1.292	0.009	0.015	0.024	K	1.0	QB	22
	$CB \ \to \ QB$	(LH)	0.567	1.028	1.739	0.012	0.023	0.036	СВ	1.0		
		(LL)	0.607	1.164	2.076	0.010	0.015	0.025				
	Set up time	J	1.575		2.332							
	Set up time	K	1.476		2.119							
	Hold time	J	0.205		0.103							
	Hold time	K	0.170		0.104							
F781NP	Min Pulse	CB	1.247	0.731	2.843	0.000	0.012	0.040		1.0	Q	45
F/81NP	$CB \rightarrow Q$	(LH) (LL)	0.414 0.411	0.731	1.215 1.569	0.006 0.005	0.012	0.019 0.014	J K	1.0	QB	45 45
	CB → QB	(LL) (LH)	0.411	1.152	2.168	0.005	0.008	0.014	CB	1.0	QB	45
	CB → QB	(LL)	0.612	1.132	1.926	0.005	0.007	0.018	CB	1.0		
	Set up time	J (LL)	0.300	1.120	1.060	0.003	0.007	0.012				
	Set up time	K	0.240		0.730							
	Hold time	J	0.140		0.000							
	Hold time	K	0.000		0.000							
	Min Pulse	СВ	1.045		2.639							
F781NQ	CB → Q	(LH)	0.344	0.607	1.004	0.013	0.023	0.037	J	1.0	Q	22
		(LL)	0.361	0.705	1.313	0.010	0.016	0.026	К	1.0		
	Set up time	J	0.290		1.040				СВ	1.0		
	Set up time	K	0.230		0.720							
	Hold time	J	0.140		0.000							
	Hold time	K	0.000		0.000							
	Min Pulse	СВ	0.776		1.624							
F781NQP	$CB \rightarrow Q$	(LH)	0.407	0.719	1.195	0.006	0.012	0.019	J	1.0	Q	44
		(LL)	0.407	0.807	1.550	0.005	0.008	0.014	K	1.0		
	Set up time	J	0.300		1.050				СВ	1.0		
	Set up time	K	0.240		0.730							
	Hold time	J	0.140		0.000							
	Hold time	K CB	0.000 0.834		0.000 1.828							
F781NB	Min Pulse CB → QB	(LH)	0.834	0.607	1.004	0.013	0.023	0.037	J	1.0	QB	22
L/OINB	CB → QB	(LL)	0.344	0.807	1.313	0.013	0.023	0.037	K	1.0	ا ط	44
	Set up time	J (LL)	0.230] 5.7 55	0.720	3.515	0.0.0	0.020	CB	1.0		
	Set up time	K	0.280		0.970				"			
	Hold time	J	0.000		0.000							
	Hold time	K	0.210		0.090							
	Min Pulse	СВ	0.776		1.624							
F781NBP	CB → QB	(LH)	0.407	0.719	1.195	0.006	0.012	0.019	J	1.0	QB	44
		(LL)	0.407	0.807	1.550	0.005	0.008	0.014	К	1.0		
[Set up time	J	0.240		0.720				СВ	1.0		
[Set up time	K	0.280		0.980							
[Hold time	J	0.000		0.000							
[Hold time	K	0.210		0.080							
	Min Pulse	CB	0.834		1.828							

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Function	J	<-F/F (C	CB) WI	TH RB,SE	3			SSI Family							
Block type			Stand	lard type					Low Gate	type					
Blook type	Nor	mal	Q	output	QB out	put	Norma	al	Q outp	out	QB ou	tput			
Drivability	Name	cells	Nan	ne cells	Name	cells	Name	cells	Name	cells	Name	cells			
Low Power															
x1	F787	12	F787	NQ 11	F787NB	11									
x2	F787N	14	F787N	NQP 12	F787NBP	12									
x4															
Logic Diag for "Ne J H01 ← CB H03 ← K H02 ←	SB H05	→ N01 → N02			•		N01 Q	J	ogic Diagr for "QB H01 •————————————————————————————————————			QB			
	RB				HÖA RB					RB					
Truth Table J 0 0 1 1 X X X	e K CE 0 \ \ 1 \ \ \ 0 \ \ \ 1 \ \ X \ \ X \ X \ X	1 1 1 1 1	SB 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Hold 0 1 Inver Hold 0	QB 1 0 t 1 1					HU4 RB					
J 0 0 1 1 1 X	e K CE 0 \ 1 \ \ 0 \ \ 1 \ X \ 2	1 1 1 1	1 1 1 1	Hold 0 1 Inver	QB 1 0 t 1 0 0	rohibitic				1104 RB					

D			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)	1		t 1		In	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F787	$CB \rightarrow Q$	(LH)	0.467	0.892	1.575	0.013	0.023	0.037	J	1.0	Q	22
	OD OD	(LL)	0.435 0.638	0.802 1.195	1.363 2.039	0.009 0.012	0.015 0.023	0.024 0.037	K CB	1.0 1.0	QB	22
	$CB \rightarrow QB$	(LH) (LL)	0.656	1.195	2.039	0.012	0.023	0.037	RB	2.4		
	$RB \rightarrow Q$	(LL)	0.030	0.371	0.621	0.009	0.015	0.023	SB	2.1		
	$RB \rightarrow QB$	(LH)	0.415	0.891	1.496	0.012	0.023	0.037				
	SB → Q	(LH)	0.415	1.009	1.794	0.012	0.023	0.037				
	$SB \rightarrow QB$	(LL)	0.273	0.610	1.039	0.010	0.016	0.026				
	Set up time	J	1.730		2.689							
	Set up time	K	1.553		2.236							
	Hold time	J	0.093		0.010							
	Hold time	K	0.086		0.010							
	Release time	RB SB	0.975		1.036							
	Release time Removal time	SB RB	1.129 0.701		1.325 0.940							
	Removal time	SB	0.701		0.708							
	Min Pulse	CB	1.196		2.929							
	Min Pulse	RB	1.018		2.647							
	Min Pulse	SB	1.051		2.859							
F787NP	CB → Q	(LH)	0.509	0.964	1.701	0.006	0.012	0.019	J	1.0	Q	45
		(LL)	0.470	0.875	1.496	0.005	0.007	0.012	K	1.0	QB	44
	$CB \ \to \ QB$	(LH)	0.743	1.399	2.397	0.006	0.011	0.018	СВ	1.0		
		(LL)	0.749	1.454	2.589	0.005	0.007	0.012	RB	2.3		
	$RB \rightarrow Q$	(LL)	0.252	0.459	0.783	0.005	0.007	0.012	SB	2.1		
	$RB \rightarrow QB$ $SB \rightarrow Q$	(LH) (LH)	0.525 0.455	1.099 1.233	1.863 2.180	0.006 0.006	0.012 0.012	0.019 0.018				
	$SB \rightarrow Q$ $SB \rightarrow QB$	(LL)	0.433	0.673	1.163	0.005	0.012	0.018				
	Set up time	J	0.230	0.073	0.750	0.003	0.000	0.013				
	Set up time	K	0.320		1.090							
	Hold time	J	0.000		0.000							
	Hold time	K	0.210		0.080							
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.490		1.080							
	Removal time Min Pulse	SB CB	0.250		0.330							
	Min Pulse	RB	1.181 0.966		2.936 2.220							
	Min Pulse	SB	0.902		2.575							
F787NQ	CB → Q	(LH)	0.447	0.851	1.505	0.013	0.023	0.037	J	1.0	Q	22
		(LL)	0.414	0.766	1.303	0.009	0.014	0.023	К	1.0		
	$RB \ \to \ Q$	(LL)	0.202	0.358	0.597	0.009	0.014	0.023	СВ	1.0		
	$SB \ \to \ Q$	(LH)	0.400	0.839	1.472	0.012	0.023	0.037	RB	2.3		
	Set up time	J	0.230		0.740				SB	2.1		
	Set up time	K	0.310		1.080							
	Hold time Hold time	J K	0.000		0.000							
[Release time	K RB	0.210 0.000		0.080							
[Release time	SB	0.000		0.000							
	Removal time	RB	0.490		1.080							
[Removal time	SB	0.250		0.330							
I	Min Pulse	СВ	0.886		1.922	1	1					
	Min Pulse	RB	0.634		0.982							
	Min Pulse	SB	0.842		1.892							
F787NQP	$CB \ \to \ Q$	(LH)	0.507	0.960	1.696	0.006	0.012	0.019	J	1.0	Q	44
	DD 0	(LL)	0.470	0.878	1.502	0.005	0.007	0.012	K	1.0		
	$RB \rightarrow Q$	(LL)	0.253	0.460	0.785	0.005	0.007	0.012	CB	1.0	I .	

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		In	put	Ou	tput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	$SB \rightarrow Q$	(LH)	0.462	0.962	1.684	0.006	0.012	0.019	RB	2.3		
	Set up time	J	0.230		0.750				SB	2.1		
	Set up time	K	0.320		1.090							
	Hold time	J	0.000		0.000							
	Hold time	K	0.210		0.070							
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.490		1.080							
	Removal time	SB	0.250		0.330							
	Min Pulse	CB	0.942		2.094							
	Min Pulse	RB	0.678		1.142							
	Min Pulse	SB	0.901		2.083							
F787NB	$CB \ \to \ QB$	(LH)	0.376	0.675	1.122	0.013	0.024	0.038	J	1.0	QB	22
		(LL)	0.364	0.709	1.324	0.010	0.016	0.026	K	1.0		
	$RB \rightarrow QB$	(LH)	0.454	0.967	1.682	0.013	0.024	0.038	СВ	1.0		
	SB → QB	(LL) J	0.325	0.698	1.307	0.010	0.016	0.026	RB	2.4		
	Set up time	J K	0.240 0.310		0.760 1.070				SB	2.1		
	Set up time											
	Hold time Hold time	J K	0.000		0.000 0.100							
	Release time	RB	0.210		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.470		1.000							
	Removal time	SB	0.470		0.320							
	Min Pulse	CB	0.802		1.638							
	Min Pulse	RB	0.887		2.056							
	Min Pulse	SB	0.736		1.606							
F787NBP	CB → QB	(LH)	0.452	0.814	1.361	0.007	0.012	0.019	J	1.0	QB	43
1	05 / 45	(LL)	0.410	0.810	1.557	0.005	0.008	0.014	К	1.0		
	$RB \rightarrow QB$	(LH)	0.533	1.102	1.913	0.006	0.012	0.019	СВ	1.0		
	SB → QB	(LL)	0.381	0.822	1.559	0.005	0.008	0.014	RB	2.4		
	Set up time	J	0.250		0.770				SB	2.1		
	Set up time	K	0.310		1.090							
	Hold time	J	0.000		0.000							
	Hold time	K	0.210		0.090							
	Release time	RB	0.000		0.000							
	Release time	SB	0.000		0.000							
	Removal time	RB	0.440		0.920							
	Removal time	SB	0.230		0.310							
	Min Pulse	CB	0.873		1.833							
	Min Pulse	RB	0.960		2.262							
	Min Pulse	SB	0.788		1.828							

[MEMO]

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Function	2 T	O 1 ML	JLTIPLE	KER					(SSI Far	mily	
Block type			sitive out						egative ou			
D	Norma		with El		with E		Norm		with E		with I	
Drivability	Name	cells	Name	cells 4	Name	cells	Name	cells	Name	cells	Name	cell
Low Power	F565	4	L571 F571	6			F57B	5				
x1 x2	1 303	4	13/1	0			1376					
x4												
Logic Diagra	sitive output	t type"	D0 D1 A		agram "Positive o		vith ENB"	L	ogic Diagr for "Po		utput with	EN"
Logic Diagrafor "Neg D0 H01 D1 H02 A H03	gative outpu	ut type"	L		agram "Negative (output	with ENB"	L	ogic Diagr for "Ne		output with	n EN"
Truth Table	1 A	ENE	3 Y	YB	1							
-					1							
	(χ (0	1	0 A	1 AB								
X		0	В	BB								
X:Irrelevant					1							

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FUNCTION BLOCK

- I			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F565	$D0 \ \rightarrow \ Y$	(HH)	0.244	0.400	0.634	0.013	0.023	0.037	D0	1.0	Y	22
		(LL)	0.268	0.496	0.898	0.010	0.016	0.025	D1	1.0		
	D1 \rightarrow Y	(HH)	0.232	0.386	0.613	0.013	0.023	0.037	Α	1.0		
		(LL)	0.259	0.480	0.876	0.010	0.016	0.025				
	$A \ \to \ Y$	(HH)	0.300	0.536	0.872	0.013	0.023	0.037				
		(HL)	0.285	0.545	0.955	0.010	0.016	0.025				
		(LH)	0.303	0.524	0.854	0.013	0.023	0.037				
		(LL)	0.310	0.588	1.080	0.010	0.016	0.025				
L571	$D0 \ \rightarrow \ Y$	(HH)	0.254	0.437	0.700	0.044	0.088	0.147	D0	1.0	Y	5
		(LL)	0.251	0.456	0.808	0.017	0.027	0.045	D1	1.0		
	D1 \rightarrow Y	(HH)	0.243	0.422	0.680	0.044	0.088	0.147	Α	1.0		
		(LL)	0.242	0.441	0.787	0.017	0.027	0.045	ENB	1.0		
	$A \ \to Y$	(HH)	0.320	0.585	0.957	0.044	0.088	0.147				
		(HL)	0.273	0.503	0.839	0.017	0.027	0.045				
		(LH)	0.316	0.562	0.921	0.044	0.088	0.147				
		(LL)	0.306	0.572	1.022	0.017	0.027	0.045				
	$ENB \ \to \ Y$	(HL)	0.094	0.132	0.189	0.016	0.026	0.043				
		(LH)	0.102	0.196	0.327	0.044	0.088	0.147				
F571	$D0 \rightarrow Y$	(HH)	0.391	0.701	1.158	0.013	0.023	0.037	D0	1.0	Y	22
		(LL)	0.391	0.727	1.287	0.009	0.015	0.024	D1	1.0		
	D1 \rightarrow Y	(HH)	0.381	0.689	1.137	0.013	0.023	0.037	Α	1.0		
		(LL)	0.383	0.711	1.264	0.009	0.015	0.024	ENB	1.0		
	$A \ \to \ Y$	(HH)	0.458	0.850	1.418	0.013	0.023	0.037				
		(HL)	0.416	0.778	1.319	0.009	0.015	0.024				
		(LH)	0.454	0.822	1.379	0.013	0.023	0.037				
		(LL)	0.444	0.842	1.497	0.009	0.015	0.024				
	$ENB \ \to \ Y$	(HL)	0.240	0.438	0.722	0.009	0.015	0.024				
		(LH)	0.245	0.441	0.729	0.013	0.023	0.037				
F57B	D1 \rightarrow Y	(HL)	0.240	0.442	0.757	0.010	0.016	0.026	D1	1.0	Y	22
		(LH)	0.264	0.471	0.776	0.013	0.023	0.037	D2	1.0		
1	D2 \rightarrow Y	(HL)	0.253	0.465	0.798	0.010	0.016	0.026	Α	1.0		
		(LH)	0.255	0.458	0.761	0.013	0.023	0.037				
	$A \ \to Y$	(HH)	0.321	0.577	0.955	0.013	0.023	0.037				
		(HL)	0.389	0.725	1.226	0.010	0.016	0.026				
		(LH)	0.386	0.704	1.196	0.013	0.023	0.037				
		(LL)	0.345	0.636	1.073	0.010	0.016	0.026				

Function	QU	AD 2	TO 1 MU	LTIPLE	XER				(SSI Fa	mily	
Block type		Р	ositive ou	tput typ	ре			Ne	gative ou	tput ty	ре	
Вюск турс	Norma	al	with E	NB	with I	ΞN	Norm	al	with E	NB	with E	ΕN
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power									L572	10		
x1	F552	13					F555	9	F572	14		
x2												
x4												
D0 H01 ←	sitive output			ogic Di	iagram "Positive o	output w	vith ENB"	L	ogic Diagr for "Po		utput with	EN"
D1 H02 ← D2 H03 ← D3 H04 ← D4 H05 ←	_		Y1									
D5 H06 ← D6 H07 ← D7 H08 ← A H09 ←			Y2 Y3									
Logic Diagra for "Neg D0 H01 ← D1 H02 ← D2 H03 ← D3 H04 ← D4 H05 ← D5 H06 ← D6 H07 ← D7 H08 ← A H09 ←	gative outpu	N01 N02 N03 N03 N04 N04 N04 N04 N04 N04 N04 N04 N04 N04	" D YOB D D Y1B D Y2B D D Y2B D	0 H01 4 1 H02 4 2 H03 4 3 H04 4 4 H05 4 5 H06 6 6 H07 4 7 H08 4	"Negative	O→ N O→ N	with ENB" 101 Y0B 102 Y1B 103 Y2B 104 Y3B	L	ogic Diagr for "Ne		output with	n EN"
Truth Table												
Da [Da+1	A	ENB	Yn	YnB							
A	X	0	0	Α	AB							
Х	В	1	0	В	ВВ							
X X:Irrelevant a=2*n(n=0 to		X	1	0	1							

Disale			Swite	ching sp	eed					4	0	44
Block	Path		tι	LD0 (ns)			t 1		In	put	Ou	tput
type	IN → O	TU	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F552	D1 → Y1	(HH)	0.233	0.383	0.609	0.013	0.023	0.037	D1	1.0	Y1	21
		(LL)	0.259	0.483	0.877	0.010	0.016	0.025	D2	1.0	Y2	21
	D2 → Y1	(HH)	0.243	0.401	0.631	0.013	0.023	0.037	D3	1.0	Y3	21
		(LL)	0.268	0.496	0.893	0.010	0.016	0.026	D4	1.0	Y4	21
	D3 → Y2	(HH)	0.233	0.383 0.483	0.609	0.013 0.010	0.023	0.037	D5 D6	1.0 1.0		
	D4 . V2	(LL) (HH)	0.261 0.243	0.483	0.873 0.632	0.010	0.016 0.023	0.025 0.037	D6	1.0		
	D4 → Y2	(LL)	0.268	0.495	0.897	0.010	0.025	0.026	D8	1.0		
	D5 → Y3	(HH)	0.233	0.383	0.609	0.013	0.023	0.037	A	1.0		
	05 → 15	(LL)	0.259	0.483	0.877	0.010	0.016	0.025		1.0		
	D6 → Y3	(HH)	0.243	0.401	0.631	0.013	0.023	0.037				
		(LL)	0.268	0.496	0.893	0.010	0.016	0.026				
	D7 → Y4	(HH)	0.233	0.383	0.609	0.013	0.023	0.037				
		(LL)	0.261	0.482	0.873	0.010	0.016	0.025				
	D8 → Y4	(HH)	0.243	0.399	0.632	0.013	0.023	0.037				
		(LL)	0.268	0.495	0.897	0.010	0.016	0.026				
	$A \rightarrow Y1$	(HH)	0.440	0.797	1.335	0.013	0.023	0.037			1	
		(HL)	0.384	0.681	1.148	0.010	0.015	0.025				
		(LH)	0.390 0.434	0.708 0.840	1.194 1.542	0.013 0.010	0.023 0.016	0.037 0.025				
	$A \ \to Y2$	(LL) (HH)	0.434	0.840	1.335	0.010	0.016	0.025				
	A → 12	(HL)	0.384	0.797	1.148	0.013	0.023	0.037				
		(LH)	0.390	0.708	1.194	0.013	0.013	0.023				
		(LL)	0.434	0.840	1.542	0.010	0.016	0.025				
	$A \rightarrow Y3$	(HH)	0.440	0.797	1.335	0.013	0.023	0.037				
		(HL)	0.384	0.681	1.148	0.010	0.015	0.025				
		(LH)	0.390	0.708	1.194	0.013	0.023	0.037				
		(LL)	0.434	0.840	1.542	0.010	0.016	0.025				
	$A \rightarrow Y4$	(HH)	0.440	0.797	1.335	0.013	0.023	0.037				
		(HL)	0.384	0.681	1.148	0.010	0.015	0.025				
		(LH)	0.390	0.708	1.194	0.013	0.023	0.037				
F555	D1 → Y1	(LL) (HL)	0.434	0.840	1.542 0.367	0.010	0.016 0.015	0.025	D1	1.6	Y1	22
F555	ול → ולו	(LH)	0.110	0.195	0.304	0.012	0.013	0.024	D2	1.6	Y2	22
	D2 → Y1	(L) (HL)	0.115	0.209	0.366	0.010	0.015	0.024	D3	1.6	Y3	22
	52 ,	(LH)	0.112	0.187	0.294	0.012	0.023	0.037	D4	1.6	Y4	22
	D3 → Y2	(HL)	0.115	0.209	0.365	0.010	0.015	0.024	D5	1.6		
		(LH)	0.112	0.187	0.292	0.012	0.023	0.037	D6	1.6		
	D4 \rightarrow Y2	(HL)	0.119	0.208	0.365	0.010	0.015	0.024	D7	1.6		
		(LH)	0.120	0.195	0.306	0.012	0.023	0.037	D8	1.6		
	D5 → Y3	(HL)	0.114	0.207	0.365	0.010	0.015	0.024	Α	1.0	1	
	Do 1/2	(LH)	0.113	0.187	0.294	0.012	0.023	0.037			1	
	D6 → Y3	(HL) (LH)	0.120 0.120	0.210 0.196	0.368 0.304	0.010 0.012	0.015 0.023	0.024 0.037				
	D7 → Y4	(HL)	0.120	0.196	0.367	0.012	0.023	0.037				
	74 → 14	(LH)	0.120	0.196	0.303	0.010	0.013	0.024			1	
	D8 → Y4	(LI.) (HL)	0.115	0.207	0.364	0.012	0.025	0.024				
		(LH)	0.113	0.187	0.294	0.012	0.023	0.037				
	$A \rightarrow Y1$	(HH)	0.378	0.687	1.158	0.012	0.023	0.037				
		(HL)	0.311	0.524	0.856	0.009	0.015	0.024				
		(LH)	0.346	0.612	1.030	0.012	0.023	0.037				
		(LL)	0.379	0.704	1.267	0.009	0.015	0.024				
	$A \ \rightarrow \ Y2$	(HH)	0.387	0.700	1.174	0.012	0.023	0.037				
		(HL)	0.311	0.523	0.855	0.009	0.015	0.024				
		(LH)	0.331	0.592	1.005	0.012	0.023	0.037				
		(LL)	0.378	0.703	1.266	0.009	0.015	0.024				l

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1		In	put	Ou	tput
type		JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	A → Y3	(HH)	0.388	0.701	1.176	0.012	0.023	0.037				
		(HL)	0.312	0.525	0.858	0.009	0.015	0.024				
		(LH)	0.332	0.594	1.008	0.012	0.023	0.037				
		(LL)	0.378 0.379	0.704 0.688	1.268 1.160	0.009 0.012	0.015 0.023	0.024 0.037				
	A → Y4	(HH) (HL)	0.379	0.688	0.859	0.012	0.023	0.037				
		(LH)	0.312	0.614	1.033	0.009	0.013	0.024				
		(LL)	0.380	0.705	1.269	0.009	0.015	0.024				
L572	D0 → Y0B	(HL)	0.123	0.210	0.345	0.025	0.044	0.077	D0	2.9	Y0B	11
		(LH)	0.103	0.172	0.270	0.025	0.045	0.073	D1	3.0	Y1B	11
	D1 → Y0B	(HL)	0.124	0.210	0.345	0.025	0.044	0.077	D2	2.9	Y2B	11
		(LH)	0.109	0.180	0.280	0.025	0.045	0.073	D3	3.0	Y3B	11
	D2 → Y1B	(HL)	0.123	0.210	0.345	0.025	0.044	0.077	D4	2.9		
		(LH)	0.103	0.172	0.270	0.025	0.045	0.073	D5	3.0		
	D3 → Y1B	(HL)	0.124	0.210	0.345	0.025	0.044	0.077	D6	2.9		
		(LH)	0.109	0.180	0.280	0.025	0.045	0.073	D7	3.0		
	D4 → Y2B	(HL)	0.123 0.103	0.210 0.172	0.345 0.270	0.025 0.025	0.044 0.045	0.077 0.073	A ENB	1.0 1.0		
	D5 → Y2B	(LH) (HL)	0.103	0.172	0.270	0.025	0.045	0.073	EIND	1.0		
	D5 → 12B	(LH)	0.124	0.180	0.343	0.025	0.044	0.077				
	D6 → Y3B	(HL)	0.123	0.210	0.345	0.025	0.044	0.077				
	50 7 105	(LH)	0.103	0.172	0.270	0.025	0.045	0.073				
	D7 → Y3B	(HL)	0.124	0.210	0.345	0.025	0.044	0.077				
		(LH)	0.109	0.180	0.280	0.025	0.045	0.073				
	A → Y0B	(HH)	0.397	0.716	1.202	0.025	0.045	0.073				
1		(HL)	0.305	0.508	0.823	0.024	0.044	0.077				
1		(LH)	0.329	0.591	1.001	0.025	0.045	0.073				
		(LL)	0.399	0.746	1.325	0.024	0.044	0.077				
	A → Y1B	(HH)	0.397	0.716	1.202	0.025	0.045	0.073				
		(HL)	0.305	0.508	0.823	0.024	0.044	0.077				
		(LH) (LL)	0.329 0.399	0.591 0.746	1.001 1.325	0.025 0.024	0.045 0.044	0.073 0.077				
	A → Y2B	(LL) (HH)	0.399	0.746	1.202	0.024	0.044	0.077				
	A → 12B	(HL)	0.305	0.508	0.823	0.024	0.044	0.077				
1		(LH)	0.329	0.591	1.001	0.025	0.045	0.073				
		(LL)	0.399	0.746	1.325	0.024	0.044	0.077				
	A → Y3B	(HH)	0.397	0.716	1.202	0.025	0.045	0.073				
		(HL)	0.305	0.508	0.823	0.024	0.044	0.077				
		(LH)	0.329	0.591	1.001	0.025	0.045	0.073				
		(LL)	0.399	0.746	1.325	0.024	0.044	0.077				
	ENB → Y0B	(HH)	0.244	0.385	0.596	0.025	0.045	0.072				
	END WE	(LL)	0.255	0.452	0.767	0.024	0.044	0.077				
1	ENB → Y1B	(HH) (LL)	0.244 0.255	0.385 0.452	0.596 0.767	0.025 0.024	0.045 0.044	0.072 0.077				
	ENB → Y2B	(HH)	0.233	0.432	0.767	0.024	0.044	0.077				
1	LIND → 12B	(LL)	0.255	0.452	0.767	0.024	0.044	0.072				
1	ENB → Y3B	(HH)	0.244	0.385	0.596	0.025	0.045	0.072				
1		(LL)	0.255	0.452	0.767	0.024	0.044	0.077				
F572	D0 → Y0B	(HL)	0.126	0.231	0.414	0.012	0.022	0.039	D0	3.9	Y0B	21
		(LH)	0.129	0.219	0.349	0.012	0.023	0.036	D1	4.0	Y1B	21
	D1 → Y0B	(HL)	0.131	0.233	0.416	0.012	0.022	0.039	D2	3.9	Y2B	21
		(LH)	0.137	0.229	0.364	0.012	0.023	0.036	D3	4.0	Y3B	21
	D2 → Y1B	(HL)	0.126	0.231	0.416	0.012	0.022	0.039	D4	3.9		
	D0 V45	(LH)	0.129	0.220 0.237	0.347 0.416	0.012 0.012	0.023 0.022	0.036 0.039	D5	4.0	1	
	D3 → Y1B	(HL) (LH)	0.131 0.137	0.237	0.416	0.012	0.022	0.039	D6 D7	3.9 4.0		
	l .	(LI I)	0.137	0.229	0.303	0.012	0.023	0.030	וטן	4.0		

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → OI	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	D4 → Y2B	(HL)	0.126	0.231	0.414	0.012	0.022	0.039	Α	1.0		
		(LH)	0.129	0.219	0.349	0.012	0.023	0.036	ENB	2.0		
	D5 → Y2B	(HL)	0.131	0.233	0.416	0.012	0.022	0.039				
		(LH)	0.137	0.229	0.364	0.012	0.023	0.036				
	D6 → Y3B	(HL)	0.126	0.231	0.416	0.012	0.022	0.039				
		(LH)	0.129	0.220	0.347	0.012	0.023	0.036				
	D7 → Y3B	(HL)	0.131	0.237	0.416	0.012	0.022	0.039				
		(LH)	0.137	0.229	0.363	0.012	0.023	0.036				
	$A \rightarrow Y0B$	(HH)	0.445	0.805	1.358	0.012	0.023	0.036				
		(HL)	0.348	0.587	0.966	0.012	0.022	0.039				
		(LH)	0.375	0.678	1.158	0.012	0.023	0.036				
		(LL)	0.434	0.813	1.466	0.012	0.022	0.039				
	$A \rightarrow Y1B$	(HH)	0.445	0.805	1.358	0.012	0.023	0.036				
		(HL)	0.348	0.587	0.966	0.012	0.022	0.039				
		(LH)	0.375	0.678	1.158	0.012	0.023	0.036				
		(LL)	0.434	0.813	1.466	0.012	0.022	0.039				
	$A \rightarrow Y2B$	(HH)	0.445	0.805	1.358	0.012	0.023	0.036				
		(HL)	0.348	0.587	0.966	0.012	0.022	0.039				
		(LH)	0.375	0.678	1.158	0.012	0.023	0.036				
		(LL)	0.434	0.813	1.466	0.012	0.022	0.039				
	$A \rightarrow Y3B$	(HH)	0.445	0.805	1.358	0.012	0.023	0.036				
		(HL)	0.348	0.587	0.966	0.012	0.022	0.039				
		(LH)	0.375	0.678	1.158	0.012	0.023	0.036				
		(LL)	0.434	0.813	1.466	0.012	0.022	0.039				
	ENB → Y0B	(HH)	0.247	0.379	0.576	0.012	0.023	0.037				
		(LL)	0.247	0.438	0.737	0.012	0.022	0.039				
1	ENB → Y1B	(HH)	0.247	0.379	0.576	0.012	0.023	0.037				l
		(LL)	0.247	0.438	0.737	0.012	0.022	0.039				
	ENB → Y2B	(HH)	0.247	0.379	0.576	0.012	0.023	0.037				
		(LL)	0.247	0.438	0.737	0.012	0.022	0.039				
	ENB → Y3B	(HH)	0.247	0.379	0.576	0.012	0.023	0.037				
		(LL)	0.247	0.438	0.737	0.012	0.022	0.039				

Block type Normal Drivability Name cel Low Power x1 F564 8 x2 x4 Logic Diagram for "Positive output typ D0 H01	pe" D D D D D D D D D D D D D D D D D D D	Cells 10	with E Name agram Positive ou	utput w	11 У	cells 10	ogic Diagr	NB cells cells am sitive ou	with E Name Name utput with	cells
Drivability Name cell Low Power x1 F564 8 x2 x4 Logic Diagram for "Positive output typ D0 H01	pe" Pe" pe" ppe" Cells 10 Logic Di for for H01 1 H02 2 H03 3 H04 A H05 B H07	agram "Positive ou	utput w	F57A itth ENB"	cells 10	Name ogic Diagr for "Po	cells am sitive ou	Name	EN"	
Logic Diagram for "Positive output typ D0 H01 D2 H03 D3 H04 A H05 B H06 Logic Diagram for "Negative output typ D0 H01 D0	pe" D D D D D D D D D D D D D D D D D D D	10 Logic Di for on Holl 11 H02 12 H03 13 H04 14 H05 18 H06 18 H07	agram Positive of	→ N0	F57A with ENB"	10 L	ogic Diagr for "Po	am sitive ou	utput with	EN"
x1 F564 8 x2 x4 Logic Diagram for "Positive output typ D0 H01	pe" D D D D D D D D D D D D D D D D D D D	Logic Di for 10 H01 H02 2 H03 3 H04 A H05 B H06 B H07	"Positive ou	NO	n Y	L	for "Po:	sitive ou		
X2 X4 Logic Diagram for "Positive output typ D0 H01 D2 H03 D3 H04 D4 H05 D6 H01 D7 H02 D8 H01 D9 H01	pe" D D D D D D D D D D D D D D D D D D D	Logic Di for 10 H01 H02 2 H03 3 H04 A H05 B H06 B H07	"Positive ou	NO	n Y	L	for "Po:	sitive ou		
Logic Diagram for "Positive output typ D0 H01 D1 H02 D2 H03 D3 H04 A H05 B H06 Logic Diagram for "Negative output ty D0 H01 D1 H02 D2 H03 D3 H04 A H05 D3 H04 D4 H01 D5 H01 D6 H01 D7 H02 D8 H01 D9 H01 D	pe" Y D D D D ENI	for 10 H01 H02 H03 H03 H04 H05 H06 H07	"Positive ou	NO	11 У		for "Po:	sitive ou		
Logic Diagram for "Positive output typ D0 H01	pe" D D D D ENI	for 10 H01 H02 H03 H03 H04 H05 H06 H07	"Positive ou	NO	11 У		for "Po:	sitive ou		
for "Negative output ty D0 H01	ype"			output v	with ENB"	L			output with	ı EN"
Truth Table D0 D1 D2	D3 A	В	ENB	Y	YB					
X X X	X X	Х		0	1					
A X X	X 0	0	0	A	AB					
X B X X X C	X 1 X 0	0	0	В	BB					
X X X	X 0 D 1	1	0	C	CB DB					
X:Irrelevant		•								

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → (TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F564	$D0 \ \rightarrow \ Y$	(HH)	0.396	0.659	1.063	0.013	0.024	0.038	D0	1.0	Υ	21
		(LL)	0.395	0.767	1.497	0.011	0.018	0.028	D1	1.0		
	D1 \rightarrow Y	(HH)	0.379	0.635	1.033	0.013	0.024	0.038	D2	1.0		
		(LL)	0.386	0.753	1.474	0.011	0.017	0.028	D3	1.0		
	D2 \rightarrow Y	(HH)	0.377	0.630	1.020	0.013	0.024	0.038	A	1.0		
		(LL)	0.378	0.739	1.444	0.011	0.017	0.028	В	1.0		
	D3 → Y	(HH)	0.364	0.611	0.996	0.013	0.024	0.037				
	,	(LL)	0.372	0.732	1.434	0.011	0.017	0.028				
	$A \ \to Y$	(HH)	0.465	0.856	1.407	0.013	0.024	0.038				
		(HL)	0.432	0.892 0.849	1.701 1.398	0.011 0.013	0.017 0.024	0.028				
		(LH) (LL)	0.469 0.455	0.849	1.817	0.013	0.024	0.038 0.028				
	D V	(LL)	0.455	0.631	1.010	0.011	0.017	0.028				
	$B \ \to Y$	(HL)	0.309	0.615	1.146	0.013	0.024	0.038				
		(LH)	0.357	0.613	1.000	0.010	0.017	0.028				
		(LL)	0.334	0.662	1.281	0.013	0.024	0.038				
F570	D0 → Y	(HH)	0.526	0.925	1.540	0.013	0.023	0.020	D0	1.0	Y	22
1 370	D0 → 1	(LL)	0.499	0.963	1.819	0.009	0.015	0.024	D1	1.0	'	
	D1 → Y	(HH)	0.513	0.907	1.514	0.013	0.023	0.037	D2	1.0		
	D1 -> 1	(LL)	0.490	0.948	1.799	0.009	0.015	0.024	D3	1.0		
	D2 → Y	(HH)	0.507	0.898	1.492	0.013	0.023	0.037	A	1.0		
		(LL)	0.481	0.931	1.756	0.009	0.015	0.024	В	1.0		
	D3 → Y	(HH)	0.496	0.883	1.474	0.013	0.023	0.037	ENB	1.0		
		(LL)	0.476	0.922	1.751	0.009	0.015	0.024				
	$A \rightarrow Y$	(HH)	0.610	1.145	1.920	0.013	0.023	0.037				
		(HL)	0.550	1.103	2.018	0.009	0.015	0.024				
		(LH)	0.609	1.127	1.899	0.013	0.023	0.037				
		(LL)	0.573	1.148	2.176	0.009	0.015	0.024				
	$B \ \to Y$	(HH)	0.501	0.916	1.516	0.013	0.023	0.037				
		(HL)	0.428	0.823	1.441	0.009	0.015	0.024				
		(LH)	0.494	0.888	1.484	0.013	0.023	0.037				
		(LL)	0.453	0.880	1.616	0.009	0.015	0.024				
	$ENB \ \to \ Y$	(HL)	0.234	0.433	0.717	0.009	0.015	0.024				
		(LH)	0.246	0.439	0.728	0.013	0.023	0.037			.,	
F57A	D1 \rightarrow Y	(HL)	0.331	0.587	0.972	0.012	0.022	0.039	D1	1.0	Y	21
	D0 1/	(LH)	0.370 0.322	0.695	1.215	0.012	0.023	0.036	D2	1.0		
	D2 → Y	(HL) (LH)	0.322	0.571 0.679	0.952 1.192	0.012 0.012	0.022 0.023	0.039 0.036	D3 D4	1.0 1.0		
	D3 → Y	(LD)	0.322	0.565	0.941	0.012	0.023	0.038	A A	1.0		
	D3 → 1	(LH)	0.359	0.672	1.175	0.012	0.022	0.036	В	1.0		
	D4 → Y	(HL)	0.310	0.552	0.922	0.012	0.022	0.039		1.0		
	D 7 7 1	(LH)	0.350	0.657	1.153	0.012	0.023	0.036				
	$A \ \to Y$	(HH)	0.399	0.766	1.293	0.012	0.023	0.036				
	1	(HL)	0.421	0.797	1.348	0.012	0.022	0.039				
		(LH)	0.444	0.872	1.546	0.012	0.023	0.037				
		(LL)	0.404	0.755	1.277	0.012	0.022	0.039				
	$B \ \to Y$	(HH)	0.330	0.600	1.004	0.012	0.023	0.036				1
		(HL)	0.276	0.493	0.817	0.012	0.022	0.039				
		(LH)	0.287	0.517	0.869	0.012	0.023	0.037				
		(LL)	0.341	0.624	1.058	0.012	0.022	0.039				

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Drivability	27	with Nam	Logic D for	with E Name liagram "Positive or	cells utput w		al cells 31	ogic Diag	cells cells	pe with E Name sutput with	cells
Noi Drivability Name Low Power x1	put type" N01 Y0 N02 Y1 N04 Y2 ttput type ttput type ttput type N02 Y1 Ttput type N02 Y1 N02 Y1 N03 Y2	Nan	Logic D	Name iagram "Positive or	cells utput w	Name F554 vith ENB"	31 L	ogic Diag for "Po	ram sitive c	Name	cells
Low Power x1	27 put type" N01 Y0 N02 Y N03 Y N04 Y stput type ttput type N01 Y06 N02 Y1H	0 0 1 1 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Logic D for	iagram "Positive or	utput w	F554	31 L	ogic Diag for "Po	ram positive c	output with	EN"
x1 F551 x2 x4 Logic Diagram for "Positive out D1 H02 D2 H03 D3 H04 D4 H05 D5 H06 D6 H07 D7 H08 D8 H09 D9 H11 D12 H13 D14 H15 D15 H16 D1 H17 D1 H18 D1 H18 D1 H18 D1 H18 D1 H18 D1 H18 D1 H19 D1 H19 D1 H19 D2 H03 D3 H04 D4 H05 D5 H06 D5 H06 D6 H07 D7 H08 D8 H09 D9 H09 D9 H09 D1 H18 D2 H18 D3 H18 D3 H18 D4 H18 D5 H18 D5 H18 D6 H19 D7 H18 D8 H18 D1 H18 D1 H18 D1 H18 D1 H18 D1 H18 D1 H18 D2 H18 D3 H18 D3 H18 D4 H18 D5 H18 D5 H18 D5 H18 D5 H18 D5 H18 D5 H18 D5 H18 D6 H18 D7 H18 D7 H18 D8 H18 D1 H1	put type" N01 Y0 N02 Y1 N03 Y2 N04 Y3 ttput type ttput type N01 Y0E	0 1 2 3	for for	"Positive or		rith ENB"	L	for "Po	ram		
x2 x4 Logic Diagram for "Positive out D1 H01	put type" N01 Y0 N02 Y1 N03 Y2 N04 Y3 ttput type ttput type N01 Y0E	0 1 2 3	for for	"Positive or		rith ENB"	L	for "Po	ram		
x4 Logic Diagram for "Positive out D0 H01 -	N01 Y0 N02 Y N03 Y N04 Y stput type N01 Y06 N02 Y11	0 1 2 3	for for	"Positive or				for "Po	ram		
Logic Diagram for "Positive out D0 H01	N01 Y0 N02 Y N03 Y N04 Y stput type N01 Y06 N02 Y11	0 1 2 3	for for	"Positive or				for "Po	ram		
for "Positive out D0 H01	N01 Y0 N02 Y N03 Y N04 Y stput type N01 Y06 N02 Y11	0 1 2 3	for for	"Positive or				for "Po	ram		
Dil Hil2	N03 Y: N04 Y: ttput type ttput type N01 Y0F	3			output v	with ENB"	L			output with	EN"
D12 H13	itput type N01 Y0E	;"			output v	with ENB"	L			output with	EN"
for "Negative ou Do Hill Hold Hold Hold Hold Hold Hold Hold Ho	N01 Y0E	3			output	with ENB"	L			output with	EN"
	N03 Y2E										
Da Da+1	Da+2	Da+3	3 A	В	Yn	YnB	7				
					-		-				
A X X B	X X	X X	0 1	0	A B	AB BB					
X X	C	X	0	1	C	СВ					
x x	Х	D	1	1	D	DB					
X:Irrelevant a=4*n(n=0 to 3)							_				

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow C$	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F551	D1 → Y1	(HH)	0.378	0.634	1.025	0.013	0.024	0.038	D1	1.0	Y1	21
		(LL)	0.389	0.756	1.475	0.011	0.017	0.028	D2	1.0	Y2	21
	D2 → Y1	(HH)	0.363	0.611	0.992	0.013	0.024	0.038	D3	1.0	Y3	21
	D0 1/4	(LL)	0.379	0.742	1.451	0.011	0.017	0.028	D4	1.0	Y4	21
	D3 → Y1	(HH) (LL)	0.375 0.378	0.625 0.740	1.009 1.441	0.013 0.011	0.024 0.017	0.038 0.028	D5 D6	1.0 1.0		
	D4 → Y1	(HH)	0.361	0.607	0.986	0.011	0.017	0.028	D7	1.0		
	D4 -> 11	(LL)	0.372	0.731	1.432	0.011	0.017	0.028	D8	1.0		
	D5 → Y2	(HH)	0.378	0.634	1.025	0.013	0.024	0.038	D9	1.0		
		(LL)	0.389	0.758	1.475	0.011	0.017	0.028	D10	1.0		
	D6 → Y2	(HH)	0.363	0.611	0.992	0.013	0.024	0.038	D11	1.0		
		(LL)	0.379	0.742	1.451	0.011	0.017	0.028	D12	1.0		
	D7 → Y2	(HH)	0.375	0.625	1.009	0.013	0.024	0.038	D13	1.0		
		(LL)	0.378	0.740	1.441	0.011	0.017	0.028	D14	1.0		
	D8 → Y2	(HH)	0.361 0.372	0.607 0.731	0.986 1.432	0.013 0.011	0.024 0.017	0.037 0.028	D15 D16	1.0 1.0		
	D9 → Y3	(LL) (HH)	0.372	0.731	1.049	0.011	0.017	0.028	A	2.0		
	D9 → 13	(LL)	0.398	0.772	1.505	0.013	0.024	0.038	В	1.0		
	D10 → Y3	(HH)	0.371	0.624	1.016	0.013	0.024	0.038				
		(LL)	0.387	0.757	1.483	0.011	0.018	0.028				
	D11 → Y3	(HH)	0.379	0.632	1.019	0.013	0.024	0.038				
		(LL)	0.381	0.745	1.454	0.011	0.017	0.028				
	D12 → Y3	(HH)	0.365	0.613	0.997	0.013	0.024	0.037				
		(LL)	0.375	0.738	1.445	0.011	0.017	0.028				
	D13 → Y4	(HH)	0.378	0.634	1.025	0.013	0.024	0.038				
	D14 → Y4	(LL) (HH)	0.389 0.363	0.758 0.611	1.475 0.992	0.011 0.013	0.017 0.024	0.028 0.038				
	D14 → 14	(LL)	0.380	0.742	1.451	0.013	0.024	0.038				
	D15 → Y4	(HH)	0.375	0.626	1.010	0.013	0.024	0.038				
	5.0 /	(LL)	0.378	0.738	1.441	0.011	0.017	0.028				
	D16 → Y4	(HH)	0.361	0.607	0.987	0.013	0.024	0.037				
		(LL)	0.372	0.732	1.432	0.011	0.017	0.028				
	A → Y1	(HH)	0.567	1.018	1.695	0.013	0.024	0.038				
		(HL)	0.520	0.996	1.799	0.011	0.017	0.028				
		(LH)	0.530 0.535	0.952 1.073	1.597 2.064	0.013 0.011	0.024 0.017	0.038 0.028				
	A → Y2	(LL) (HH)	0.567	1.073	1.695	0.011	0.017	0.028				
	A 7 12	(HL)	0.520	0.996	1.799	0.011	0.017	0.028				
		(LH)	0.530	0.952	1.597	0.013	0.024	0.038				
		(LL)	0.535	1.073	2.064	0.011	0.017	0.028				
	A → Y3	(HH)	0.571	1.032	1.718	0.013	0.024	0.038				
		(HL)	0.523	1.017	1.842	0.011	0.017	0.028				
		(LH)	0.535	0.970	1.625	0.013	0.024	0.038				
	,	(LL)	0.538 0.567	1.086 1.018	2.093 1.696	0.011 0.013	0.018 0.024	0.028 0.038				
	A → Y4	(HH) (HL)	0.520	0.996	1.799	0.013	0.024	0.038				
		(LH)	0.530	0.952	1.597	0.013	0.024	0.038				
		(LL)	0.535	1.073	2.064	0.011	0.017	0.028				
	B → Y1	(HH)	0.522	0.948	1.568	0.013	0.024	0.038				
		(HL)	0.454	0.825	1.418	0.010	0.017	0.028				
		(LH)	0.482	0.868	1.448	0.013	0.024	0.038				1
		(LL)	0.494	0.994	1.883	0.010	0.017	0.028				1
	B → Y2	(HH)	0.522	0.948	1.568	0.013	0.024	0.038				1
		(HL)	0.454	0.825	1.418	0.010	0.017	0.028				
		(LH)	0.482	0.868	1.448	0.013	0.024	0.038				
		(LL)	0.494	0.994	1.883	0.010	0.017	0.028		l	l	I

Divid			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1		In	put	Ou	tput
type		OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
1	B → Y3	(HH)	0.525	0.955	1.577	0.013	0.024	0.038				
1		(HL)	0.459 0.486	0.836	1.439 1.459	0.010 0.013	0.017 0.024	0.028 0.038				
		(LH) (LL)	0.496	0.875 0.998	1.894	0.013	0.024	0.038				
	B → Y4	(HH)	0.490	0.948	1.568	0.011	0.017	0.028				
]	(HL)	0.454	0.825	1.419	0.010	0.024	0.038				
		(LH)	0.482	0.868	1.448	0.013	0.024	0.038				
		(LL)	0.494	0.994	1.883	0.010	0.017	0.028				
F554	D1 → Y1	(HL)	0.432	0.753	1.255	0.009	0.015	0.024	D1	1.0	Y1	22
		(LH)	0.422	0.811	1.530	0.012	0.023	0.036	D2	1.0	Y2	22
1	D2 → Y1	(HL)	0.417	0.730	1.225	0.009	0.015	0.024	D3	1.0	Y3	22
1		(LH)	0.413	0.794	1.506	0.012	0.023	0.036	D4	1.0	Y4	22
1	D3 → Y1	(HL)	0.429	0.743	1.236	0.009	0.015	0.024	D5	1.0		
1		(LH)	0.411	0.791	1.497	0.012	0.023	0.036	D6	1.0		
1	D4 → Y1	(HL)	0.417	0.727	1.218	0.009	0.015	0.024	D7	1.0		
1	D5 1/0	(LH)	0.405 0.436	0.782 0.759	1.484 1.265	0.012 0.009	0.023 0.015	0.036 0.024	D8	1.0		
1	D5 → Y2	(HL) (LH)	0.436	0.759	1.547	0.009	0.013	0.024	D9 D10	1.0 1.0		
1	De . Va	(LIT) (HL)	0.423	0.735	1.237	0.012	0.023	0.036	D10	1.0		
1	D6 → Y2	(LH)	0.416	0.800	1.523	0.012	0.013	0.024	D12	1.0		
1	D7 → Y2	(HL)	0.429	0.744	1.235	0.009	0.015	0.024	D13	1.0		
	5, ,	(LH)	0.411	0.791	1.498	0.012	0.023	0.036	D14	1.0		
	D8 → Y2	(HL)	0.417	0.726	1.218	0.009	0.015	0.024	D15	1.0		
		(LH)	0.405	0.782	1.485	0.012	0.023	0.036	D16	1.0		
	D9 → Y3	(HL)	0.436	0.759	1.265	0.009	0.015	0.024	A	2.0		
		(LH)	0.425	0.818	1.547	0.012	0.023	0.036	В	1.0		
1	D10 → Y3	(HL)	0.421	0.735	1.237	0.009	0.015	0.024				
1		(LH)	0.416	0.800	1.523	0.012	0.023	0.036				
	D11 → Y3	(HL)	0.429	0.744	1.235	0.009	0.015	0.024				
	D40 V0	(LH)	0.411 0.417	0.791 0.726	1.498 1.218	0.012 0.009	0.023 0.015	0.036 0.024				
	D12 → Y3	(HL) (LH)	0.417	0.726	1.485	0.009	0.013	0.024				
	D13 → Y4	(HL)	0.432	0.753	1.255	0.009	0.025	0.030				
	510 7 17	(LH)	0.422	0.811	1.530	0.012	0.023	0.036				
1	D14 → Y4	(HL)	0.417	0.730	1.225	0.009	0.015	0.024				
1		(LH)	0.413	0.794	1.506	0.012	0.023	0.036				
1	D15 → Y4	(HL)	0.429	0.743	1.236	0.009	0.015	0.024				
1		(LH)	0.411	0.791	1.497	0.012	0.023	0.036				
1	D16 → Y4	(HL)	0.417	0.727	1.218	0.009	0.015	0.024				
1		(LH)	0.405	0.782	1.484	0.012	0.023	0.036				
1	A → Y1	(HH)	0.551	1.030	1.829	0.012	0.023	0.036				
1		(HL)	0.628	1.148	1.945	0.009	0.015	0.024		1	1	
1		(LH) (LL)	0.577 0.581	1.139 1.070	2.146 1.825	0.012 0.009	0.023 0.015	0.036 0.024				
1	A	(LL) (HH)	0.551	1.070	1.825	0.009	0.015	0.024				
	A → Y2	(HL)	0.628	1.153	1.954	0.012	0.023	0.036				
1		(LH)	0.576	1.144	2.160	0.009	0.013	0.024		1	1	
1		(LL)	0.581	1.078	1.838	0.009	0.015	0.024		1	1	
1	A → Y3	(HH)	0.551	1.041	1.853	0.012	0.023	0.036		1	1	
1		(HL)	0.628	1.153	1.954	0.009	0.015	0.024				
1		(LH)	0.576	1.144	2.160	0.012	0.023	0.036				
1		(LL)	0.581	1.078	1.838	0.009	0.015	0.024		1	1	
	A → Y4	(HH)	0.551	1.030	1.829	0.012	0.023	0.036				
1		(HL)	0.628	1.148	1.945	0.009	0.015	0.024		1	1	
1		(LH)	0.577	1.139	2.146	0.012	0.023	0.036				
		(LL)	0.581	1.070	1.825	0.009	0.015	0.024				

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t ı	D0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	B → Y1	(HH)	0.468	0.830	1.405	0.012	0.023	0.036				
		(HL)	0.586	1.082	1.828	0.009	0.015	0.024				
		(LH)	0.544	1.074	1.978	0.012	0.023	0.036				
		(LL)	0.528	0.972	1.655	0.009	0.015	0.024				
	B → Y2	(HH)	0.469	0.831	1.408	0.012	0.023	0.036				
		(HL)	0.586	1.081	1.826	0.009	0.015	0.024				
		(LH)	0.544	1.073	1.977	0.012	0.023	0.036				
		(LL)	0.527	0.971	1.653	0.009	0.015	0.024				
	B → Y3	(HH)	0.469	0.831	1.408	0.012	0.023	0.036				
		(HL)	0.586	1.081	1.826	0.009	0.015	0.024				
		(LH)	0.544	1.073	1.977	0.012	0.023	0.036				
		(LL)	0.527	0.971	1.653	0.009	0.015	0.024				
	B → Y4	(HH)	0.468	0.830	1.405	0.012	0.023	0.036				
		(HL)	0.586	1.082	1.828	0.009	0.015	0.024				
		(LH)	0.544	1.074	1.978	0.012	0.023	0.036				
		(LL)	0.528	0.972	1.655	0.009	0.015	0.024				

6 - 306 6 - 307

Function	8 T) 1 M	ULTIPLI	EXER					S	SSI Fa	mily	
Block type		Р	ositive o	utput ty	ре			Ne	egative out	tput ty	ре	
Blook type	Norma	al	with	ENB	with E	N	Norm	al	with Ef	NB	with E	N
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power												
x1	F563	17	F569	18			F579	17				
x2												
x4												
Logic Diagra for "Pos D0 H01 — D1 H02 — D2 H03 — D3 H04 — D5 H06 — D6 H07 — D7 H08 — A H09 — B H10 — C H11 —	itive output	type"	I I I I I	Logic D for 00 H01 01 H02 02 H03 03 H04 04 H05 05 H06 06 H07 07 H08 08 H10 C H11 IB H12	iagram "Positive o		vith ENB"	L	ogic Diagra for "Pos		utput with	EN"
Logic Diagra for "Nec DO Hol D1 H02 D2 H03 D4 H05 D5 H06 D6 H07 D7 H08 A H09 B H10 C H11	gative outpu	ot type		Logic D for	iagram "Negative (output	with ENB"	L	ogic Diagra for "Neç		output with	EN"
Truth Table								·				
D0 D1	D2	D3	D4	D5	D6 [)7	A B	(C ENB	Υ	YB	
х х	Х	Х	Х	Х	X	X	х х		K 1	0	1	
A X	Х	Х	Х	Х		X	0 0	(0 0	Α	AB	
Х В	Х	Х	Χ	Х		X	1 0		0	В	BB	
X X	С	X	Х	X		X	0 1		0	С	СВ	
X X	X	D	X	X		X	1 1		0	D	DB	
X X	X	X	E	X		X	0 0		1 0	E	EB	
X X X	X X	X X	X X	F X		X X	1 0 0 1		1 0 1 0	F G	FB GB	
x x x x	X	X	X	X		x H	1 1		1 0 1 0	H	HB	
X:Irrelevant									-			

- I			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F563	D0 \rightarrow Y	(HH)	0.510	0.900	1.518	0.012	0.023	0.037	D0	1.0	Y	22
	- · · ·	(LL)	0.544	1.067	1.986	0.009	0.015	0.024	D1	1.0		
	D1 → Y	(HH) (LL)	0.496 0.535	0.881 1.050	1.489 1.956	0.012 0.009	0.023 0.015	0.037 0.024	D2 D3	1.0 1.0		
	D2 → Y	(LL)	0.506	0.894	1.503	0.009	0.013	0.024	D3	1.0		
	D2 → 1	(LL)	0.532	1.047	1.949	0.009	0.025	0.024	D5	1.0		
	D3 → Y	(HH)	0.495	0.878	1.482	0.012	0.023	0.037	D6	1.0		
	20 / .	(LL)	0.527	1.037	1.942	0.009	0.015	0.024	D7	1.0		
	D4 → Y	(HH)	0.515	0.913	1.530	0.012	0.023	0.037	Α	1.0		
		(LL)	0.533	1.045	1.944	0.009	0.015	0.024	В	1.0		
	D5 \rightarrow Y	(HH)	0.501	0.893	1.502	0.012	0.023	0.037	С	1.0		
		(LL)	0.524	1.031	1.917	0.009	0.015	0.024				
	D6 → Y	(HH)	0.511	0.904	1.512	0.012	0.023	0.037				
		(LL)	0.521	1.024	1.905	0.009	0.015	0.024				
	D7 → Y	(HH)	0.499	0.888	1.491	0.012	0.023	0.037				
	A V	(LL) (HH)	0.515 0.693	1.016 1.296	1.890 2.202	0.009 0.012	0.015 0.023	0.024 0.037				
	$A \rightarrow Y$	(HL)	0.653	1.293	2.302	0.009	0.023	0.037				
		(LH)	0.665	1.236	2.109	0.012	0.013	0.024				
		(LL)	0.694	1.423	2.651	0.009	0.015	0.024				
	$B \ \to Y$	(HH)	0.562	1.050	1.749	0.012	0.023	0.037				
		(HL)	0.514	0.999	1.723	0.009	0.015	0.024				
		(LH)	0.533	0.983	1.651	0.012	0.023	0.037				
		(LL)	0.555	1.123	2.042	0.009	0.015	0.024				
	$C \ \to \ Y$	(HH)	0.337	0.607	1.011	0.012	0.023	0.037				
		(HL)	0.392	0.721	1.220	0.009	0.015	0.024				
		(LH)	0.417	0.764	1.289	0.012	0.023	0.037				
F500	D0 1/	(LL)	0.359	0.659	1.123	0.009	0.015	0.024	D0	1.0	Y	22
F569	D0 → Y	(HH) (LL)	0.634 0.601	1.167 1.167	2.000 2.172	0.013 0.009	0.023 0.015	0.037 0.024	D0	1.0	1	22
	D1 → Y	(HH)	0.647	1.186	2.026	0.003	0.013	0.024	D2	1.0		
	D1 → 1	(LL)	0.608	1.175	2.188	0.009	0.015	0.024	D3	1.0		
	D2 → Y	(HH)	0.648	1.186	2.029	0.013	0.023	0.037	D4	1.0		
		(LL)	0.613	1.187	2.213	0.009	0.015	0.024	D5	1.0		
	D3 → Y	(HH)	0.664	1.207	2.060	0.013	0.023	0.037	D6	1.0		
		(LL)	0.621	1.202	2.232	0.009	0.015	0.024	D7	1.0		
	D4 \rightarrow Y	(HH)	0.609	1.123	1.920	0.013	0.023	0.037	Α	1.0		
		(LL)	0.582	1.125	2.087	0.009	0.015	0.024	В	1.0		
	D5 → Y	(HH)	0.625	1.141	1.953	0.013	0.023	0.037	C	1.0		
	DC V	(LL)	0.591 0.598	1.137 1.104	2.104 1.898	0.009 0.013	0.015 0.023	0.024 0.037	ENB	1.0		
	D6 → Y	(HH) (LL)	0.598	1.104	2.042	0.013	0.023	0.037				
	D7 → Y	(HH)	0.610	1.120	1.921	0.003	0.013	0.024				
	D, 71	(LL)	0.573	1.108	2.057	0.009	0.015	0.024				
	$A \ \to Y$	(HH)	0.851	1.592	2.736	0.013	0.023	0.037				
		(HL)	0.747	1.419	2.524	0.009	0.015	0.024				
		(LH)	0.793	1.489	2.588	0.013	0.023	0.037				
		(LL)	0.782	1.542	2.877	0.009	0.015	0.024				
	$B \ \to Y$	(HH)	0.701	1.313	2.236	0.013	0.023	0.037				
		(HL)	0.606	1.145	1.985	0.009	0.015	0.024				
		(LH)	0.670	1.248	2.150	0.013	0.023	0.037				
		(LL)	0.634	1.242	2.276	0.009	0.015	0.024				
	$C \rightarrow Y$	(HH) (HL)	0.373 0.381	0.707 0.705	1.190 1.169	0.013 0.009	0.023 0.015	0.037 0.024				
		(HL) (LH)	0.402	0.765	1.355	0.009	0.013	0.024				
		(LL)	0.380	0.763	1.143	0.009	0.023	0.037				
		(LL)	0.000	0.004	1.140	0.000	0.010	0.024	ı		ı	

			Swite	ching sp	eed							
Block	Path		t ı	D0 (ns)			t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	ENB → Y	(HL)	0.241	0.440	0.726	0.009	0.015	0.024				
		(LH)	0.249	0.445	0.738	0.013	0.023	0.037				
F579	D1 → Y	(HL)	0.452	0.794	1.331	0.012	0.022	0.039	D1	1.0	Y	21
l		(LH)	0.485	0.951	1.768	0.012	0.023	0.036	D2	1.0		
l	D2 → Y	(HL)	0.438	0.774	1.301	0.012	0.022	0.039	D3	1.0		
l		(LH)	0.475	0.936	1.739	0.012	0.023	0.036	D4	1.0		
l	D3 → Y	(HL)	0.448	0.785	1.315	0.012	0.022	0.039	D5	1.0		
l		(LH)	0.472	0.929	1.730	0.012	0.023	0.036	D6	1.0		
l	D4 → Y	(HL)	0.437	0.769	1.290	0.012	0.022	0.039	D7	1.0		
l		(LH)	0.466	0.919	1.712	0.012	0.023	0.036	D8	1.0		
l	D5 → Y	(HL)	0.455	0.803	1.344	0.012	0.022	0.039	Α	1.0		
l		(LH)	0.490	0.962	1.780	0.012	0.023	0.036	В	1.0		
l	D6 → Y	(HL)	0.442	0.782	1.314	0.012	0.022	0.039	С	1.0		
l		(LH)	0.481	0.945	1.753	0.012	0.023	0.036				
l	D7 → Y	(HL)	0.452	0.794	1.330	0.012	0.022	0.039				
l		(LH)	0.478	0.940	1.741	0.012	0.023	0.036				
l	D8 → Y	(HL)	0.440	0.777	1.306	0.012	0.022	0.039				
l		(LH)	0.471	0.932	1.727	0.012	0.023	0.036				
l	$A \rightarrow Y$	(HH)	0.605	1.184	2.095	0.012	0.023	0.036				
l		(HL)	0.634	1.185	2.015	0.012	0.022	0.039				
l		(LH)	0.645	1.318	2.447	0.012	0.023	0.036				
l		(LL)	0.606	1.126	1.924	0.012	0.022	0.039				
l	$B \rightarrow Y$	(HH)	0.467	0.880	1.509	0.012	0.023	0.036				
l		(HL)	0.504	0.938	1.563	0.012	0.022	0.039				
l		(LH)	0.505	1.014	1.841	0.012	0.023	0.036				
I		(LL)	0.475	0.875	1.467	0.012	0.022	0.039				
I	$C \rightarrow Y$	(HH)	0.337	0.611	1.021	0.012	0.023	0.036				
I		(HL)	0.272	0.487	0.807	0.012	0.022	0.039				
I		(LH)	0.289	0.519	0.871	0.012	0.023	0.036				
		(LL)	0.350	0.640	1.085	0.012	0.022	0.039				

[MEMO]

Function													
Direction Dire	Function	QU	AD 8	TO 1 MUL	TIPLE	EXER					SSI Fa	mily	
Normal	Block type		Р	ositive out	put ty	ре			N	egative ou	tput ty	ре	
Logic Diagram Logic Diagram For "with ENB" Logic Diagram	Blook type	Norma	al	with El	NΒ	with E	N	Norma	al	with E	NB	with	EN
X1	Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
X2	Low Power												
Logic Diagram For "Normal type" Logic Diagram For "with ENB" Logic Diagram For "with EN	x1	F550	64										
Logic Diagram for "Normal type"	x2												
for "Normal type" for "with ENB" for "with ENB" for "with EN" hall "Language and "with En" for "with EN" hall "Language and "with En" for "with EN" hall "Language and "with En" for "with EN" hall "Language and "with En" hall "Language and "with En" hall "Language and "with En" hall "Language and "with En"	x4												
X X X X X X G X 0 1 1 G GB X X X X X X X X H 1 1 1 H HB X:Irrelevant	Logic Diagra	Da+1 Da+2 X X X B X X C X X X	• N02 Y • N03 Y • N04 Y • N04 Y	70	Da+t	5 Da+6 X X X	Da+7 X X X X	0 1 0	B 0 0 1 1 1	C Y: 0 A 0 E 0 C	h EN"	3 3 3 3	
X X X X X X X H 1 1 1 H HB X:Irrelevant													
X:Irrelevant													
	X:Irrelevant		,	- **						. , '			

5			Swite	ching sp	eed							
Block	Path		t	LD0 (ns)			t 1		In	put	Ou	tput
type	IN o	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F550	D1 → Y1	(HH)	0.495	0.875	1.472	0.012	0.023	0.037	D1	1.0	Y1	22
		(LL)	0.534	1.045	1.936	0.009	0.015	0.024	D2	1.0	Y2	22
	D2 → Y1	(HH) (LL)	0.482 0.525	0.857 1.029	1.443 1.914	0.012 0.009	0.023 0.015	0.037 0.024	D3 D4	1.0 1.0	Y3 Y4	22 22
	D3 → Y1	(LL) (HH)	0.525	0.866	1.455	0.009	0.013	0.024	D5	1.0	14	22
	03 → 11	(LL)	0.522	1.025	1.897	0.009	0.025	0.037	D6	1.0		
	D4 → Y1	(HH)	0.481	0.852	1.434	0.012	0.023	0.037	D7	1.0		
		(LL)	0.517	1.018	1.883	0.009	0.015	0.024	D8	1.0		
	D5 → Y1	(HH)	0.502	0.891	1.486	0.012	0.023	0.037	D9	1.0		
		(LL)	0.523	1.025	1.901	0.009	0.015	0.024	D10	1.0		
	D6 → Y1	(HH)	0.489	0.871	1.459	0.012	0.023	0.037	D11	1.1		
		(LL)	0.514	1.009	1.878	0.009	0.015	0.024	D12	1.0		
	D7 → Y1	(HH)	0.498 0.511	0.881 1.004	1.470 1.861	0.012 0.009	0.023 0.015	0.037 0.024	D13 D14	1.0 1.0		
	D8 → Y1	(LL) (HH)	0.487	0.867	1.449	0.009	0.013	0.024	D14	1.0		
	00 → 11	(LL)	0.506	0.997	1.847	0.009	0.025	0.024	D16	1.0		
	D9 → Y2	(HH)	0.495	0.875	1.472	0.012	0.023	0.037	D17	1.1		
		(LL)	0.534	1.046	1.936	0.009	0.015	0.024	D18	1.0		
	D10 → Y2	(HH)	0.482	0.857	1.443	0.012	0.023	0.037	D19	1.0		
		(LL)	0.524	1.029	1.913	0.009	0.015	0.024	D20	1.0		
	D11 → Y2	(HH)	0.491	0.866	1.455	0.012	0.023	0.037	D21	1.1		
		(LL)	0.522	1.025	1.900	0.009	0.015	0.024	D22	1.0		
	D12 → Y2	(HH)	0.481	0.852	1.434	0.012	0.023	0.037	D23	1.0		
	D40 V0	(LL) (HH)	0.517 0.502	1.018 0.890	1.883 1.486	0.009 0.012	0.015 0.023	0.024 0.037	D24 D25	1.1 1.1		
	D13 → Y2	(LL)	0.523	1.025	1.901	0.012	0.023	0.037	D25	1.0		
	D14 → Y2	(HH)	0.489	0.871	1.459	0.012	0.023	0.037	D27	1.0		
		(LL)	0.514	1.009	1.878	0.009	0.015	0.024	D28	1.0		
	D15 → Y2	(HH)	0.498	0.881	1.470	0.012	0.023	0.037	D29	1.1		
		(LL)	0.511	1.004	1.862	0.009	0.015	0.024	D30	1.0		
	D16 → Y2	(HH)	0.487	0.867	1.449	0.012	0.023	0.037	D31	1.0		
	·	(LL)	0.506	0.997	1.847	0.009	0.015	0.024	D32	1.0		
	D17 → Y3	(HH) (LL)	0.513 0.523	0.902 1.029	1.503 1.907	0.012 0.009	0.023 0.015	0.037 0.024	A B	4.1 2.0		
	D18 → Y3	(HH)	0.501	0.886	1.481	0.012	0.013	0.024	C	2.0		
	010 → 13	(LL)	0.518	1.018	1.894	0.009	0.015	0.024		2.0		
	D19 → Y3	(HH)	0.502	0.894	1.494	0.012	0.023	0.037				
		(LL)	0.525	1.030	1.924	0.009	0.015	0.024				
	$D20 \ \rightarrow \ Y3$	(HH)	0.488	0.872	1.466	0.012	0.023	0.037				
		(LL)	0.516	1.019	1.895	0.009	0.015	0.024				
	D21 → Y3	(HH)	0.510	0.893	1.499	0.012	0.023	0.037 0.024				
	D22 → Y3	(LL) (HH)	0.537 0.499	1.056 0.879	1.963 1.478	0.009 0.012	0.015 0.023	0.024				
	D22 → 13	(LL)	0.532	1.046	1.949	0.009	0.025	0.024				
	D23 → Y3	(HH)	0.495	0.876	1.476	0.012	0.023	0.037				
		(LL)	0.534	1.048	1.956	0.009	0.015	0.024				
	D24 \rightarrow Y3	(HH)	0.481	0.856	1.448	0.012	0.023	0.037				
		(LL)	0.526	1.036	1.927	0.009	0.015	0.024				
	D25 → Y4	(HH)	0.513	0.902	1.503	0.012	0.023	0.037				
	D00 3/4	(LL)	0.523	1.029	1.907	0.009	0.015	0.024				
	D26 → Y4	(HH) (LL)	0.501 0.518	0.886 1.018	1.481 1.894	0.012 0.009	0.023 0.015	0.037 0.024				
	D27 → Y4	(LL) (HH)	0.516	0.894	1.494	0.009	0.013	0.024				
	D2 14	(LL)	0.524	1.030	1.925	0.009	0.025	0.024				
	D28 → Y4	(HH)	0.488	0.872	1.466	0.012	0.023	0.037				
		(LL)	0.516	1.019	1.895	0.009	0.015	0.024				

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1		l In	put	Ou	itput
type	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	D29 → Y4	(HH)	0.509	0.892	1.498	0.012	0.023	0.037				
		(LL)	0.537	1.053	1.959	0.009	0.015	0.024				
	D30 → Y4	(HH)	0.498	0.876	1.476	0.012	0.023	0.037				
	D04)/4	(LL)	0.531 0.494	1.047	1.942 1.474	0.009	0.015 0.023	0.024 0.037				
	D31 → Y4	(HH) (LL)	0.494	0.876 1.046	1.474	0.012 0.009	0.023	0.037				
	D32 → Y4	(HH)	0.334	0.856	1.447	0.009	0.013	0.024				
	D32 -> 14	(LL)	0.525	1.036	1.924	0.009	0.015	0.024				
	$A \rightarrow Y1$	(HH)	0.683	1.271	2.148	0.012	0.023	0.037				
		(HL)	0.640	1.257	2.228	0.009	0.015	0.024				
		(LH)	0.638	1.192	2.036	0.012	0.023	0.037				
		(LL)	0.674	1.369	2.549	0.009	0.015	0.024				
	$A \ \rightarrow \ Y2$	(HH)	0.683	1.271	2.148	0.012	0.023	0.037				
		(HL)	0.640	1.257	2.228	0.009	0.015	0.024				
		(LH)	0.638	1.192	2.036	0.012	0.023	0.037				
	A → Y3	(LL) (HH)	0.674 0.688	1.369 1.281	2.549 2.164	0.009 0.012	0.015 0.023	0.024 0.037				
	A → Y3	(HL)	0.657	1.280	2.104	0.009	0.023	0.037				
		(LH)	0.647	1.206	2.060	0.012	0.023	0.037				
		(LL)	0.683	1.382	2.577	0.009	0.015	0.024				
	$A \rightarrow Y4$	(HH)	0.688	1.281	2.164	0.012	0.023	0.037				
		(HL)	0.657	1.277	2.268	0.009	0.015	0.024				
		(LH)	0.646	1.206	2.059	0.012	0.023	0.037				
		(LL)	0.683	1.381	2.573	0.009	0.015	0.024				
	$B \rightarrow Y1$	(HH)	0.649	1.195	2.003	0.012	0.023	0.037				
		(HL)	0.564	1.050	1.788	0.009	0.015	0.024				
		(LH)	0.572	1.073	1.823	0.012	0.023	0.037				
	D V0	(LL) (HH)	0.632 0.649	1.275 1.195	2.309 2.003	0.009 0.012	0.015 0.023	0.024 0.037				
	B → Y2	(HL)	0.564	1.050	1.788	0.009	0.023	0.037				
		(LH)	0.572	1.073	1.823	0.012	0.023	0.037				
		(LL)	0.632	1.275	2.309	0.009	0.015	0.024				
	B → Y3	(HH)	0.647	1.192	1.997	0.012	0.023	0.037				
		(HL)	0.560	1.039	1.774	0.009	0.015	0.024				
		(LH)	0.572	1.073	1.823	0.012	0.023	0.037				
		(LL)	0.633	1.274	2.308	0.009	0.015	0.024				
	B → Y4	(HH)	0.647	1.192	1.997	0.012	0.023	0.037				
		(HL)	0.560	1.040	1.774	0.009	0.015	0.024				
		(LH)	0.572 0.633	1.073 1.274	1.823 2.308	0.012	0.023 0.015	0.037 0.024				
	C → Y1	(LL) (HH)	0.033	0.674	1.107	0.009	0.013	0.024				
	U → F1	(HL)	0.387	0.875	1.472	0.012	0.023	0.037				
		(LH)	0.506	0.927	1.566	0.012	0.013	0.024				
		(LL)	0.400	0.738	1.261	0.009	0.015	0.024				
	$C \rightarrow Y2$	(HH)	0.387	0.674	1.107	0.012	0.023	0.037				1
		(HL)	0.490	0.875	1.472	0.009	0.015	0.024				1
		(LH)	0.506	0.927	1.566	0.012	0.023	0.037				
		(LL)	0.400	0.738	1.261	0.009	0.015	0.024				
	$C \rightarrow Y3$	(HH)	0.394	0.689	1.121	0.012	0.023	0.037				
		(HL)	0.501	0.899	1.512	0.009	0.015	0.024				
		(LH)	0.500	0.914	1.556	0.012	0.023	0.037				
	C → Y4	(LL) (HH)	0.389 0.394	0.714 0.689	1.222 1.121	0.009 0.012	0.015 0.023	0.024 0.037				
	0 → 14	(HL)	0.594	0.899	1.512	0.012	0.023	0.037				1
		(LH)	0.500	0.914	1.556	0.012	0.023	0.037				
		(LL)	0.389	0.714	1.222	0.009	0.015	0.024				
		,,										

[MEMO]

Function	QU	AD 8	TO 1 MUL	TIPLE	EXER					SSI Fa	mily	
Block type		Р	ositive out	put ty	ре			Ne	egative or	itput ty	ре	
	Norma		with Ef		with E	$\overline{}$	Norm		with E	_	with E	
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power												
x1							F553	64				
x2												
x4												
D0 H01 D1 H02 D2 H03 D3 H04 D4 H05 D5 H06 D5 H06 D6 H07 D7 H08 D8 H09 D9 H10 D11 H12 D12 H13 D15 H16 D16 H17 D15 H16 D17 H18 D19 H20 D20 H21 D21 H22 D22 H23 D24 H25 D25 H26 D26 H27 D27 H28 D28 H29 D29 H30 D30 H31 D4 H35 C H35 Truth Table	Da+1 Da+2 X X	Х	+3 Da+4 X	Da+t	Х	Da+7	A 0 0	B 0	C N	th EN"	В	
X X	B X X C	×		X	X X	X X	1 0	0 1		B BI		
x	х х		x	Х	х	Х	1	1	0	D DI	в	
X	X X	×		X	X	X	0	0		E EI F FI	I .	
X X	X X X	×		F X	X G	X X	1 0	0 1		F FI G GI		
×	x x	×		X	x	Н	1	1		H HI	I .	
X:Irrelevant a=8*n(n=0 to	3)								,			

Б			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type		DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F553	D1 → Y1	(HL)	0.440 0.477	0.773	1.293	0.012 0.012	0.022 0.023	0.039 0.036	D1	1.0	Y1	21
	D2 → Y1	(LH) (HL)	0.477	0.937 0.753	1.727 1.264	0.012	0.023	0.039	D2 D3	1.0 1.1	Y2 Y3	21 21
	D2 → 11	(LH)	0.468	0.920	1.704	0.012	0.023	0.036	D4	1.0	Y4	21
	D3 → Y1	(HL)	0.436	0.764	1.277	0.012	0.022	0.039	D5	1.0	''	
		(LH)	0.465	0.914	1.690	0.012	0.023	0.036	D6	1.0		
	D4 → Y1	(HL)	0.424	0.749	1.258	0.012	0.022	0.039	D7	1.0		
		(LH)	0.459	0.908	1.676	0.012	0.023	0.036	D8	1.0		
	D5 → Y1	(HL)	0.437	0.767	1.282	0.012	0.022	0.039	D9	1.0		
		(LH)	0.473	0.928	1.715	0.012	0.023	0.036	D10	1.0		
	D6 → Y1	(HL) (LH)	0.422 0.464	0.746 0.911	1.254 1.691	0.012 0.012	0.022 0.023	0.039 0.036	D11 D12	1.1 1.0		
	D7 → Y1	(HL)	0.434	0.756	1.264	0.012	0.023	0.030	D12	1.0		
		(LH)	0.461	0.906	1.675	0.012	0.023	0.036	D14	1.0		
	D8 → Y1	(HL)	0.422	0.741	1.243	0.012	0.022	0.039	D15	1.0		
		(LH)	0.455	0.897	1.662	0.012	0.023	0.036	D16	1.0		
	D9 → Y2	(HL)	0.436	0.766	1.281	0.012	0.022	0.039	D17	1.1		
		(LH)	0.473	0.929	1.714	0.012	0.023	0.036	D18	1.0		
	D10 → Y2	(HL)	0.422	0.747	1.251	0.012	0.022	0.039	D19	1.0		
	D44 1/0	(LH)	0.464	0.912	1.691	0.012	0.023	0.036	D20	1.0		
	D11 → Y2	(HL) (LH)	0.433 0.461	0.756 0.907	1.263 1.678	0.012 0.012	0.022 0.023	0.039 0.036	D21 D22	1.1 1.0		
	D12 → Y2	(HL)	0.421	0.742	1.242	0.012	0.023	0.030	D23	1.0		
	D12 -> 12	(LH)	0.455	0.900	1.662	0.012	0.023	0.036	D24	1.0		
	D13 → Y2	(HL)	0.441	0.774	1.296	0.012	0.022	0.039	D25	1.1		
		(LH)	0.477	0.937	1.729	0.012	0.023	0.036	D26	1.0		
	D14 → Y2	(HL)	0.427	0.755	1.266	0.012	0.022	0.039	D27	1.0		
		(LH)	0.468	0.920	1.706	0.012	0.023	0.036	D28	1.0		
	D15 → Y2	(HL)	0.438 0.466	0.765 0.915	1.278 1.689	0.012 0.012	0.022 0.023	0.039 0.036	D29 D30	1.0 1.0		
	D16 → Y2	(LH) (HL)	0.426	0.750	1.257	0.012	0.023	0.039	D30	1.0		
	D10 - 12	(LH)	0.460	0.909	1.677	0.012	0.023	0.036	D32	1.1		
	D17 → Y3	(HL)	0.451	0.785	1.312	0.012	0.022	0.039	Α	4.1		
		(LH)	0.477	0.938	1.735	0.012	0.023	0.036	В	2.0		
	D18 → Y3	(HL)	0.439	0.769	1.287	0.012	0.022	0.039	С	2.0		
		(LH)	0.472	0.929	1.719	0.012	0.023	0.036				
	D19 → Y3	(HL)	0.440	0.776	1.299	0.012	0.022	0.039				
	D20 → Y3	(LH) (HL)	0.479 0.426	0.942 0.755	1.752 1.272	0.012 0.012	0.023 0.022	0.036 0.039				
	D20 → 13	(LH)	0.420	0.929	1.722	0.012	0.022	0.036				
	D21 → Y3	(HL)	0.452	0.785	1.309	0.012	0.022	0.039				
		(LH)	0.478	0.940	1.742	0.012	0.023	0.036				
	D22 → Y3	(HL)	0.441	0.768	1.287	0.012	0.022	0.039				
		(LH)	0.472	0.931	1.728	0.012	0.023	0.036				
	D23 → Y3	(HL)	0.438	0.769	1.290	0.012	0.022	0.039				
	DO4 VO	(LH)	0.475 0.423	0.937 0.748	1.742	0.012	0.023 0.022	0.036				
	D24 → Y3	(HL) (LH)	0.423	0.748	1.264 1.713	0.012 0.012	0.022	0.039 0.036				
	D25 → Y4	(HL)	0.452	0.786	1.313	0.012	0.023	0.039				
	220 / 14	(LH)	0.478	0.939	1.737	0.012	0.023	0.036				
	D26 → Y4	(HL)	0.440	0.770	1.290	0.012	0.022	0.039				
		(LH)	0.472	0.930	1.721	0.012	0.023	0.036				
	D27 → Y4	(HL)	0.441	0.776	1.301	0.012	0.022	0.039				
	D00 1/1	(LH)	0.480	0.943	1.754	0.012	0.023	0.036				
	D28 → Y4	(HL)	0.427	0.756	1.276	0.012	0.022	0.039				
		(LH)	0.471	0.930	1.724	0.012	0.023	0.036	l		L	

			Swite	ching sp	eed							
Block	Path			LD0 (ns)			t 1		In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	D29 → Y4	(HL)	0.451	0.784	1.308	0.012	0.022	0.039	,		,	
		(LH)	0.477	0.938	1.738	0.012	0.023	0.036				
	D30 → Y4	(HL)	0.438	0.768	1.286	0.012	0.022	0.039				
		(LH)	0.471	0.930	1.723	0.012	0.023	0.036				
	D31 → Y4	(HL)	0.435	0.765	1.283	0.012	0.022	0.039				
		(LH)	0.473	0.932	1.732	0.012	0.023	0.036				
	D32 → Y4	(HL) (LH)	0.420 0.465	0.745 0.919	1.257 1.704	0.012 0.012	0.022 0.023	0.039 0.036				
	$A \rightarrow Y1$	(HH)	0.590	1.148	2.018	0.012	0.023	0.036				
	7 7 11	(HL)	0.625	1.154	1.955	0.012	0.022	0.039				
		(LH)	0.624	1.261	2.343	0.012	0.023	0.036				
		(LL)	0.581	1.077	1.846	0.012	0.022	0.039				
	$A \rightarrow Y2$	(HH)	0.590	1.149	2.019	0.012	0.023	0.036				
		(HL)	0.624	1.155	1.956	0.012	0.022	0.039				
		(LH)	0.624	1.262	2.343	0.012	0.023	0.036				
		(LL)	0.580	1.078	1.847	0.012	0.022	0.039				
	A → Y3	(HH)	0.609	1.166	2.055	0.012	0.023	0.036				
		(HL)	0.631 0.634	1.165 1.267	1.974 2.361	0.012 0.012	0.022 0.023	0.039 0.036				
		(LH) (LL)	0.592	1.095	1.874	0.012	0.023	0.039				
	A → Y4	(HH)	0.606	1.164	2.052	0.012	0.022	0.036				
	A 7 14	(HL)	0.629	1.165	1.973	0.012	0.022	0.039				
		(LH)	0.633	1.267	2.362	0.012	0.023	0.036				
		(LL)	0.589	1.093	1.871	0.012	0.022	0.039				
	B → Y1	(HH)	0.511	0.929	1.571	0.012	0.023	0.036				
		(HL)	0.590	1.078	1.810	0.012	0.022	0.039				
		(LH)	0.582	1.159	2.096	0.012	0.023	0.036				
		(LL)	0.513	0.957	1.627	0.012	0.022	0.039				
	B → Y2		0.511	0.929	1.573	0.012	0.023	0.036				
		(HL)	0.590 0.582	1.079 1.160	1.810 2.098	0.012 0.012	0.022 0.023	0.039				
		(LH) (LL)	0.562	0.958	1.629	0.012	0.023	0.036 0.039				
	B → Y3	(HH)	0.506	0.919	1.556	0.012	0.022	0.036				
] 5 7 10	(HL)	0.587	1.074	1.805	0.012	0.022	0.039				
		(LH)	0.582	1.160	2.096	0.012	0.023	0.036				
		(LL)	0.513	0.958	1.629	0.012	0.022	0.039				
	B → Y4	(HH)	0.506	0.920	1.558	0.012	0.023	0.036				
		(HL)	0.587	1.075	1.807	0.012	0.022	0.039				
		(LH)	0.582	1.161	2.098	0.012	0.023	0.036				
		(LL)	0.513	0.959	1.630	0.012	0.022	0.039				
	C → Y1	(HH) (HL)	0.430 0.326	0.759 0.561	1.259 0.916	0.012 0.012	0.023 0.022	0.036 0.039				
		(HL)	0.326	0.603	1.022	0.012	0.022	0.039				
		(LL)	0.435	0.793	1.350	0.012	0.023	0.039				
	C → Y2	(HH)	0.434	0.765	1.270	0.012	0.023	0.036				
	0 7 12	(HL)	0.323	0.555	0.906	0.012	0.022	0.039				
		(LH)	0.329	0.597	1.011	0.012	0.023	0.036				
		(LL)	0.439	0.800	1.361	0.012	0.022	0.039				
	C → Y3	(HH)	0.430	0.759	1.258	0.012	0.023	0.036				
		(HL)	0.326	0.561	0.916	0.012	0.022	0.039		1		
		(LH)	0.332	0.603	1.022	0.012	0.023	0.036				
		(LL)	0.435	0.793	1.350	0.012	0.022	0.039				
	C → Y4	(HH)	0.430 0.326	0.759 0.562	1.258 0.918	0.012 0.012	0.023 0.022	0.036 0.039				
		(HL) (LH)	0.326	0.562	1.023	0.012	0.022	0.039		1		
		(LI I) (LL)	0.332	0.793	1.350	0.012	0.023	0.030				
		(LL)	U.430	0.793	1.350	0.012	0.022	0.039		<u> </u>		

[MEMO]

Function													
	2 TO 4 DECODER SSI Family												
Block type		Р	ositive ou	tput ty	pe			Ne	gative ou	put ty	ре		
	Norma		with E		with E		Norm		with El		with E		
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	
Low Power	L560	6					L561	6	L981	8			
x1	F560	10					F561	10	F981	13			
x2													
x4								\vdash					
A H01 ← B H02 ← Logic Diagra	am jative output	N01 N02 N03 N04	YO YI Y2 Y3 " YOB YIB Y2B	Logic D	iagram "Negative o	output			ogic Diagra	am	output with		
Truth Table	B ENB	Y) Y1	Y:	2 Y3	YOU	3 Y1B	Y2E	3 Y3B	1			
										1			
0 0		1		0		0	1	1	1				
0 1		0		0		1	0 1	1	1 1				
1 1		0		0		1	1	1	0				
_ ' ' '		0		0		1	1	1	1				
X X	٠	1 0	U			'	'			_			

- I			Switc	ching sp	eed							
Block	Path		tι	LD0 (ns)			t 1		l In	put	Ou	tput
type	IN → OI	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L560	A → Y0	(HL)	0.265	0.470	0.767	0.016	0.026	0.044	Α	1.0	Y0	5
		(LH)	0.290	0.521	0.870	0.043	0.088	0.147	В	1.0	Y1	5
	A → Y1	(HH)	0.191	0.324	0.496	0.043	0.088	0.147			Y2	5
		(LL)	0.201	0.349	0.578	0.017	0.027	0.044			Y3	5
	A → Y2	(HL) (LH)	0.265 0.290	0.470 0.521	0.768 0.870	0.016 0.043	0.026 0.088	0.044 0.147				
	A → Y3	(LH)	0.290	0.324	0.870	0.043	0.088	0.147				
	A → 13	(LL)	0.131	0.349	0.578	0.017	0.000	0.044				
	B → Y0	(HL)	0.279	0.492	0.802	0.016	0.026	0.044				
] ,,,	(LH)	0.301	0.551	0.928	0.043	0.087	0.146				
	B → Y1	(HL)	0.279	0.492	0.802	0.016	0.026	0.044				
		(LH)	0.301	0.551	0.929	0.043	0.087	0.146				
	$B \rightarrow Y2$	(HH)	0.197	0.346	0.537	0.043	0.088	0.146				
		(LL)	0.216	0.377	0.627	0.017	0.027	0.044				
	B → Y3	(HH)	0.197	0.346	0.537	0.043	0.088	0.146				
		(LL)	0.217	0.377	0.627	0.017	0.027	0.044		4.0	1/0	
F560	$A \rightarrow Y0$	(HL)	0.268	0.466	0.750	0.009	0.014	0.023	A	1.0	Y0	23
		(LH) (HH)	0.304 0.360	0.551 0.649	0.926 1.071	0.012 0.012	0.023 0.023	0.037 0.037	В	1.0	Y1 Y2	23 23
	A → Y1	(LL)	0.362	0.649	1.135	0.012	0.023	0.037			Y3	23
	A → Y2	(HL)	0.269	0.467	0.750	0.009	0.014	0.023			'3	25
	A 7 12	(LH)	0.304	0.550	0.925	0.012	0.023	0.036				
	A → Y3	(HH)	0.360	0.649	1.072	0.012	0.023	0.037				
		(LL)	0.363	0.661	1.134	0.009	0.014	0.023				
	B → Y0	(HL)	0.285	0.498	0.801	0.009	0.014	0.023				
		(LH)	0.294	0.524	0.885	0.012	0.023	0.037				
	B → Y1	(HL)	0.284	0.498	0.803	0.009	0.014	0.023				
		(LH)	0.294	0.526	0.889	0.012	0.023	0.036				
	B → Y2	(HH)	0.362	0.647	1.074	0.012	0.023	0.037				
	B → Y3	(LL) (HH)	0.385 0.361	0.699 0.647	1.193 1.075	0.009 0.012	0.014 0.023	0.023 0.037				
	D → 13	(LL)	0.384	0.702	1.197	0.012	0.023	0.037				
L561	A → Y0B	(HH)	0.180	0.296	0.442	0.025	0.045	0.073	Α	1.0	Y0B	11
		(LL)	0.220	0.387	0.638	0.025	0.044	0.077	В	1.0	Y1B	11
	$A \rightarrow Y1B$	(HL)	0.276	0.493	0.799	0.024	0.044	0.077			Y2B	11
		(LH)	0.280	0.498	0.832	0.025	0.045	0.073			Y3B	11
	$A \rightarrow Y2B$	(HH)	0.180	0.295	0.443	0.025	0.045	0.073				
		(LL)	0.220	0.387	0.637	0.025	0.044	0.077				
	A → Y3B	(HL)	0.276	0.492	0.803	0.024	0.044	0.077				
	D VOD	(LH)	0.281	0.498	0.834	0.025	0.045	0.073				
	B → Y0B	(HH) (LL)	0.207 0.209	0.335 0.372	0.510 0.628	0.025 0.025	0.045 0.044	0.073 0.077				
	B → Y1B	(LL)	0.209	0.372	0.628	0.025	0.044	0.077				
		(LL)	0.209	0.372	0.625	0.025	0.044	0.077				
	B → Y2B	(HL)	0.293	0.510	0.841	0.024	0.044	0.076				
		(LH)	0.314	0.561	0.940	0.025	0.045	0.072				
	B → Y3B	(HL)	0.292	0.509	0.842	0.024	0.044	0.076				
		(LH)	0.314	0.560	0.937	0.025	0.045	0.072				
F561	$A \rightarrow Y0B$	(HH)	0.365	0.646	1.069	0.013	0.023	0.037	A	1.0	Y0B	22
		(LL)	0.476	0.912	1.588	0.010	0.016	0.026	В	1.0	Y1B	22
	A → Y1B	(HL)	0.368	0.690	1.181	0.010	0.016	0.026			Y2B	22
	A → Y2B	(LH) (HH)	0.291 0.365	0.513 0.646	0.858 1.068	0.012 0.012	0.023 0.023	0.037 0.037			Y3B	22
	A → Y2B	(HH)	0.365	0.046	1.590	0.012	0.023	0.037				
	A → Y3B	(HL)	0.368	0.690	1.181	0.010	0.016	0.026				
	A → 13D	(LH)	0.291	0.513	0.857	0.012	0.010	0.020				
		(=)	3.201	3.0.0	0.00.	3.0.2	0.020	5.00.	1			

			Swite	ching sp	need				1		1	
Block	Path			_D0 (ns)		Ι	t 1		In	put	Ou	tput
type		UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	B → Y0B	(HH)	0.377	0.663	1.095	0.012	0.023	0.037	Cymbo.		Cymbo.	· unout
		(LL)	0.485	0.937	1.631	0.010	0.016	0.026				
	$B \rightarrow Y1B$	(HH)	0.376	0.663	1.095	0.012	0.023	0.037				
		(LL)	0.484	0.937	1.631	0.010	0.016	0.026				
	B → Y2B	(HL)	0.373	0.710	1.219	0.010	0.016	0.026				
		(LH)	0.305	0.538	0.896	0.012	0.023	0.037				
	B → Y3B	(HL) (LH)	0.372 0.305	0.710 0.538	1.220 0.896	0.010 0.012	0.016 0.023	0.026 0.037				
L981	A → Y0B	(HH)	0.193	0.335	0.468	0.012	0.023	0.037	A	1.0	Y0B	11
2301	A → 10B	(LL)	0.224	0.402	0.668	0.025	0.044	0.077	В	1.0	Y1B	11
	A → Y1B	(HL)	0.293	0.530	0.854	0.025	0.044	0.077	ENB	2.0	Y2B	11
		(LH)	0.298	0.531	0.889	0.025	0.045	0.072			Y3B	11
	$A \ \to \ Y2B$	(HH)	0.193	0.315	0.468	0.025	0.045	0.073				
		(LL)	0.224	0.402	0.668	0.025	0.044	0.077				
	$A \rightarrow Y3B$	(HL)	0.292	0.529	0.853	0.025	0.044	0.077				
		(LH)	0.298	0.530	0.889	0.025	0.045	0.072				
	B → Y0B	(HH) (LL)	0.331 0.433	0.588 0.833	0.959 1.473	0.024 0.024	0.045 0.044	0.072 0.077				
	B → Y1B	(HH)	0.433	0.589	0.959	0.024	0.044	0.077				
	B → 11B	(LL)	0.433	0.834	1.475	0.025	0.044	0.072				
	B → Y2B	(HL)	0.360	0.691	1.200	0.024	0.044	0.077				
		(LH)	0.292	0.511	0.846	0.025	0.045	0.072				
	$B \rightarrow Y3B$	(HL)	0.360	0.691	1.199	0.024	0.044	0.077				
		(LH)	0.292	0.511	0.845	0.025	0.045	0.072				
	ENB → Y0B	(HH)	0.205	0.335	0.510	0.024	0.045	0.072				
		(LL)	0.270	0.546	0.994	0.024	0.044	0.077				
	ENB → Y1B	(HH) (LL)	0.204 0.272	0.336 0.548	0.511 0.999	0.025 0.024	0.045 0.044	0.072 0.077				
	ENB → Y2B	(LL) (HH)	0.272	0.335	0.508	0.024	0.044	0.077				
	EIND → 12D	(LL)	0.269	0.543	0.991	0.023	0.043	0.072				
	ENB → Y3B	(HH)	0.204	0.335	0.509	0.025	0.045	0.072				
		(LL)	0.269	0.545	0.995	0.024	0.044	0.077				
F981	$A \rightarrow Y0B$	(HH)	0.382	0.672	1.106	0.012	0.023	0.036	Α	1.0	Y0B	22
		(LL)	0.499	0.950	1.653	0.011	0.017	0.027	В	1.1	Y1B	22
	$A \rightarrow Y1B$	(HL)	0.390	0.718	1.216	0.011	0.017	0.027	ENB	1.0	Y2B	22
	4 1/00	(LH)	0.304	0.540	0.904	0.012	0.023	0.036			Y3B	22
	A → Y2B	(HH) (LL)	0.382 0.499	0.672 0.950	1.106 1.653	0.012 0.011	0.023 0.017	0.036 0.027				
	A → Y3B	(HL)	0.390	0.718	1.216	0.011	0.017	0.027				
	X -> 10B	(LH)	0.304	0.540	0.904	0.012	0.023	0.036				
	B → Y0B	(HH)	0.360	0.641	1.049	0.012	0.023	0.036				
		(LL)	0.484	0.940	1.644	0.011	0.017	0.027				
	$B \rightarrow Y1B$	(HH)	0.360	0.641	1.049	0.012	0.023	0.036				
		(LL)	0.484	0.940	1.643	0.011	0.017	0.027				
	B → Y2B	(HL)	0.517	1.005	1.741	0.011	0.017	0.027				
	B VOD	(LH)	0.427 0.517	0.772 1.005	1.303 1.741	0.012 0.011	0.023 0.017	0.036 0.027				
	B → Y3B	(HL) (LH)	0.517	0.772	1.741	0.011	0.017	0.027				
	ENB → Y0B	(HH)	0.390	0.693	1.133	0.012	0.023	0.037				
		(LL)	0.497	0.961	1.687	0.011	0.017	0.027				
	ENB → Y1B	(HH)	0.391	0.693	1.133	0.012	0.023	0.037				
		(LL)	0.497	0.963	1.687	0.011	0.017	0.027				
	$ENB \ \to \ Y2B$	(HH)	0.388	0.689	1.125	0.012	0.023	0.037				
		(LL)	0.496	0.958	1.679	0.011	0.017	0.027				
	ENB → Y3B	(HH)	0.388	0.689	1.125	0.012	0.023	0.037				
		(LL)	0.496	0.958	1.679	0.011	0.017	0.027	I		I	

[MEMO]

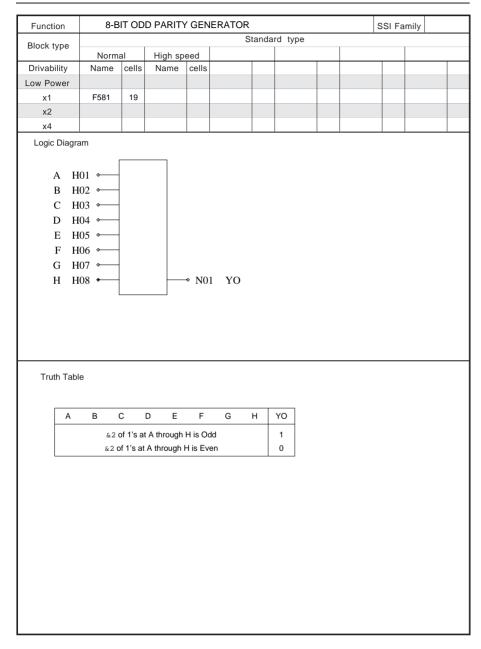
Function	3 T	O 8 DE	CODEF	?						SSI Fai	mily	
Block type		Po	sitive ou	tput typ	ре			Ne	egative or	utput ty	ре	
	Norm		with E		with E		Norr		with E		with I	_
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cel
Low Power									L982	21		
x1									F982	26		
x2												
x4								4				
Logic Diagr for "Po:	am sitive outpu	t type"		Logic Di for	agram "Positive o	utput w	vith ENB"		ogic Diag for "Po		utput with	EN"
Logic Diagr. for "Ne	am gative outp	ut type"		Logic D for A H01 · B H02 · C H03 ·	"Negative		with ENB 401 Y0B 402 Y1B 403 Y2B 404 Y3B 405 Y4B 406 Y5B 407 Y6B 408 Y7B		ogic Diag for "No		output with	n EN'
Truth Table		ENB	Y0B	Y1B	Y2B Y	3B '	Y4B Y5	iB Ye	SB Y7B			
0 0	0	0	0	1	1	1	1 '					
1 0		0	1	0		1	1 1					
0 1	0	0	1	1	0	1	1 1		1 1			
1 1	0	0	1	1		0	1 1					
0 0	-	0	1	1		1	0					
1 0		0	1	1		1	1 (
0 1	1	0	1	1		1	1 1					
1 1 X X	1 X	0 1	1	1 1		1 1	1 1					
X:Irrelevant	^		'		1	•	•		'	_		

Division			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)	1		t 1		In	put	Ou	tput
type	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
L982	A → Y0B	(HH)	0.254	0.409	0.627	0.025	0.045	0.073	A	1.0	Y0B	8
	A → Y1B	(LL) (HL)	0.323 0.439	0.599 0.790	1.010 1.317	0.038	0.068 0.068	0.117 0.117	B C	1.1 1.0	Y1B Y2B	8 8
	A → TID	(LH)	0.426	0.782	1.336	0.035	0.045	0.073	ENB	2.0	Y3B	8
	A → Y2B	(HH)	0.253	0.408	0.627	0.025	0.045	0.073	LIND	2.0	Y4B	8
	,, , , , , , , , , , , , ,	(LL)	0.324	0.599	1.005	0.038	0.068	0.117			Y5B	8
	A → Y3B	(HL)	0.439	0.791	1.319	0.038	0.068	0.117			Y6B	8
		(LH)	0.427	0.784	1.337	0.025	0.045	0.073			Y7B	8
	A → Y4B	(HH)	0.254	0.408	0.627	0.025	0.045	0.073				
		(LL)	0.323	0.599	1.007	0.038	0.068	0.117				
	A → Y5B	(HL)	0.439	0.791	1.319	0.038	0.068	0.117				
	A → Y6B	(LH) (HH)	0.426 0.254	0.783 0.409	1.338 0.627	0.025 0.025	0.045 0.045	0.073 0.073				
	A → Y6B	(LL)	0.324	0.599	1.010	0.023	0.068	0.073				
	A → Y7B	(HL)	0.438	0.791	1.317	0.038	0.068	0.117				
		(LH)	0.426	0.783	1.338	0.025	0.045	0.073				
	B → Y0B	(HH)	0.277	0.450	0.699	0.025	0.045	0.072				
		(LL)	0.330	0.597	1.010	0.038	0.068	0.117				
	B → Y1B	(HH)	0.277	0.449	0.697	0.025	0.045	0.072				
		(LL)	0.329	0.596	1.008	0.038	0.068	0.117				
	B → Y2B	(HL)	0.453	0.808	1.353	0.038	0.068	0.116				
	B → Y3B	(LH) (HL)	0.464 0.454	0.843 0.808	1.437 1.354	0.025 0.038	0.045 0.068	0.072 0.116				
	B → Y3B	(LH)	0.464	0.844	1.438	0.035	0.045	0.072				
	B → Y4B	(HH)	0.278	0.449	0.698	0.025	0.045	0.072				
] , , , ,	(LL)	0.329	0.596	1.008	0.038	0.068	0.117				
	B → Y5B	(HH)	0.277	0.450	0.700	0.025	0.045	0.072				
		(LL)	0.328	0.597	1.010	0.038	0.068	0.117				
	B → Y6B	(HL)	0.454	0.808	1.353	0.038	0.068	0.116				
	D 1/7D	(LH)	0.464	0.844	1.438	0.025	0.045	0.072				
	B → Y7B	(HL) (LH)	0.453 0.462	0.807 0.844	1.352 1.436	0.038 0.025	0.068 0.045	0.116 0.072				
	C → Y0B	(HH)	0.411	0.734	1.200	0.023	0.045	0.072				
	0 7 105	(LL)	0.565	1.118	1.994	0.038	0.068	0.117				
	C → Y1B	(HH)	0.410	0.730	1.195	0.024	0.045	0.072				
		(LL)	0.562	1.112	1.984	0.038	0.068	0.117				
	C → Y2B	(HH)	0.410	0.731	1.195	0.024	0.045	0.072				
		(LL)	0.563	1.114	1.985	0.038	0.068	0.117				
	C → Y3B	(HH) (LL)	0.411 0.564	0.734 1.118	1.200 1.992	0.024 0.038	0.045 0.068	0.072 0.117				
	C → Y4B	(LL) (HL)	0.493	0.976	1.729	0.038	0.068	0.117				
	0 7 146	(LH)	0.376	0.663	1.093	0.024	0.045	0.072				
	C → Y5B	(HL)	0.495	0.982	1.738	0.038	0.068	0.117				
		(LH)	0.378	0.667	1.100	0.024	0.045	0.072				
	C → Y6B	(HL)	0.495	0.982	1.739	0.038	0.068	0.117				
		(LH)	0.378	0.667	1.099	0.024	0.045	0.072				
	C → Y7B	(HL)	0.493	0.975	1.727	0.038	0.068	0.117				
	END VOD	(LH) (HH)	0.376 0.291	0.663 0.477	1.096 0.742	0.024 0.025	0.045 0.045	0.072 0.073				
	ENB → Y0B	(LL)	0.291	0.477	1.527	0.025	0.045	0.073				
	ENB → Y1B	(HH)	0.289	0.474	0.737	0.035	0.045	0.073				
1		(LL)	0.395	0.827	1.513	0.038	0.068	0.118				
	ENB → Y2B	(HH)	0.289	0.474	0.737	0.025	0.045	0.073				
		(LL)	0.395	0.826	1.517	0.038	0.068	0.117				
	ENB → Y3B	(HH)	0.291	0.477	0.742	0.025	0.045	0.073				
		(LL)	0.397	0.831	1.525	0.038	0.068	0.118				

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	ENB → Y4B	(HH)	0.290	0.476	0.742	0.025	0.045	0.073				
		(LL)	0.398	0.831	1.527	0.038	0.068	0.117				
	ENB → Y5B	(HH)	0.292	0.480	0.747	0.025	0.045	0.073				
	END YOU	(LL) (HH)	0.400 0.292	0.837 0.480	1.536 0.747	0.038 0.025	0.068 0.045	0.118 0.073				
	ENB → Y6B	(LL)	0.401	0.460	1.538	0.025	0.045	0.073				
	ENB → Y7B	(HH)	0.290	0.476	0.742	0.035	0.045	0.073				
	LIND - 17B	(LL)	0.397	0.831	1.525	0.038	0.068	0.118				
F982	A → Y0B	(HH)	0.519	0.925	1.557	0.012	0.023	0.036	А	1.0	Y0B	22
		(LL)	0.753	1.460	2.585	0.011	0.018	0.030	В	1.0	Y1B	22
	A → Y1B	(HL)	0.566	1.054	1.819	0.011	0.018	0.030	С	1.0	Y2B	22
		(LH)	0.382	0.699	1.201	0.012	0.023	0.036	ENB	1.1	Y3B	22
	A → Y2B	(HH)	0.518	0.924	1.555	0.012	0.023	0.036			Y4B	22
	A VOD	(LL) (HL)	0.751 0.567	1.459 1.057	2.579 1.821	0.011 0.011	0.018 0.018	0.030 0.029			Y5B Y6B	22 22
	A → Y3B	(LH)	0.383	0.701	1.203	0.011	0.018	0.029			Y7B	22
	A → Y4B	(HH)	0.519	0.925	1.557	0.012	0.023	0.036			'''	
	N -> 145	(LL)	0.753	1.460	2.585	0.011	0.018	0.030				
	A → Y5B	(HL)	0.566	1.054	1.819	0.011	0.018	0.030				
		(LH)	0.382	0.699	1.201	0.012	0.023	0.036				
	A → Y6B	(HH)	0.518	0.924	1.555	0.012	0.023	0.036				
		(LL)	0.751	1.459	2.579	0.011	0.018	0.030				
	A → Y7B	(HL)	0.567	1.057	1.821	0.011	0.018	0.029				
		(LH)	0.383	0.701	1.203	0.012	0.023	0.036				
	B → Y0B	(HH)	0.533 0.762	0.950 1.498	1.596 2.653	0.012 0.011	0.023 0.018	0.036 0.030				
	B → Y1B	(LL) (HH)	0.702	0.949	1.595	0.011	0.018	0.036				
		(LL)	0.760	1.497	2.651	0.012	0.018	0.030				
	B → Y2B	(HL)	0.566	1.086	1.883	0.011	0.018	0.030				
		(LH)	0.395	0.719	1.232	0.012	0.023	0.036				
	B → Y3B	(HL)	0.567	1.089	1.888	0.011	0.018	0.029				
		(LH)	0.396	0.721	1.234	0.012	0.023	0.036				
	B → Y4B	(HH)	0.533	0.950	1.596	0.012	0.023	0.036				
		(LL)	0.762	1.498	2.653	0.011	0.018	0.030				
	B → Y5B	(HH) (LL)	0.532 0.760	0.949 1.497	1.595 2.651	0.012 0.011	0.023 0.018	0.036 0.030				
	B → Y6B	(HL)	0.766	1.086	1.883	0.011	0.018	0.030				
	5 -> 105	(LH)	0.395	0.719	1.232	0.012	0.023	0.036				
	B → Y7B	(HL)	0.567	1.088	1.888	0.011	0.018	0.029				
		(LH)	0.396	0.721	1.234	0.012	0.023	0.036				
	C → Y0B	(HH)	0.450	0.819	1.370	0.012	0.023	0.036				
	_	(LL)	0.703	1.403	2.479	0.011	0.018	0.029				
	C → Y1B	(HH)	0.449	0.818	1.369	0.012	0.023	0.036				
	C VOD	(LL) (HH)	0.702 0.449	1.401 0.818	2.476 1.369	0.011 0.012	0.018 0.023	0.030 0.036				
	C → Y2B	(LL)	0.702	1.405	2.477	0.012	0.023	0.030				
	C → Y3B	(HH)	0.450	0.819	1.371	0.011	0.013	0.036				
	- / .55	(LL)	0.702	1.404	2.478	0.011	0.018	0.029				
	C → Y4B	(HL)	0.738	1.472	2.575	0.011	0.018	0.030				
		(LH)	0.520	0.954	1.636	0.012	0.023	0.036				
	C → Y5B	(HL)	0.737	1.469	2.572	0.011	0.018	0.030				
		(LH)	0.520	0.952	1.633	0.012	0.023	0.036				
	C → Y6B	(HL)	0.737 0.519	1.469 0.953	2.572 1.633	0.011 0.012	0.018 0.023	0.030 0.036				
	C → Y7B	(LH) (HL)	0.519	1.472	2.576	0.012	0.023	0.036				
	C → 1/B	(LH)	0.736	0.954	1.634	0.011	0.018	0.030				
	I	(=11)	0.021	0.334	1.004	0.012	0.023	0.000	_			

FUNCTION BLOCK

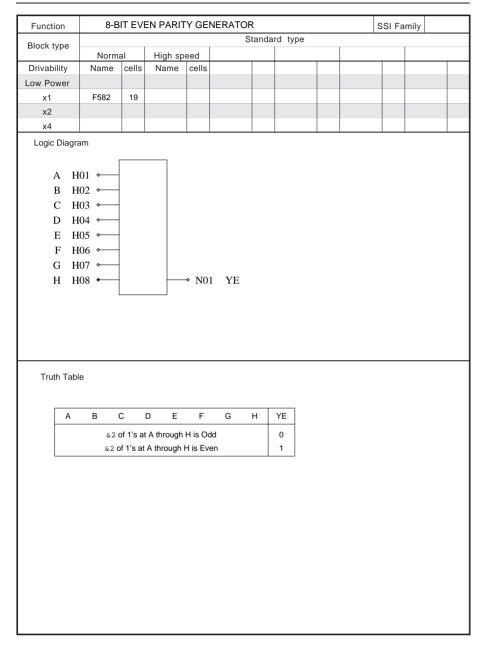
D. .			Swite	ching sp	eed							
Block	Path		t ı	_D0 (ns))		t 1		l In	put	Ou	tput
type	IN → OI	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	ENB → Y0B	(HH)	0.471	0.858	1.437	0.013	0.023	0.037				
		(LL)	0.707	1.408	2.490	0.011	0.018	0.030				
	ENB \rightarrow Y1B	(HH)	0.470	0.856	1.434	0.013	0.023	0.037				
		(LL)	0.707	1.407	2.487	0.011	0.018	0.030				
	$ENB \ \to \ Y2B$	(HH)	0.470	0.856	1.435	0.012	0.023	0.037				
		(LL)	0.706	1.406	2.488	0.011	0.018	0.030				
	ENB \rightarrow Y3B	(HH)	0.471	0.858	1.436	0.013	0.023	0.037				
		(LL)	0.708	1.408	2.489	0.011	0.018	0.030				
	ENB \rightarrow Y4B	(HH)	0.473	0.861	1.442	0.013	0.023	0.037				
		(LL)	0.709	1.413	2.494	0.011	0.018	0.030				
	ENB \rightarrow Y5B	(HH)	0.472	0.860	1.441	0.013	0.023	0.037				
		(LL)	0.708	1.410	2.490	0.011	0.018	0.030				
	ENB → Y6B	(HH)	0.472	0.860	1.441	0.013	0.023	0.037				
		(LL)	0.708	1.411	2.492	0.011	0.018	0.030				
	ENB → Y7B	(HH)	0.473	0.861	1.443	0.013	0.023	0.037				
		(LL)	0.709	1.411	2.493	0.011	0.018	0.030				



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FUNCTION BLOCK

D			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		In	put	Ou	tput
type	$IN \ \to \ O$	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F581	$A \rightarrow YO$	(HH)	0.599	1.121	1.905	0.013	0.023	0.037	Α	2.1	YO	22
		(HL)	0.622	1.193	2.036	0.009	0.015	0.024	В	2.1		
		(LH)	0.620	1.168	1.992	0.013	0.023	0.037	С	2.1		
		(LL)	0.682	1.382	2.424	0.009	0.015	0.024	D	2.1		
	$B \ \to \ YO$	(HH)	0.568	1.065	1.817	0.013	0.023	0.037	E	2.1		
		(HL)	0.611	1.179	2.043	0.009	0.015	0.024	F	2.1		
		(LH)	0.683	1.259	2.130	0.013	0.023	0.037	G	2.1		
		(LL)	0.682	1.332	2.329	0.009	0.015	0.024	Н	2.1		
	$C \rightarrow YO$	(HH)	0.654	1.207	2.034	0.013	0.023	0.037				
		(HL)	0.610	1.167	2.001	0.009	0.015	0.024				
		(LH)	0.676	1.254	2.118	0.013	0.023	0.037				
		(LL)	0.658	1.328	2.338	0.009	0.015	0.024				
	$D \ \to \ YO$	(HH)	0.623	1.149	1.944	0.013	0.023	0.037				
		(HL)	0.599	1.154	2.007	0.009	0.015	0.024				
		(LH)	0.739	1.346	2.261	0.013	0.023	0.037				
		(LL)	0.658	1.278	2.242	0.009	0.015	0.024				
	$E \rightarrow YO$	(HH)	0.654	1.207	2.035	0.013	0.023	0.037				
		(HL)	0.612	1.167	2.004	0.009	0.015	0.024				
		(LH)	0.677	1.258	2.122	0.013	0.023	0.037				
		(LL)	0.670	1.349	2.377	0.009	0.015	0.024				
	$F \rightarrow YO$	(HH)	0.625	1.152	1.946	0.013	0.023	0.037				
		(HL)	0.601	1.156	2.009	0.009	0.015	0.024				
		(LH)	0.741	1.348	2.263	0.013	0.023	0.037				
		(LL)	0.669	1.303	2.281	0.009	0.015	0.024				
	$G \ \to \ YO$	(HH)	0.725	1.316	2.195	0.013	0.023	0.037				
		(HL)	0.610	1.162	1.999	0.009	0.015	0.024				
		(LH)	0.745	1.361	2.283	0.013	0.023	0.037				
		(LL)	0.659	1.329	2.346	0.009	0.015	0.024				
	$H \rightarrow YO$	(HH)	0.692	1.259	2.108	0.013	0.023	0.037				
		(HL)	0.599	1.148	2.001	0.009	0.015	0.024				
		(LH)	0.807	1.456	2.426	0.013	0.023	0.037				
		(LL)	0.659	1.278	2.252	0.009	0.015	0.024				



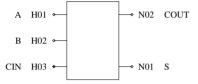
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FUNCTION BLOCK

D			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		l In	put	Ou	tput
type	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F582	$A \rightarrow YE$	(HH)	0.600	1.119	1.891	0.013	0.023	0.037	Α	2.1	YE	21
		(HL)	0.677	1.319	2.276	0.010	0.016	0.026	В	2.1		
		(LH)	0.661	1.310	2.280	0.013	0.023	0.037	С	2.1		
		(LL)	0.698	1.366	2.366	0.010	0.016	0.026	D	2.1		
	$B \rightarrow YE$	(HH)	0.590	1.106	1.896	0.013	0.023	0.037	E	2.1		
		(HL)	0.645	1.263	2.191	0.010	0.016	0.026	F	2.1		
		(LH)	0.661	1.259	2.186	0.013	0.023	0.037	G	2.1		
		(LL)	0.760	1.457	2.503	0.010	0.016	0.026	Н	2.1		
	$C \rightarrow YE$	(HH)	0.587	1.093	1.853	0.013	0.023	0.037				
		(HL)	0.715	1.386	2.380	0.010	0.016	0.026				
		(LH)	0.635	1.249	2.184	0.013	0.023	0.037				
		(LL)	0.737	1.432	2.466	0.010	0.016	0.026				
	$D \ \to YE$	(HH)	0.577	1.077	1.856	0.013	0.023	0.037				
		(HL)	0.682	1.324	2.289	0.010	0.016	0.026				
		(LH)	0.635	1.198	2.090	0.013	0.023	0.037				
		(LL)	0.800	1.523	2.605	0.010	0.016	0.026				
	$E \to YE$	(HH)	0.603	1.121	1.880	0.013	0.023	0.037				
		(HL)	0.613	1.190	2.060	0.010	0.016	0.025				
		(LH)	0.660	1.304	2.253	0.013	0.023	0.037				
		(LL)	0.636	1.241	2.145	0.010	0.016	0.025				
	$F \rightarrow YE$	(HH)	0.592	1.110	1.887	0.013	0.023	0.037				
		(HL)	0.584	1.135	1.971	0.010	0.016	0.025				
		(LH)	0.661 0.699	1.255	2.160	0.013	0.023 0.016	0.037				
		(LL) (HH)	0.699	1.329 1.116	2.286 1.878	0.010	0.016	0.025 0.037				
	$G \rightarrow YE$	` ′	0.601	l			0.023	0.037				
		(HL)	0.675	1.291 1.283	2.215 2.226	0.010	0.016	0.025				
		(LH) (LL)	0.652	1.283	2.226	0.013	0.023	0.037				
		(LL) (HH)	0.590	1.103	1.884	0.010	0.016	0.026				
	H → YE	(HL)	0.590	1.234	2.122	0.013	0.023	0.037				
		(LH)	0.652	1.234	2.122	0.010	0.016	0.025				
		(LL)	0.652	1.433	2.130	0.013	0.023	0.037				
		(LL)	0.759	1.433	∠.440	0.010	0.016	0.020				

Function	1-B	IT FUI	L ADDEF	₹					5	SSI Fa	mily	
Block type					S	tanda	rd type					
Blook type	Norma											
Drivability	Name	cells	Name	cells								
Low Power												
x1	F521	9										
x2												
x4												

Logic Diagram



Truth Table

Α	В	CIN	S	COUT
0	0	0	0	0
0	1	0	1	0
1	0	0	1	0
1	1	0	0	1
0	0	1	1	0
0	1	1	0	1
1	0	1	0	1
1	1	1	1	1

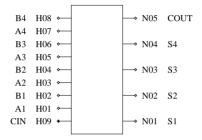
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FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → OU	IT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F521	$A \rightarrow S$	(HH)	0.476	0.910	1.552	0.012	0.023	0.037	Α	2.1	S	22
		(HL)	0.493	1.045	1.804	0.009	0.016	0.026	В	2.1	COUT	22
		(LH)	0.530	1.439	2.407	0.012	0.023	0.037	CIN	1.0		
		(LL)	0.570	1.529	2.604	0.009	0.016	0.026				
	A → COUT	(HH)	0.425	0.992	1.679	0.013	0.023	0.037				
		(LL)	0.318	1.165	2.061	0.010	0.015	0.025				
	$B \rightarrow S$	(HH)	0.465	1.001	1.640	0.013	0.023	0.037				
		(HL)	0.527	1.083	1.841	0.009	0.016	0.026				
		(LH)	0.533	1.309	2.220	0.012	0.023	0.037				
		(LL)	0.573	1.395	2.408	0.009	0.016	0.026				
	$B \rightarrow COUT$	(HH)	0.460	1.004	1.670	0.013	0.023	0.037				
		(LL)	0.282	1.215	2.140	0.010	0.015	0.025				
	CIN → S	(HH)	0.368	0.650	1.056	0.013	0.023	0.037				
		(HL)	0.478	0.907	1.528	0.010	0.016	0.026				
		(LH)	0.450	0.811	1.349	0.013	0.023	0.037				
		(LL)	0.391	0.724	1.228	0.009	0.015	0.024				
	CIN → COUT	(HH)	0.304	0.497	0.788	0.013	0.023	0.037				
		(LL)	0.342	0.647	1.196	0.010	0.016	0.026				

Function	4-B	IT BIN	IARY FUL	L ADI	DER					SSI Fa	mily		
Block type					S	tanda	rd type						
Block type	Norma	Normal High speed											
Drivability	Name	cells	Name	cells									
Low Power													
x1	F523	34											
x2													
x4													

Logic Diagram



Truth Table

An	Bn	CIN	Sn	COUT
0	0	0	0	0
0	1	0	1	0
1	0	0	1	0
1	1	0	0	1
0	0	1	1	0
0	1	1	0	1
1	0	1	0	1
1	1	1	1	1

(Condition of one stage, n=1,2,3 4)

Dlook			Swite	ching sp	eed				l n	m t	0	4m.ut
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	$IN \to OL$	-	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F523	A1 \rightarrow S1	(HH)	0.438	0.807	1.375	0.012	0.023	0.037	A1	2.1	S1	22
		(HL)	0.539	1.030	1.777	0.010	0.016	0.025	B1	2.1	S2	22
		(LH)	0.836	1.565	2.657	0.012	0.023	0.036	A2	2.0	S3 S4	22
	A4 . 60	(LL) (HH)	0.601 0.773	1.193 1.471	2.107 2.517	0.010 0.013	0.016 0.023	0.026 0.037	B2 A3	2.1 2.1	COUT	22 20
	A1 → S2	(HL)	1.267	2.198	3.534	0.013	0.023	0.037	B3	2.1	10001	20
		(LH)	0.838	1.696	2.911	0.013	0.023	0.037	A4	2.1		
		(LL)	0.589	1.147	2.025	0.010	0.016	0.026	B4	2.1		
	A1 → S3	(HH)	1.048	1.967	3.384	0.012	0.023	0.036	CIN	2.0		
		(HL)	1.548	2.821	4.616	0.010	0.016	0.026				
		(LH)	1.074	2.148	3.916	0.013	0.023	0.037				
		(LL)	0.818	1.626	3.006	0.009	0.015	0.024				
	A1 \rightarrow S4	(HH)	1.343	2.507	4.339	0.012	0.023	0.036				
		(HL)	1.691 1.157	3.085 2.376	5.271 4.657	0.011 0.013	0.017 0.023	0.027 0.037				
		(LH) (LL)	1.157	2.376	4.188	0.013	0.023	0.037				
	A1 → COUT	(HH)	1.479	2.693	4.631	0.016	0.010	0.026				
	A1 → C001	(LL)	1.068	2.211	4.575	0.014	0.025	0.039				
	B1 → S1	(HH)	0.479	0.872	1.474	0.012	0.023	0.037				
		(HL)	0.556	1.046	1.775	0.010	0.016	0.025				
		(LH)	0.733	1.411	2.428	0.012	0.023	0.037				
		(LL)	0.604	1.244	2.200	0.010	0.016	0.026				
	$B1 \rightarrow S2$	(HH)	0.790	1.487	2.516	0.013	0.023	0.037				
		(HL)	1.286	2.215	3.532	0.011	0.017	0.028				
		(LH)	0.797	1.631	2.814	0.013	0.023	0.037				
	D4 C0	(LL)	0.572 1.065	1.105 1.984	1.952	0.010 0.012	0.016 0.023	0.026 0.036				
	B1 → S3	(HH) (HL)	1.565	2.839	3.381 4.613	0.012	0.023	0.036				
		(LH)	1.032	2.088	3.827	0.013	0.023	0.037				
		(LL)	0.790	1.576	2.927	0.009	0.015	0.024				
	B1 → S4	(HH)	1.361	2.523	4.336	0.012	0.023	0.036				
		(HL)	1.707	3.103	5.269	0.011	0.017	0.027				
		(LH)	1.117	2.319	4.572	0.013	0.023	0.037				
		(LL)	1.023	2.092	4.107	0.010	0.016	0.026				
	B1 → COUT	(HH)	1.496	2.709	4.629	0.016	0.029	0.045				
	A2 → S2	(LL) (HH)	1.027 0.505	2.153 0.910	4.490 1.530	0.014 0.013	0.025 0.023	0.039 0.037				
	A2 → 32	(HL)	0.527	1.000	1.730	0.013	0.023	0.037				
		(LH)	0.923	1.681	2.804	0.013	0.023	0.037				
		(LL)	0.574	1.135	2.018	0.010	0.016	0.025				
	A2 → S3	(HH)	0.765	1.456	2.491	0.012	0.023	0.037				
		(HL)	1.102	2.071	3.440	0.010	0.016	0.026				
		(LH)	0.786	1.521	2.621	0.013	0.023	0.037				
		(LL)	0.575	1.127	2.010	0.009	0.015	0.024				
	A2 \rightarrow S4	(HH)	0.998	1.889	3.265	0.012	0.023	0.036				
		(HL) (LH)	1.241 0.870	2.352 1.757	4.040 3.334	0.011 0.013	0.017 0.023	0.027 0.037				
		(LL)	0.785	1.757	2.928	0.013	0.023	0.037				
	A2 → COUT	(HH)	1.063	1.975	3.405	0.014	0.017	0.042				
	/ 5551	(LL)	0.781	1.599	3.294	0.013	0.024	0.038			1	
	B2 → S2	(HH)	0.564	1.003	1.662	0.013	0.023	0.037				
		(HL)	0.544	1.015	1.730	0.010	0.016	0.025			1	
		(LH)	0.799	1.500	2.542	0.013	0.023	0.037				
		(LL)	0.594	1.219	2.161	0.010	0.016	0.026				
	B2 → S3	(HH)	0.782	1.472	2.489	0.012	0.023	0.037				
		(HL)	1.120	2.083	3.434	0.010	0.016	0.026				

5			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1		In	put	Ou	tput
type	IN $ ightarrow$ OL	JT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
		(LH)	0.771	1.496	2.564	0.013	0.023	0.037				
		(LL)	0.562	1.097	1.940	0.009	0.015	0.024				
	B2 → S4	(HH)	1.014	1.905	3.265 4.036	0.012	0.023 0.017	0.036				
		(HL) (LH)	1.259 0.858	2.368 1.741	3.326	0.011 0.013	0.017	0.027 0.037				
		(LL)	0.763	1.528	2.876	0.013	0.023	0.037				
	B2 → COUT	(HH)	1.080	1.990	3.402	0.014	0.027	0.042				
	52 7 0001	(LL)	0.768	1.580	3.280	0.014	0.024	0.038				
	A3 → S3	(HH)	0.545	0.954	1.587	0.013	0.023	0.037				
		(HL)	0.527	1.002	1.739	0.009	0.015	0.024				
		(LH)	0.904	1.623	2.694	0.013	0.023	0.037				
		(LL)	0.574	1.132	2.012	0.009	0.015	0.024				
	A3 → S4	(HH)	0.757	1.436	2.455	0.012	0.023	0.037				
		(HL)	0.951	1.830	3.126	0.011	0.017	0.027				
		(LH)	0.652	1.259	2.194	0.012	0.023	0.037				
	A3 → COUT	(LL) (HH)	0.577 0.784	1.124 1.455	1.993 2.481	0.010 0.014	0.016 0.025	0.026 0.039				
	A3 → COUT	(LL)	0.764	1.115	2.106	0.014	0.023	0.033				
	B3 → S3	(HH)	0.584	1.022	1.689	0.013	0.023	0.037				
	B0 -> 00	(HL)	0.545	1.018	1.737	0.009	0.015	0.024				
		(LH)	0.810	1.483	2.490	0.013	0.023	0.037				
		(LL)	0.576	1.184	2.109	0.009	0.015	0.024				
	B3 → S4	(HH)	0.774	1.452	2.452	0.012	0.023	0.037				
		(HL)	0.969	1.846	3.123	0.011	0.017	0.027				
		(LH)	0.629	1.214	2.118	0.012	0.023	0.037				
		(LL)	0.561	1.085	1.921	0.010	0.016	0.026				
	B3 → COUT	(HH)	0.801	1.470	2.479	0.014	0.025	0.039				
	A4 04	(LL) (HH)	0.542 0.496	1.074 0.898	2.038 1.510	0.011 0.013	0.019 0.023	0.031 0.037				
	A4 → S4	(HL)	0.490	0.838	1.683	0.013	0.023	0.037				
		(LH)	0.778	1.407	2.357	0.012	0.013	0.020				
		(LL)	0.566	1.120	1.990	0.010	0.016	0.026				
	A4 → COUT	(HH)	0.511	0.967	1.641	0.013	0.023	0.037				
		(LL)	0.332	0.634	1.139	0.010	0.015	0.025				
	B4 → S4	(HH)	0.538	0.964	1.617	0.013	0.023	0.037				
		(HL)	0.526	0.984	1.678	0.010	0.016	0.026				
		(LH)	0.695	1.283	2.167	0.013	0.023	0.037				
		(LL)	0.568	1.172	2.089	0.010	0.016	0.026				
	B4 → COUT	(HH)	0.527	0.981	1.635	0.013	0.023	0.037				
	0111 04	(LL) (HH)	0.315 0.387	0.599 0.677	1.074 1.090	0.010 0.013	0.015 0.023	0.025 0.037				
	CIN → S1	(HL)	0.367	0.863	1.421	0.013	0.023	0.037				
		(LH)	0.346	0.622	1.038	0.011	0.017	0.027				
		(LL)	0.324	0.599	1.012	0.010	0.016	0.026				
	CIN → S2	(HH)	0.465	0.821	1.351	0.013	0.023	0.037				
		(HL)	0.737	1.236	2.004	0.011	0.017	0.027				
		(LH)	0.579	1.186	2.206	0.013	0.023	0.037				
		(LL)	0.464	0.895	1.615	0.010	0.016	0.026			1	1
	CIN → S3	(HH)	0.668	1.181	1.972	0.012	0.023	0.036				
		(HL)	1.045	1.809	2.897	0.010	0.016	0.026				
		(LH)	0.842	1.715	3.288	0.013	0.023	0.037			1	1
		(LL)	0.636	1.282	2.490	0.009	0.015	0.024				
	CIN → S4	(HH)	0.911	1.610	2.720	0.012	0.023	0.036				
		(HL)	1.185 0.935	2.088 1.957	3.495 4.045	0.011 0.013	0.017 0.023	0.027 0.037			1	
		(LH)		l .								
		(LL)	0.839	1.741	3.593	0.010	0.016	0.026	L			L

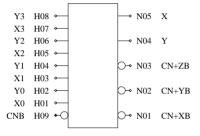
FUNCTION BLOCK

		Swite	ching sp	eed						_	
Block	Path	t	LD0 (ns))		t 1		l In	put	Ou	tput
type	$IN \ \to \ OUT$	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	CIN → COUT (HH)	0.997	1.708	2.861	0.015	0.027	0.042				
	(LL)	0.842	1.788	3.955	0.014	0.025	0.039				

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Function	4-B	IT LO	OK AHEA	D CAI	RRY GENI	ERAT	OR			SSI Fa	mily		
Block type		Standard type											
Blook type	Norma	al	High sp	eed									
Drivability	Name	cells	Name	cells									
Low Power													
x1	F526	34											
x2													
x4													

Logic Diagram



Truth Table

Y3	Y2	Y1	Y0	Х3	X2	X1	Υ
0	Х	Х	Х	Х	Х	Х	1
Х	0	X	Х	0	X	X	1
Х	Χ	0	Х	0	0	Χ	1
Х	X	Х	0	0	0	0	1
		All othe	er combi	inations			0

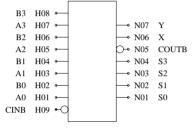
FUNCTION BLOCK

5		Swite	ching sp	eed				Ι.			
Block	Path	t	LD0 (ns))		t 1		In	put	Ou	tput
type	IN o OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F526	X0 → CN+XB (HL)	0.149	0.204	0.263	0.018	0.028	0.046	X0	7.4	CN+XB	10
	(LH)	0.153	0.268	0.434	0.024	0.046	0.076	Y0	12.2	CN+YB	5
	$X0 \rightarrow CN+YB (HL)$	0.174	0.240	0.304	0.019	0.034	0.058	X1	6.2	CN+ZB	22
	(LH)	0.222	0.434	0.755	0.034	0.069	0.114	Y1	12.2	X	19
	X0 → CN+ZB (HL)	0.502	0.859	1.349	0.010	0.016	0.026	X2	4.1	Y	22
	(LH)	0.451	0.886	1.543 0.413	0.012	0.023 0.023	0.037 0.036	Y2 X3	8.3 2.5		
	$X0 \rightarrow Y$ (HH) (LL)	0.168 0.429	0.277 0.861	1.573	0.012 0.012	0.023	0.036	Y3	2.5 4.4		
	Y0 → CN+XB (HL)	0.429	0.259	0.254	0.012	0.019	0.031	CNB	2.0		
	tu → CN+AB (IIL) (LH)	0.033	0.268	0.395	0.018	0.025	0.056	CIVE	2.0		
	Y0 → CN+YB (HL)	0.115	0.332	0.277	0.019	0.034	0.057				
	(LH)	0.203	0.485	0.624	0.029	0.059	0.096				
	Y0 → CN+ZB (HL)	0.387	0.923	1.150	0.010	0.016	0.025				
	(LH)	0.357	0.752	1.130	0.012	0.023	0.037				
	$Y0 \rightarrow X$ (HH)	0.333	0.579	0.935	0.013	0.024	0.038				
	(LL)	0.323	0.613	1.059	0.019	0.030	0.048				
	$X1 \rightarrow CN+YB (HL)$	0.187	0.290	0.386	0.012	0.022	0.040				
	(LH)	0.347	0.502	1.176	0.029	0.047	0.095				
	X1 → CN+ZB (HL)	0.357	0.635	1.042	0.010	0.016	0.025				
	(LH)	0.367	0.702	1.216	0.012	0.023	0.037				
	X1 → X (HH)	0.429	0.748	1.224	0.013	0.024	0.038				
	$X1 \rightarrow Y$ (HH)	0.408 0.178	0.815 0.290	1.378 0.431	0.019 0.012	0.030 0.023	0.048 0.036				
	$X1 \rightarrow Y$ (HH) (LL)	0.178	0.250	1.747	0.012	0.023	0.030				
	Y1 → CN+YB (HL)	0.430	0.367	0.454	0.012	0.013	0.040				
	(LH)	0.329	0.534	1.109	0.021	0.047	0.071				
	Y1 → CN+ZB (HL)	0.355	0.961	1.086	0.010	0.016	0.025				
	(LH)	0.400	0.805	1.344	0.012	0.023	0.037				
	$Y1 \rightarrow X$ (HH)	0.448	0.815	1.355	0.013	0.024	0.038				
	(LL)	0.391	0.763	1.286	0.018	0.030	0.048				
	$X2 \rightarrow CN+ZB (HL)$	0.345	0.601	0.994	0.010	0.016	0.026				
	(LH)	0.436	0.718	1.533	0.012	0.023	0.037				
	$X2 \rightarrow X$ (HH)	0.317	0.550	0.886	0.013	0.023	0.037				
	(LL)	0.299	0.581	1.033	0.018	0.029	0.047				
	X2 → Y (HH)	0.189 0.497	0.302 1.084	0.447 1.965	0.012 0.012	0.023 0.019	0.037				
	$\begin{array}{ccc} & & \text{(LL)} \\ \text{Y2} & \rightarrow & \text{CN+ZB} & \text{(HL)} \end{array}$	0.497	1.004	1.037	0.012	0.019	0.031 0.026				
	12 → CN+2B (11c) (LH)	0.424	0.939	1.448	0.012	0.010	0.020				
	Y2 → X (HH)	0.455	0.867	1.453	0.013	0.024	0.038				
	(LL)	0.433	0.850	1.427	0.019	0.030	0.048				
	X3 → X (HH)	0.296	0.498	0.809	0.013	0.023	0.037				
	(LL)	0.366	0.585	1.343	0.018	0.029	0.047				
	X3 → Y (HH)	0.190	0.304	0.451	0.012	0.023	0.037				
	(LL)	0.497	1.095	1.996	0.012	0.019	0.031				
	$Y3 \rightarrow X$ (HH)	0.183	0.869	0.582	0.007	0.024	0.019				
	(LL)	0.622	0.889	2.046	0.019	0.030	0.049				
	CNB → CN+XB (HH)	0.301	0.541	0.862	0.024	0.046	0.076				
	(LL)	0.260	0.449	0.729	0.018	0.029	0.046				
	CNB → CN+YB (HH)	0.491	0.949	1.569	0.034	0.068	0.114				
	(LL)	0.329	0.574	0.964	0.019	0.034	0.058				
	CNB → CN+ZB (HH)	0.656	1.260	2.126	0.012	0.023	0.037				
	(LL)	0.650	1.199	2.045	0.010	0.016	0.026				

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Function	4-B	IT FUI	L ADDE	₹				5	SSI Fa	mily	
Block type					S	tanda	rd type				
Block type	Norma	al	High sp	eed							
Drivability	Name	cells	Name	cells							
Low Power											
x1	F527	68									
x2											
x4											

Logic Diagram



Truth Table

A0	В0	A1	B1	A2	B2	А3	В3	*1	S0	S1	S2	S3	*2	Х	Υ
0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	1
1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	1
1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1
0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
0	1	0	1	0	1	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	0	1	0	1	1	1	1	1	1	0	1
1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1

(n=0,1,2,3) , *1:CinB , *2:CoutB

Sn=(An+Bn+CinB)

X=(A0¥B0)+(A1¥B1)+(A2¥B2)+(A3¥B3)

Y=1:(An+Bn)>=1111

Y=0:(An+Bn)<1111

Dlook		Swit	ching sp	eed						0	dan i d
Block	Path	t	LD0 (ns))		t 1		111	put	Ou	tput
type	$IN \to OUT$	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F527	A0 → S0 (HF		1.059	1.568	0.013	0.023	0.037	A0	3.1	S0	22
	(HL		1.089	1.883	0.011	0.017	0.027	B0	3.1	S1	22
	(LH		1.179	1.970	0.012	0.023	0.037	A1	3.1	S2 S3	22 22
	$A0 \rightarrow S1$ (HF		1.144 1.146	2.055 1.611	0.011 0.012	0.017 0.023	0.027 0.037	B1 A2	3.1 3.1	COUTB	22
	$A0 \rightarrow S1$ (HF		0.979	1.700	0.012	0.023	0.037	B2	3.0	X	12
	(LH		1.163	1.995	0.013	0.023	0.037	A3	3.1	Y	19
	(LL		1.212	2.146	0.011	0.017	0.027	B3	3.0		
	A0 → S2 (HF) 0.761	1.418	2.382	0.013	0.023	0.037	CINB	2.0		
	(HL	0.760	1.449	2.521	0.010	0.016	0.025				
	(LH		1.524	2.634	0.013	0.023	0.037				
	(LL		1.546	2.773	0.010	0.016	0.026				
	A0 → S3 (HF		1.468	2.477	0.012	0.023	0.037				
	(HL		1.510	2.629	0.010	0.016	0.025				
	(LH (LL		1.626 1.647	2.795 2.938	0.013 0.010	0.023 0.016	0.037 0.026				
	A0 → COUTB (HL		1.428	2.390	0.010	0.069	0.020				
	AU → COUTB (FILE		1.568	2.718	0.027	0.046	0.073				
	A0 → X (HF		0.579	0.890	0.013	0.023	0.037				
	(LL		0.539	0.901	0.023	0.043	0.074				
	$A0 \rightarrow Y$ (HF	0.706	1.314	2.179	0.013	0.023	0.037				
	(LL		1.481	2.560	0.010	0.016	0.025				
	$B0 \rightarrow S0$ (HF		1.086	1.588	0.013	0.023	0.037				
	(HL		1.096	1.901	0.011	0.017	0.027				
	(LH		1.198	2.010	0.012	0.023	0.037				
	(LL		1.160 1.173	2.094 1.629	0.011 0.013	0.017 0.023	0.027 0.037				
	$B0 \to S1$ (HF		0.992	1.719	0.013	0.023	0.037				
	(LH	' I	1.171	2.036	0.013	0.023	0.037				
	(LL	· I	1.230	2.186	0.011	0.017	0.027				
	B0 → S2 (HF) 0.771	1.431	2.401	0.013	0.023	0.037				
	(HL		1.463	2.541	0.010	0.016	0.025				
	(LH		1.531	2.674	0.013	0.023	0.037				
	(LL		1.554	2.816	0.010	0.016	0.026				
	B0 → S3 (HF		1.481	2.494	0.012	0.023	0.037				
	(HL (LH		1.524 1.634	2.646 2.835	0.010	0.016 0.023	0.025 0.037				
	(LL		1.655	2.975	0.013	0.023	0.037				
	B0 → COUTB (HL		1.446	2.408	0.038	0.068	0.113				
	(LH		1.576	2.758	0.027	0.046	0.073				
	B0 \rightarrow X (HF	0.341	0.578	0.922	0.013	0.023	0.037				
	(LL		0.589	0.976	0.023	0.043	0.074				
	B0 → Y (HF		1.326	2.201	0.013	0.023	0.037				
	(LL		1.488	2.602	0.010	0.016	0.025				
	A1 → S1 (HF		1.115 1.138	1.587 1.901	0.013 0.011	0.023	0.037 0.027				
	(HL (LH		1.138	1.901	0.011	0.017	0.027				
	(LL		1.154	2.063	0.012	0.023	0.037				
	A1 → S2 (HF		1.154	1.945	0.013	0.023	0.037				
	(HL		1.187	2.069	0.010	0.016	0.025			1	
	LH		1.282	2.192	0.013	0.023	0.037			1	
	(LL		1.306	2.332	0.010	0.016	0.026				
	A1 → S3 (HF		1.528	2.588	0.013	0.023	0.037				
	(HL		1.570	2.740	0.010	0.016	0.025				
	(LH		1.555	2.678	0.013	0.023	0.037				
	(LL	0.813	1.578	2.820	0.010	0.016	0.026				

<u> </u>		Swite	ching sp	eed				l .			
Block	Path	t	LD0 (ns))		t 1		l In	put	Ou	tput
type	$IN \ o \ OUT$	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	A1 → COUTB (HL)	0.782	1.473	2.481	0.038	0.068	0.113				
	(LH)	0.826	1.556	2.676	0.027	0.046	0.073				
	A1 → X (HH)	0.429	0.669	1.076	0.013	0.023	0.037				
	(LL)	0.334	0.598	1.025	0.023	0.042	0.074				
	$A1 \rightarrow Y \qquad (HH) $ (LL)	0.719 0.772	1.354 1.473	2.269 2.522	0.013 0.010	0.023 0.016	0.037 0.026				
	B1 → S1 (HH)	0.772	1.141	1.606	0.010	0.010	0.020				
	(HL)	0.579	1.151	1.918	0.011	0.017	0.027				
	(LH)	0.602	1.206	2.023	0.012	0.023	0.037				
	(LL)	0.580	1.170	2.103	0.011	0.017	0.027				
	B1 → S2 (HH)	0.632	1.166	1.963	0.013	0.023	0.037				
	(HL)	0.628	1.199	2.090	0.010	0.016	0.025				
	(LH)	0.668	1.290	2.234	0.013	0.023	0.037				
	(LL)	0.659	1.314	2.376	0.010	0.016	0.026				
	B1 → S3 (HH)	0.823	1.540	2.607	0.012	0.023	0.037				
	(HL)	0.823	1.582	2.759	0.010	0.016	0.025				
	(LH) (LL)	0.807 0.799	1.562 1.586	2.718 2.859	0.013 0.010	0.023 0.016	0.037 0.026				
	B1 → COUTB (HL)	0.795	1.483	2.497	0.038	0.069	0.020				
	(LH)	0.812	1.563	2.717	0.027	0.046	0.073				
	B1 → X (HH)	0.401	0.666	1.107	0.013	0.023	0.037				
	(LL)	0.357	0.646	1.097	0.023	0.042	0.074				
	B1 → Y (HH)	0.729	1.366	2.287	0.013	0.023	0.037				
	(LL)	0.759	1.482	2.562	0.010	0.016	0.026				
	A2 → S2 (HH)	0.491	1.108	1.494	0.013	0.023	0.037				
	(HL)	0.543	1.130	1.812	0.010	0.016	0.025				
	(LH)	0.592	1.144	1.914	0.012	0.023	0.037				
	(LL) A2 → S3 (HH)	0.568 0.656	1.108 1.226	1.991 2.067	0.010 0.012	0.016 0.023	0.026 0.037				
	$A2 \rightarrow S3$ (HH) (HL)	0.655	1.268	2.219	0.012	0.023	0.037				
	(LH)	0.670	1.266	2.168	0.013	0.023	0.023				
	(LL)	0.663	1.291	2.309	0.010	0.016	0.026				
	A2 → COUTB (HL)	0.695	1.291	2.172	0.038	0.068	0.113				
	(LH)	0.687	1.295	2.247	0.027	0.046	0.073				
	$A2 \rightarrow X$ (HH)	0.450	0.708	1.144	0.013	0.023	0.037				
	(LL)	0.336	0.628	1.087	0.023	0.042	0.074				
	A2 → Y (HH)	0.629	1.172	1.961	0.013	0.023	0.037				
	(LL)	0.634	1.210	2.094	0.010	0.016	0.025				
	$B2 \rightarrow S2$ (HH) (HL)	0.500 0.553	1.124 1.131	1.511 1.830	0.013 0.010	0.023 0.016	0.037 0.025				
	(LH)	0.580	1.165	1.952	0.012	0.010	0.023				
	(LL)	0.555	1.127	2.032	0.010	0.016	0.026				
	B2 → S3 (HH)	0.666	1.237	2.087	0.012	0.023	0.037				
	(HL)	0.666	1.279	2.237	0.010	0.016	0.025				
	(LH)	0.657	1.274	2.207	0.013	0.023	0.037				
	(LL)	0.650	1.300	2.350	0.010	0.016	0.026				
1	B2 → COUTB (HL)	0.705	1.302	2.190	0.038	0.068	0.113				
	(LH)	0.674	1.303	2.288	0.027	0.046	0.073				
	B2 → X (HH)	0.407	0.689	1.152	0.013	0.023	0.037				
	$\begin{array}{ccc} & & \text{(LL)} \\ & \text{B2} & \rightarrow \text{Y} & & \text{(HH)} \end{array}$	0.355 0.639	0.662 1.184	1.143 1.980	0.023 0.013	0.042 0.023	0.074 0.037				
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0.639	1.218	2.132	0.013	0.023	0.037				
1	$A3 \rightarrow S3$ (HH)	0.622	1.042	1.442	0.010	0.010	0.023				1
1	(HL)	0.529	1.061	1.764	0.010	0.016	0.025				1
	(LH)	0.581	1.122	1.874	0.012	0.023	0.037				
	(LL)	0.555	1.084	1.951	0.010	0.016	0.026				

FUNCTION BLOCK

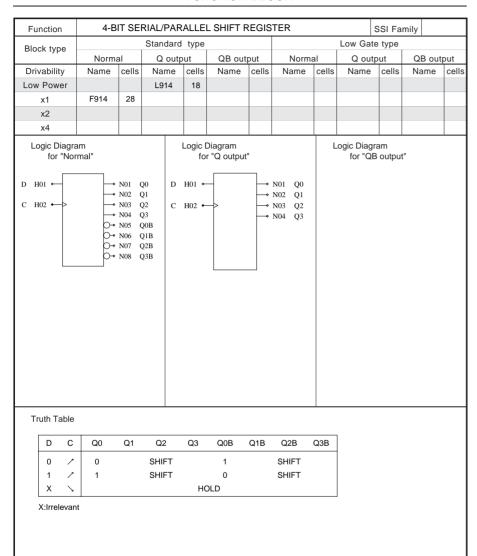
		Swite	ching sp	eed				Ι.			
Block	Path	t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	A3 → COUTB (HL)	0.577	1.065	1.785	0.038	0.069	0.113				
	(LH)	0.565	1.061	1.825	0.027	0.046	0.074				
	A3 → X (HH)	0.414	0.664	1.048	0.013	0.023	0.037				
	(LL)	0.313	0.575	0.993	0.023	0.042	0.074				
	A3 → Y (HH)	0.512	0.948	1.572	0.013	0.023	0.037				
	(LL)	0.512	0.977	1.668	0.010	0.016	0.026				
	B3 → S3 (HH)	0.486	1.058	1.461	0.013	0.023	0.037				
	(HL)	0.540	1.061	1.785	0.010	0.016	0.025				
	(LH)	0.567	1.143	1.913	0.012	0.023	0.037				
	(LL)	0.541	1.103	1.994	0.010	0.016	0.026				
	B3 → COUTB (HL)	0.588	1.077	1.804	0.038	0.069	0.113				
	(LH)	0.552	1.069	1.865	0.027	0.046	0.074				
	B3 → X (HH)	1	0.641	1.055	0.013	0.023	0.037				
	(LL)	0.328	0.609	1.048	0.023	0.042	0.074				
1	B3 → Y (HH)	0.522	0.961	1.590	0.013	0.023	0.037				
1	(LL)	0.498	0.985	1.708	0.010	0.016	0.026				
	CINB → S0 (HH)	0.398	0.738	1.220	0.013	0.023	0.037				
	(HL)	0.397	0.784	1.383	0.011	0.017	0.027				
	(LH)	0.399	0.718	1.165	0.013	0.023	0.037				
	(LL)	0.385	0.724	1.239	0.011	0.017	0.027				
	CINB → S1 (HH)	0.565	1.061	1.800	0.013	0.023	0.037				
	(HL)	0.554	1.083	1.948	0.011	0.017	0.027				
	(LH)	0.588	1.078	1.805	0.013	0.023	0.037				
	(LL)	0.578	1.096	1.894	0.011	0.017	0.027				
	CINB → S2 (HH)	0.666	1.260	2.125	0.013	0.023	0.037				
	(HL)	0.654	1.283	2.264	0.010	0.016	0.026				
	(LH)	0.666	1.217	2.046	0.013	0.023	0.037				
	(LL)	0.661	1.250	2.175	0.010	0.016	0.025				
	CINB → S3 (HH)	0.768	1.468	2.496	0.013	0.023	0.037				
	(HL)	0.759	1.490	2.639	0.010	0.016	0.026				
	(LH)	0.788	1.457	2.447	0.012	0.023	0.037				l
	(LL)	0.787 0.658	1.500 1.247	2.596 2.114	0.010	0.016 0.024	0.025 0.038				l
	CINB → COUTB (HH)						0.038				l
	(LL)	0.463	0.843	1.410	0.017	0.028	0.046			l	

Function	4-B	IT MA	MAGNITUDE COMPARATOR SSI Family												
Block type		P	ositive	outpu	ut typ	е					Ne	gative ou	tput ty	ре	
	Norma	al	with	ENE	3	wit	h El	N	No	rma	al	with E	NB	with E	N
Drivability	Name	cells	Nam	ie c	ells	Nam	ie	cells	Nam	ne	cells	Name	cells	Name	cells
Low Power															
x1	F985	32													
x2															
x4															
A0 H01 ←	am sitive output	type"		Log		agram 'Positiv	e ou	tput w	ith ENE	3"	L	ogic Diagi for "Po		utput with	EN"
A1 H02 ← A2 H03 ← A3 H04 ← B0 H05 ← B1 H06 ← B2 H07 ←		N01 A<													
B3 H08 ← A <b h09="" ←<br="">A=B H10 ← A>B H11 ←	r	N03 A>	ъВ												
Logic Diagra for "Neg	am gative outpu	ut type'		Log		agram 'Negati	ve o	utput v	with EN	IB"	L	ogic Diagi for "Ne		output with	EN"
Truth Table										1					
A3,B3 A2,B		A0,B0	A <b< td=""><td>A:</td><td></td><td>A>B</td><td>A<b< td=""><td></td><td>A>B</td><td>-</td><td></td><td></td><td></td><td></td><td></td></b<></td></b<>	A:		A>B	A <b< td=""><td></td><td>A>B</td><td>-</td><td></td><td></td><td></td><td></td><td></td></b<>		A>B	-					
A3>B3 X A3 <b3 td="" x<=""><td>x x</td><td>X X</td><td>X X</td><td>)</td><td>X X</td><td>x x</td><td>0</td><td>0</td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td></b3>	x x	X X	X X)	X X	x x	0	0	1						
A3=B3 A2>B	32 X	х	х)	K	х	0	0	1						
A3=B3 A2 <b A3=B3 A2=B</b 		X X	X X)	X	x x	1	0	0						
A3=B3 A2=B A3=B3 A2=B		X	X X		x x	X X	1	0	0						
A3=B3 A2=B		A0>B0	х	,		x	0	0	1						
A3=B3 A2=B		A0 <b0< td=""><td>Х</td><td>)</td><td></td><td>х</td><td>1</td><td>0</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></b0<>	Х)		х	1	0	0						
A3=B3 A2=B		A0=B0	0	(1	0	0	1						
A3=B3 A2=B A3=B3 A2=B		A0=B0 A0=B0	X 1			X 0	0	1	0						
A3=B3 A2=B		A0=B0 A0=B0	1	(1	0	0	0						
A3=B3 A2=B		A0=B0	0	(0	1	0	1						
X:Irrelevant															

Dlook			Swite	ching sp	eed					nt	0	ıtını ıt
Block	Path		t	LDO (ns)			t 1		111	put	Ou	tput
type	IN → OI		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F985	$A0 \rightarrow A < B$	(HL)	0.861	1.674	2.888	0.010	0.016	0.026	A0	1.0	A <b< th=""><th>22</th></b<>	22
		(LH)	0.805	1.521	2.590	0.012	0.023	0.036	A1	1.0	A=B	22
	A0 → A=B	(HH)	0.765 0.721	1.498 1.395	2.560 2.435	0.012 0.009	0.023 0.015	0.037 0.024	A2 A3	1.0 1.0	A>B	21
		(HL) (LH)	0.721	1.784	3.059	0.009	0.013	0.024	B0	2.1		
		(LL)	0.626	1.144	1.932	0.012	0.023	0.036	B1	2.1		
	A0 → A>B	(HH)	0.739	1.440	2.482	0.012	0.023	0.036	B2	2.1		
	10 7705	(LL)	0.604	1.119	1.917	0.012	0.022	0.038	B3	2.1		
	A1 → A <b< th=""><th>(HL)</th><th>0.927</th><th>1.850</th><th>3.201</th><th>0.010</th><th>0.016</th><th>0.026</th><th>A<b< th=""><th>1.0</th><th></th><th></th></b<></th></b<>	(HL)	0.927	1.850	3.201	0.010	0.016	0.026	A <b< th=""><th>1.0</th><th></th><th></th></b<>	1.0		
		(LH)	0.873	2.270	3.950	0.012	0.023	0.036	A=B	3.1		
	A1 → A=B	(HH)	0.850	1.671	2.873	0.012	0.023	0.037	A>B	1.0		
		(HL)	0.800	1.548	2.692	0.009	0.015	0.024				
		(LH)	1.026	1.968	3.397	0.012	0.023	0.037				
		(LL)	0.697 0.839	1.274 1.618	2.151 2.801	0.009 0.012	0.015 0.023	0.024 0.036				
	A1 → A>B	(HH) (LL)	0.839	1.963	3.431	0.012	0.023	0.038				
	A2 → A <b< th=""><th>(HL)</th><th>0.880</th><th>2.011</th><th>3.514</th><th>0.012</th><th>0.022</th><th>0.036</th><th></th><th></th><th></th><th></th></b<>	(HL)	0.880	2.011	3.514	0.012	0.022	0.036				
	AZ → ACB	(LH)	0.947	2.374	4.107	0.012	0.023	0.036				
	A2 → A=B	(HH)	0.917	1.829	3.180	0.012	0.023	0.037				
		(HL)	0.847	1.638	2.838	0.009	0.015	0.024				
		(LH)	1.082	2.110	3.676	0.012	0.023	0.037				
		(LL)	0.770	1.414	2.387	0.009	0.015	0.024				
	A2 → A>B	(HH)	0.792	1.788	3.094	0.012	0.023	0.036				
		(LL)	0.851	2.068	3.588	0.012	0.022	0.038				
	A3 → A <b< th=""><th>(HL)</th><th>0.760</th><th>2.146</th><th>3.720</th><th>0.010</th><th>0.016</th><th>0.026</th><th></th><th></th><th></th><th></th></b<>	(HL)	0.760	2.146	3.720	0.010	0.016	0.026				
	A2 . A B	(LH) (HH)	0.819 0.962	2.178 1.927	3.761 3.370	0.012 0.012	0.023 0.023	0.037 0.037				
	A3 → A=B	(HL)	0.902	1.754	3.032	0.012	0.023	0.037				
		(LH)	1.127	2.204	3.879	0.012	0.023	0.036				
		(LL)	0.825	1.513	2.559	0.009	0.015	0.024				
	A3 → A>B	(HH)	0.670	1.965	3.389	0.012	0.023	0.036				
		(LL)	0.670	1.873	3.240	0.012	0.022	0.039				
	B0 → A <b< th=""><th>(HH)</th><th>0.700</th><th>1.344</th><th>2.298</th><th>0.012</th><th>0.023</th><th>0.036</th><th></th><th></th><th></th><th></th></b<>	(HH)	0.700	1.344	2.298	0.012	0.023	0.036				
		(LL)	0.840	1.662	2.873	0.010	0.016	0.026				
	B0 → A=B	(HH) (HL)	0.762 0.521	1.464 0.967	2.493 1.641	0.012 0.009	0.023 0.015	0.036 0.024				
		(LH)	0.744	1.484	2.546	0.009	0.013	0.024				
		(LL)	0.650	1.232	2.159	0.009	0.025	0.024				
	B0 → A>B	(HL)	0.501	0.926	1.557	0.012	0.022	0.038				
		(LH)	0.668	1.277	2.204	0.012	0.023	0.036				
	B1 → A <b< th=""><th>(HH)</th><th>0.767</th><th>2.073</th><th>3.586</th><th>0.012</th><th>0.023</th><th>0.036</th><th></th><th></th><th></th><th></th></b<>	(HH)	0.767	2.073	3.586	0.012	0.023	0.036				
		(LL)	0.822	1.834	3.187	0.010	0.016	0.026				
	B1 → A=B	(HH)	0.853	1.645	2.818	0.012	0.023	0.037				
		(HL)	0.588	1.091	1.853	0.009 0.012	0.015 0.023	0.024				
		(LH) (LL)	0.825 0.727	1.653 1.382	2.860 2.420	0.012	0.023	0.037 0.024				
	B1 → A>B	(HL)	0.889	1.768	3.066	0.009	0.013	0.024				
]	(LH)	0.767	1.451	2.525	0.012	0.022	0.036				
	B2 → A <b< th=""><th>(HH)</th><th>0.839</th><th>2.219</th><th>3.831</th><th>0.012</th><th>0.023</th><th>0.036</th><th></th><th></th><th></th><th></th></b<>	(HH)	0.839	2.219	3.831	0.012	0.023	0.036				
		(LL)	0.778	1.989	3.502	0.010	0.016	0.026				
	B2 → A=B	(HH)	0.916	1.800	3.114	0.012	0.023	0.037				
		(HL)	0.663	1.232	2.087	0.009	0.015	0.024				
		(LH)	0.890	1.810	3.174	0.012	0.023	0.037				
1	DO 4.5	(LL)	0.776	1.472	2.561	0.009	0.015	0.024				
1	B2 → A>B	(HL)	0.726 0.689	1.914	3.306 3.086	0.012 0.012	0.022 0.023	0.038 0.036				
		(LH)	U.089	1.775	ა.U80	0.012	0.023	U.U30				

			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → OI	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	B3 → A <b< td=""><td>(HH)</td><td>0.686</td><td>2.028</td><td>3.478</td><td>0.012</td><td>0.023</td><td>0.036</td><td></td><td></td><td></td><td></td></b<>	(HH)	0.686	2.028	3.478	0.012	0.023	0.036				
l		(LL)	0.659	2.145	3.732	0.010	0.016	0.026				
l	B3 → A=B	(HH)	0.963	1.897	3.313	0.012	0.023	0.036				
l		(HL)	0.717	1.325	2.252	0.009	0.015	0.024				
l		(LH)	0.935	1.904	3.359	0.012	0.023	0.037				
l		(LL)	0.834	1.586	2.759	0.009	0.015	0.024				
l	B3 → A>B	(HL)	0.536	1.723	2.959	0.012	0.022	0.038				
l		(LH)	0.569	1.963	3.401	0.012	0.023	0.036				
l	$A < B \rightarrow A > B$	(HL)	0.277	0.501	0.819	0.012	0.022	0.039				
l		(LH)	0.331	0.650	1.156	0.012	0.023	0.036				
l	A=B → A <b< td=""><td>(HL)</td><td>0.450</td><td>0.832</td><td>1.383</td><td>0.010</td><td>0.016</td><td>0.026</td><td></td><td></td><td></td><td></td></b<>	(HL)	0.450	0.832	1.383	0.010	0.016	0.026				
l		(LH)	0.461	0.851	1.475	0.012	0.023	0.036				
l	A=B → A=B	(HH)	0.179	0.314	0.511	0.012	0.023	0.037				
l		(LL)	0.194	0.333	0.547	0.009	0.015	0.024				
I	A=B → A>B	(HL)	0.266	0.488	0.804	0.012	0.022	0.038				
I		(LH)	0.346	0.644	1.120	0.012	0.023	0.036				
I	A>B → A <b< td=""><td>(HL)</td><td>0.460</td><td>0.846</td><td>1.402</td><td>0.010</td><td>0.016</td><td>0.026</td><td></td><td></td><td></td><td></td></b<>	(HL)	0.460	0.846	1.402	0.010	0.016	0.026				
		(LH)	0.447	0.858	1.512	0.012	0.023	0.037				

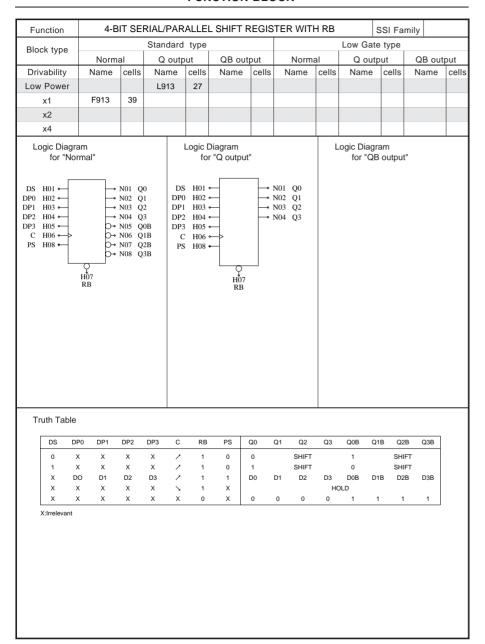
[MEMO]



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FUNCTION BLOCK

- I			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		In	put	Ou	tput
type	IN \rightarrow C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F914	$C \rightarrow Q0$	(HH)	0.435	0.753	1.251	0.012	0.023	0.037	D	1.0	Q0	22
		(HL)	0.561	1.006	1.688	0.009	0.015	0.025	С	2.0	Q1	22
	$C \rightarrow Q1$	(HH)	0.434	0.750	1.246	0.012	0.023	0.036			Q2	23
		(HL)	0.558	0.999	1.675	0.009	0.015	0.025			Q3	22
	$C \rightarrow Q2$	(HH)	0.434	0.750	1.246	0.012	0.023	0.037			Q0B	22
		(HL)	0.557	1.001	1.680	0.009	0.015	0.025			Q1B	22
	$C \rightarrow Q3$	(HH)	0.438	0.756	1.255	0.012	0.023	0.036			Q2B	22
		(HL)	0.556	0.998	1.674	0.009	0.015	0.025			Q3B	22
	$C \rightarrow Q0B$	(HH)	0.690	1.237	2.077	0.012	0.023	0.036				
		(HL)	0.591	1.061	1.804	0.010	0.015	0.025				
	C → Q1B	(HH)	0.685	1.231	2.068	0.012	0.023	0.036				
		(HL)	0.583	1.055	1.800	0.010	0.015	0.025				
	C → Q2B	(HH)	0.679	1.222	2.058	0.012	0.023	0.036				
		(HL)	0.590	1.058	1.798	0.010	0.015	0.025				
	C → Q3B	(HH)	0.656	1.182	1.987	0.012	0.023	0.036				
		(HL)	0.553	0.994	1.688	0.009	0.015	0.024				
	Set up time	D	0.410		0.917							
	Hold time	D	0.404		0.389							
	Min Pulse	С	1.565		3.123							
L914	$C \rightarrow Q0$	(HH)	0.463	0.811	1.328	0.025	0.045	0.072	D	3.1	Q0	9
		(HL)	0.377	0.647	1.076	0.016	0.026	0.044	С	2.0	Q1	9
	$C \rightarrow Q1$	(HH)	0.469	0.822	1.345	0.025	0.045	0.072			Q2	9
		(HL)	0.380	0.653	1.086	0.016	0.026	0.044			Q3	10
	$C \rightarrow Q2$	(HH)	0.463	0.811	1.328	0.025	0.045	0.072				
		(HL)	0.376	0.647	1.075	0.016	0.026	0.044				
	$C \rightarrow Q3$	(HH)	0.444	0.776	1.272	0.025	0.045	0.072				
1		(HL)	0.358	0.616	1.022	0.017	0.028	0.046				
1	Set up time	D	0.357		0.683							
1	Hold time	D	0.540		0.620							
	Min Pulse	С	1.377		2.584							



Block			OWILL	ching sp	eea				Ι.		_	
1	Path		t ı	_D0 (ns)			t 1		In	put	Ou	tput
type		UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F913	$C \rightarrow Q0$	(HH)	0.486	0.878	1.461	0.012	0.023	0.037	DS	1.0	Q0	22
	$C \rightarrow Q1$	(HL) (HH)	0.583 0.485	1.062 0.875	1.785 1.457	0.009 0.012	0.015 0.023	0.025 0.037	DP0 DP1	1.0 1.0	Q1 Q2	22 22
	C → Q1	(HL)	0.582	1.061	1.782	0.012	0.023	0.037	DP2	1.0	Q3	22
	$C \rightarrow Q2$	(HH)	0.485	0.875	1.456	0.012	0.013	0.023	DP3	1.0	Q0B	22
	0 7 42	(HL)	0.582	1.060	1.782	0.009	0.015	0.025	c	2.0	Q1B	22
	$C \rightarrow Q3$	(HH)	0.487	0.878	1.463	0.012	0.023	0.037	RB	10.7	Q2B	22
		(HL)	0.583	1.063	1.786	0.009	0.015	0.025	PS	1.0	Q3B	22
	$C \ \to \ Q0B$	(HH)	0.707	1.287	2.169	0.012	0.023	0.036				
		(HL)	0.650	1.205	2.044	0.009	0.015	0.025				
	$C \ \to \ Q1B$	(HH)	0.710	1.294	2.179	0.012	0.023	0.036				
		(HL)	0.656	1.215	2.063	0.009	0.015	0.025				
	$C \ \to Q2B$	(HH)	0.706	1.285	2.166	0.012	0.023	0.036				
		(HL)	0.649	1.202	2.039	0.009	0.015	0.025				
	$C \rightarrow Q3B$	(HH)	0.685	1.250 1.145	2.103 1.942	0.012	0.023 0.015	0.036				
	$RB \rightarrow Q0$	(HL) (LL)	0.621 0.218	0.386	0.641	0.009	0.015	0.024 0.025				
	$RB \rightarrow Q0$ $RB \rightarrow Q1$	(LL)	0.218	0.385	0.641	0.009	0.015	0.025				
	$RB \rightarrow Q1$ $RB \rightarrow Q2$	(LL)	0.218	0.385	0.641	0.009	0.015	0.025				
	$RB \rightarrow Q3$	(LL)	0.218	0.386	0.642	0.009	0.015	0.025				
	RB → Q0B	(LH)	0.355	0.691	1.144	0.012	0.023	0.037				
	$RB \rightarrow Q1B$	(LH)	0.360	0.699	1.158	0.012	0.023	0.037				
	$RB \ \to \ Q2B$	(LH)	0.355	0.691	1.144	0.012	0.023	0.037				
	$RB \ \to \ Q3B$	(LH)	0.332	0.655	1.083	0.012	0.023	0.037				
	Set up time	DS	1.515		2.218							
	Set up time	DP0	1.506		2.140							
	Set up time	DP1	1.506		2.141							
	Set up time Set up time	DP2 DP3	1.506 1.506		2.141 2.140							
	Set up time	PS PS	1.984		3.059							
	Hold time	DS	0.286		0.121							
	Hold time	DP0	0.285		0.100							
	Hold time	DP1	0.285		0.102							
	Hold time	DP2	0.285		0.102							
	Hold time	DP3	0.285		0.100							
	Hold time	PS	0.019		0.010							
	Release time	RB	0.893		0.983							
	Removal time	RB	0.898		1.113							
	Min Pulse Min Pulse	C RB	1.475 1.146		2.953 2.435							
L913	C → Q0	(HH)	0.507	0.994	1.622	0.024	0.045	0.073	DS	5.1	Q0	8
2313	O → Q0	(HL)	0.396	0.720	1.180	0.017	0.028	0.046	DP0	5.2	Q1	8
1	$C \rightarrow Q1$	(HH)	0.512	0.997	1.626	0.024	0.045	0.073	DP1	5.1	Q2	8
1		(HL)	0.398	0.723	1.186	0.017	0.028	0.045	DP2	4.8	Q3	10
1	$C \ \to \ Q2$	(HH)	0.505	0.982	1.604	0.024	0.045	0.073	DP3	4.8		
1		(HL)	0.391	0.707	1.160	0.016	0.026	0.044	С	2.0		
1	$C \ \to \ \text{Q3}$	(HH)	0.481	0.866	1.422	0.025	0.045	0.072	RB	10.0		
1		(HL)	0.365	0.648	1.065	0.016	0.026	0.044	PS	1.0		
1	RB → Q0	(LL)	0.310	0.710	1.210	0.017	0.028	0.046				
1	RB → Q1	(LL)	0.314	0.712	1.215	0.017	0.028 0.027	0.046				
1	$\begin{array}{ccc} RB & \to Q2 \\ RB & \to Q3 \end{array}$	(LL) (LL)	0.303 0.288	0.691 0.599	1.185 1.052	0.016 0.017	0.027	0.045 0.044				
1	Set up time	DS (LL)	1.260	0.555	1.806	0.017	0.021	0.044				
1	Set up time	DP0	1.266		1.801							
1	Set up time	DP1	1.260		1.796							
	Set up time	DP2	1.252		1.788	L						

			Swite	ching sp	eed							
Block	Path		t ı	D0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
	Set up time	DP3	1.252		1.788							
	Set up time	PS	1.961		3.134							
l	Hold time	DS	0.455		0.440							
	Hold time	DP0	0.437		0.475							
	Hold time	DP1	0.445		0.443							
	Hold time	DP2	0.449		0.442							
	Hold time	DP3	0.449		0.442							
	Hold time	PS	0.113		0.010							
	Release time	RB	1.097		1.348							
	Removal time	RB	0.708		0.791							
	Min Pulse	С	1.365		2.717							
i	Min Pulse	RB	1.241		2.814							

[MEMO]

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Function	4-B	IT SH	IFT REGIS	STER	WITH R					SSI Far	nily	
Block type			Standard	type					Low Gat	e type		
91	Norma	al	Q outp	ut	QB out	put	Norma	al	Q out	put	QB out	put
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power			L911	23								
x1	F911	33										
x2												
x4												
Logic Diagra for "Nor D H01 ← C H02 ←		N01 C N02 C N03 C N04 C N05 C N06 C N07 C	D D D D D D D D D D D D D D D D D D D			→ I	N01 Q0 N02 Q1 N03 Q2 N04 Q3	l L	ogic Diag for "QI	ram 3 output		

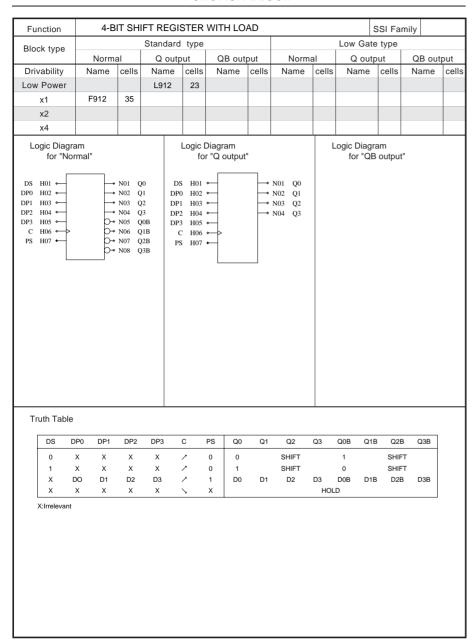
Truth Table

D	G	R	Q0	Q1	Q2	Q3	Q0B	Q1B	Q2B	Q3B
0	1	0	0		SHIFT		1		SHIFT	
1	1	0	1		SHIFT		0		SHIFT	
Х	>	0				H	old			
Х	Χ	1	0	0	0	0	1	1	1	1

X:Irrelevant

FUNCTION BLOCK

D			Swite	ching sp	eed							
Block	Path		t	LD0 (ns))		t 1		In	put	Ou	tput
type	IN \rightarrow C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F911	$C \rightarrow Q0$	(HH)	0.472	0.837	1.401	0.012	0.023	0.037	D	1.0	Q0	22
		(HL)	0.562	1.012	1.699	0.009	0.015	0.024	С	2.0	Q1	22
	$C \rightarrow Q1$	(HH)	0.475 0.561	0.843 1.010	1.409 1.696	0.013	0.023 0.015	0.037 0.024	R	2.0	Q2 Q3	22 22
	C → Q2	(HL) (HH)	0.361	0.837	1.401	0.009	0.013	0.024			Q0B	22
	U → Q2	(HL)	0.562	1.012	1.699	0.012	0.023	0.037			Q1B	22
	C → Q3	(HH)	0.475	0.844	1.410	0.003	0.013	0.024			Q2B	22
	0 7 43	(HL)	0.560	1.010	1.697	0.009	0.015	0.024			Q3B	22
	C → Q0B	(HH)	0.685	1.235	2.079	0.012	0.023	0.036				
	0 / 402	(HL)	0.635	1.163	1.982	0.009	0.015	0.025				
	C → Q1B	(HH)	0.696	1.250	2.100	0.012	0.023	0.036				
		(HL)	0.644	1.178	2.009	0.010	0.015	0.025				
	$C \rightarrow Q2B$	(HH)	0.685	1.235	2.079	0.012	0.023	0.036				
		(HL)	0.635	1.163	1.982	0.009	0.015	0.025				
	$C \rightarrow Q3B$	(HH)	0.667	1.201	2.017	0.012	0.023	0.036				
		(HL)	0.606	1.105	1.880	0.009	0.015	0.024				
	$R \rightarrow Q0$	(HL)	0.387	0.665	1.085	0.009	0.015	0.025				
	$R \rightarrow Q1$	(HL)	0.387	0.666	1.087	0.009	0.015	0.025				
	$R \rightarrow Q2$	(HL)	0.387	0.665	1.085	0.009	0.015	0.025				
	$R \rightarrow Q3$	(HL)	0.387	0.666	1.088	0.009	0.015	0.025				
	R → Q0B	(HH)	0.512 0.542	0.966 0.988	1.584 1.614	0.012 0.012	0.023 0.023	0.036 0.037				
	$R \rightarrow Q1B$	(HH) (HH)	0.542	0.966	1.584	0.012	0.023	0.037				
	$R \rightarrow Q2B$ $R \rightarrow Q3B$	(HH)	0.512	0.941	1.536	0.012	0.023	0.036				
	Set up time	D (1111)	0.430	0.341	0.907	0.012	0.023	0.037				
	Hold time	D	0.410		0.335							
	Release time	R	1.201		1.544							
	Removal time	R	0.623		0.637							
	Min Pulse	С	1.566		3.094							
	Min Pulse	R	1.497		3.086							
L911	$C \rightarrow Q0$	(HH)	0.520	0.912	1.486	0.025	0.045	0.072	D	3.0	Q0	9
		(HL)	0.401	0.680	1.124	0.016	0.026	0.044	С	2.0	Q1	8
	$C \rightarrow Q1$	(HH)	0.528	0.927	1.509	0.025	0.045	0.072	R	2.0	Q2	9
		(HL)	0.410	0.694	1.146	0.017	0.027	0.045			Q3	10
	$C \rightarrow Q2$	(HH)	0.523	0.917	1.494	0.025	0.045	0.072				
		(HL)	0.406	0.688	1.136	0.017	0.028	0.045				
	$C \rightarrow Q3$	(HH) (HL)	0.498 0.378	0.871 0.644	1.421 1.064	0.024 0.016	0.045 0.027	0.072 0.044				
	D 00	(HL)	0.503	0.898	1.526	0.016	0.027	0.044				
	$R \rightarrow Q0$ $R \rightarrow Q1$	(HL)	0.516	0.898	1.558	0.017	0.027	0.044				
	$R \rightarrow Q1$ $R \rightarrow Q2$	(HL)	0.510	0.914	1.546	0.017	0.028	0.046				
	$R \rightarrow Q2$ $R \rightarrow Q3$	(HL)	0.448	0.864	1.470	0.017	0.027	0.040				
	Set up time	D (1.12)	0.353	5.00 †	0.654]	0.02,	"""				
	Hold time	D	0.556		0.636							
	Release time	R	1.378		1.803							
	Removal time	R	0.483		0.429							
	Min Pulse	С	1.476		2.774	1						
	Min Pulse	R	1.591		3.339							



FUNCTION BLOCK

5			Swite	ching sp	eed							
Block	Path		t i	LD0 (ns)			t 1] In	put	Ou	tput
type	IN → C	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F912	$C \rightarrow Q0$	(HH)	0.438	0.770	1.273	0.012	0.023	0.036	DS	1.0	Q0	22
		(HL)	0.567	1.027	1.730	0.009	0.015	0.025	DP0	1.0	Q1	23
	$C \rightarrow Q1$	(HH)	0.439	0.770	1.276	0.012	0.023	0.036	DP1	1.0	Q2	23
	0 00	(HL)	0.568	1.028	1.728	0.009	0.015	0.025	DP2 DP3	1.0	Q3 Q0B	23 22
	$C \rightarrow Q2$	(HH) (HL)	0.436 0.557	0.770 1.014	1.274 1.714	0.012	0.023 0.015	0.036 0.024	C C	1.0 2.0	Q1B	22
	C → Q3	(HH)	0.557	0.770	1.277	0.009	0.013	0.024	PS	1.0	Q2B	22
	U → Q3	(HL)	0.557	1.014	1.711	0.009	0.015	0.024	'	1.0	Q3B	22
	C → Q0B	(HH)	0.689	1.251	2.109	0.012	0.023	0.036			405	
	0 → Q 0D	(HL)	0.581	1.065	1.809	0.009	0.015	0.025				
	C → Q1B	(HH)	0.695	1.260	2.122	0.012	0.023	0.036				
		(HL)	0.588	1.077	1.833	0.009	0.015	0.025				
	$C \rightarrow Q2B$	(HH)	0.675	1.232	2.088	0.012	0.023	0.036				
		(HL)	0.582	1.069	1.818	0.009	0.015	0.025				
	$C \rightarrow Q3B$	(HH)	0.651	1.191	2.016	0.012	0.023	0.036				
		(HL)	0.553	1.009	1.712	0.009	0.015	0.024				
	Set up time	DS	1.489		2.211							
	Set up time	DP0	1.518		2.114							
	Set up time Set up time	DP1 DP2	1.517 1.513		2.114 2.106							
	Set up time	DP3	1.513		2.106							
	Set up time	PS	1.944		2.100							
	Hold time	DS	0.281		0.136							
	Hold time	DP0	0.234		0.207							
	Hold time	DP1	0.234		0.208							
	Hold time	DP2	0.240		0.242							
	Hold time	DP3	0.240		0.242							
	Hold time	PS	0.031		0.010							
	Min Pulse	С	1.441		2.992							
L912	$C \rightarrow Q0$	(HH)	0.469	0.914	1.492	0.025	0.045	0.073	DS	5.1	Q0	8
		(HL)	0.384	0.698	1.146	0.016	0.027	0.044	DP0	5.2	Q1	8
	$C \rightarrow Q1$	(HH) (HL)	0.481 0.392	0.936 0.712	1.523 1.165	0.025 0.017	0.045 0.028	0.073 0.046	DP1 DP2	5.1 5.1	Q2 Q3	8 10
	C → Q2	(HH)	0.392	0.712	1.503	0.017	0.026	0.046	DP3	5.1	L US	10
	U → Q2	(HL)	0.387	0.703	1.151	0.023	0.028	0.075	C	2.0		
	C → Q3	(HH)	0.446	0.795	1.307	0.025	0.045	0.072	PS	1.0		
	0 / 40	(HL)	0.359	0.636	1.046	0.017	0.027	0.044				
	Set up time	DS	1.212		1.644							
	Set up time	DP0	1.230		1.615							
	Set up time	DP1	1.238		1.662							
	Set up time	DP2	1.238		1.662							
	Set up time	DP3	1.228		1.600							
	Set up time	PS	1.833		2.910							
	Hold time	DS	0.498		0.489							
	Hold time	DP0	0.493		0.409							
	Hold time Hold time	DP1 DP2	0.490 0.490		0.399 0.399							
	Hold time	DP2 DP3	0.490		0.399							
	Hold time	PS	0.499		0.420							
	Min Pulse	C	1.354		2.616							

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Function	4-B	IT SY	NCHRON	ous i	BINARY C	CNUO	ER WITH	I RB		SSI Far	mily	
Block type			Standard	type					Low Gat	te type		
2.0011 1,750	Norma	al	Q outp	out	QB out	put	Norm	al	Q out	tput	QB o	utput
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power												
x1	F961	54										
x2												
x4												
Logic Diagra for "Noi D3 H04 ← D2 H03 ← D1 H02 ← D0 H01 ← C H05 ← RB H06 ← LOADB H07 ← ENP H08 ← ENT H09 ←	rmal"	N08 0 N07 0 N06 0 N05 0 N04 0 N03 0	CRY Q3B Q2B Q1B Q0B Q3 Q2		Diagram r "Q output			L	ogic Diag	ram B output		

Truth Table

Dn	С	RB	LOADB	ENP	ENT	Qn	QnB	
Х	1	1	1	1	1	INCREME	NT COUNT	
X	`	1	1	1	1	нс	DLD	
X	X	1	1	0	Х	HOLD		
X	X	1	1	X	0	HOLD		
Dn	1	1	0	X	X	Dn	DnB	
X	>	1	0	X	X	HOLD		
X	X	0	Χ	Χ	Х	0	1	

N09 is '1' only at H09=Qn=1

X:Irrelevant

n = 0,1,2,3

FUNCTION BLOCK

<u> </u>			Swite	ching sp	eed						_	
Block	Path		t i	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → O	UT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F961	$C \rightarrow Q0$	(HH)	1.013	1.919	3.271	0.012	0.023	0.037	D0	5.2	Q0	22
		(HL)	0.781	1.393	2.357	0.010	0.016	0.026	D1	5.2	Q1	22
	C → Q1	(HH)	0.989	1.868	3.177	0.012	0.023	0.037	D2	5.2	Q2	22
		(HL)	0.765	1.363	2.304	0.010	0.016	0.026	D3	5.2	Q3	22
	$C \rightarrow Q2$	(HH)	0.961	1.811	3.074	0.012	0.023	0.037	С	2.1	Q0B	22
		(HL)	0.747	1.332	2.248	0.010	0.016	0.026	RB	10.9	Q1B	22
	C → Q3	(HH)	0.933	1.752	2.966	0.012	0.023	0.037	LOADB	1.0	Q2B	22
		(HL)	0.730	1.300	2.191	0.010	0.016	0.026	ENP	1.0	Q3B	22
	C → Q0B	(HH)	0.598	1.026	1.698	0.013	0.023	0.037	ENT	2.3	CRY	10
		(HL)	0.803	1.504	2.556	0.010	0.017	0.028				
	C → Q1B	(HH)	0.582	0.999	1.650	0.013	0.023	0.037				
		(HL)	0.781	1.458	2.472	0.010	0.017	0.028				
	C → Q2B	(HH)	0.566	0.971	1.600	0.013	0.023	0.037				
		(HL)	0.756	1.407	2.380	0.010	0.017	0.027				
	C → Q3B	(HH)	0.549	0.941	1.548	0.013	0.023	0.037				
		(HL)	0.730	1.355	2.283	0.010	0.016	0.027				
	$C \rightarrow CRY$	(HH)	1.073	2.005	3.382	0.025	0.046	0.073				
		(HL)	0.545	0.961	1.610	0.017	0.027	0.043				
	$RB \rightarrow Q0$	(LL)	0.261	0.467	0.784	0.010	0.016	0.026				
	RB → Q1	(LL)	0.261	0.467	0.784	0.010	0.016	0.026				
	RB → Q2	(LL)	0.261	0.466	0.782	0.010	0.016	0.026				
	RB → Q3	(LL)	0.261	0.466	0.782	0.010	0.016	0.026				
	RB → Q0B	(LH)	0.558	1.002	1.718	0.013	0.023	0.037				
	RB → Q1B	(LH)	0.542	0.975	1.670	0.013	0.023	0.037				
	RB → Q2B	(LH)	0.526	0.947	1.621	0.013	0.023	0.037				
	RB → Q3B	(LH)	0.509	0.917	1.570	0.013	0.023	0.037				
	RB → CRY	(LL)	0.507	0.938	1.632	0.017	0.027	0.043				
	$ENT \to CRY$	(HH)	0.381	0.736	1.223	0.025	0.046	0.073				
		(LL)	0.248	0.450	0.739	0.017	0.027	0.045				
	Set up time	D0	1.253		1.802							
	Set up time	D1	1.253		1.801							
	Set up time	D2	1.253		1.802							
	Set up time	D3	1.253		1.801							
	Set up time	LOADB	1.981		3.065							
	Set up time	ENP	2.570		4.721							
	Set up time	ENT	2.447		4.716							
	Hold time Hold time	D0 D1	0.465 0.464		0.425 0.426							
	Hold time	D2	0.465		0.426							
					ı							
	Hold time Hold time	D3 LOADB	0.465 0.065		0.425 0.010							
	Hold time	ENP	0.065		1.075							
	Hold time	ENT	0.293		0.010							
	Release time	RB	1.071		1.326							
	Release time Removal time	RB	0.726		0.802							
	Min Pulse	С	2.120		5.093							
I					ı							
	Min Pulse	RB	1.582		3.908							

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Function	4-BI	IT SY	NCHRON	IOUS I	BINARY U	IP CO	UNTER W	/ITH R	RB :	SSI Far	nily	
Block type			Standar	d type					Low Gate	e type		
2.00 1, po	Norma	al	Q out	put	QB out	put	Norma	al	Q out	put	QB ou	tput
Drivability	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells	Name	cells
Low Power												
x1	F962	39										
x2												
x4												
Logic Diagra for "Nor C H01 → RB H02 ←C	rmal"	N02 0 N03 0 N04 0 N05 0 N06 0 N07 0	Q0 Q1 Q2 Q3 Q0B Q1B Q2B Q3B		Diagram r "Q output				ogic Diagr	ram 3 output'		

Truth Table

С	RB	Qn	QnB
1	1	INCREME	NT COUNT
`	1	Н	OLD
Х	0	0	1

X:Irrelevant (n=0,1,2,3)

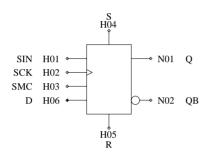
FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		l In	put	Ou	tput
type	IN → C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
F962	$C \rightarrow Q0$	(HH)	0.933	1.732	2.935	0.013	0.023	0.037	С	2.1	Q0	22
		(HL)	0.732	1.292	2.174	0.009	0.015	0.024	RB	10.3	Q1	22
	$C \rightarrow Q1$	(HH)	0.897	1.653	2.807	0.012	0.023	0.037			Q2	22
		(HL)	0.773	1.370	2.304	0.009	0.015	0.025			Q3	22
	$C \rightarrow Q2$	(HH)	0.853	1.566	2.655	0.012	0.023	0.037			Q0B	22
		(HL)	0.730	1.294	2.182	0.009	0.015	0.025			Q1B	22
	$C \rightarrow Q3$	(HH)	0.804	1.470	2.487	0.012	0.023	0.036			Q2B	22
		(HL)	0.706	1.250	2.105	0.009	0.015	0.025			Q3B	23
	$C \rightarrow Q0B$	(HH)	0.572	0.972	1.605	0.013	0.023	0.037				
		(HL)	0.749	1.367	2.309	0.010	0.016	0.027				
	$C \rightarrow Q1B$	(HH)	0.556	0.945	1.565	0.013	0.023	0.037				
		(HL)	0.714	1.296	2.189	0.010	0.016	0.026				
	$C \rightarrow Q2B$	(HH)	0.525	0.890	1.470	0.013	0.023	0.037				
		(HL)	0.673	1.210	2.041	0.010	0.016	0.026				
	C → Q3B	(HH)	0.505	0.851	1.401	0.013	0.023	0.037				
		(HL)	0.630	1.126	1.892	0.010	0.015	0.025				
	$RB \rightarrow Q0$	(LL)	0.242	0.649	1.109	0.009	0.016	0.027				
	$RB \rightarrow Q1$	(LL)	0.306	0.751	1.270	0.010	0.016	0.027				
	$RB \rightarrow Q2$	(LL)	0.307	0.753	1.274	0.010	0.016	0.027				
	$RB \rightarrow Q3$	(LL)	0.303	0.744	1.264	0.010	0.016	0.027				
	RB → Q0B	(LH)	0.517	1.161	2.038	0.012	0.023	0.037				
	RB → Q1B	(LH)	0.497	1.258	2.206	0.013	0.024	0.038				
	RB → Q2B	(LH)	0.474	1.186	2.092	0.013	0.024	0.038				
	RB → Q3B	(LH)	0.430	1.110	1.968	0.013	0.024	0.038				
1	Release time	RB	1.078		1.318							
1	Removal time	RB	0.759		0.858							
1	Min Pulse	С	1.330		3.376							
	Min Pulse	RB	0.926		3.029							

6 - 360

Function	D-F	/F WI	TH R,S,2	TO 1	SELECTO	R				SSI Fa	mily			
Block type		Standard type												
Вюск турс	Norma													
Drivability	Name	cells	Name	cells										
Low Power														
x1	S000	12												
x2														
x4														

Logic Diagram



Truth Table

SIN	SCK	SMC	S	R	D	Q	QB
Х	Х	Х	1	0	Х	1	0
х	X	Х	0	1	X	0	1
Α	1	0	0	0	X	Α	AB
X	1	1	0	0	В	В	BB
X	>	X	0	0	X	HC	DLD
Х	X	X	1	1	X	1	1

 \leftarrow Prohibition

X:Irrelevant

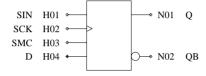
FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1] In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S000	SCK → Q	(HH)	0.407	0.737	1.250	0.012	0.023	0.036	SIN	1.0	Q	23
		(HL)	0.559	1.075	1.851	0.011	0.017	0.028	SCK	1.0	QB	22
	$SCK \rightarrow QB$	(HH)	0.655	1.263	2.188	0.012	0.022	0.036	SMC	1.0		
		(HL)	0.625	1.198	2.096	0.010	0.016	0.026	S	2.3		
	$S \rightarrow Q$	(HH)	0.188	0.303	0.453	0.012	0.023	0.036	R	2.1		
	$S \rightarrow QB$	(HL)	0.404	1.012	1.738	0.010	0.017	0.029	D	1.0		
	$R \rightarrow Q$	(HL)	0.486	0.928	1.590	0.011	0.017	0.028				
	$R \rightarrow QB$	(HH)	0.185	0.359	0.535	0.012	0.023	0.037				
	Set up time	SIN	0.849		2.118							
	Set up time	SMC	0.805		2.201							
	Set up time	D	0.805		2.201							
	Hold time	SIN	0.010		0.010							
	Hold time	SMC	0.010		0.010							
	Hold time	D	0.010		0.010							
	Release time	S	1.112		1.195							
	Release time	R	1.282		1.700							
	Removal time	S	0.617		0.704							
1	Removal time	R	0.475		0.300							
I	Min Pulse	SCK	1.115		2.618							
I	Min Pulse	S	0.924		2.714							
	Min Pulse	R	1.045		2.590							

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Function	D-F	/F WI	TH 2 TO 1	SELI	ECTOR					SSI Fa	mily	
Block type					S	tanda	rd type					
Вюск турс	Norma	Normal High speed										
Drivability	Name	cells	Name	cells								
Low Power												
x1	S002	10										
x2												
x4												

Logic Diagram



Truth Table

SIN	SCK	SMC	D	Q	QB
Х	1	1	В	В	ВВ
Α	1	0	Χ	Α	AB
Х	\	Χ	Χ	НС	DLD

X:Irrelevant

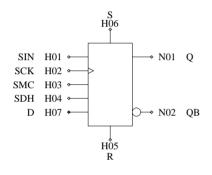
FUNCTION BLOCK

			Swite	ching sp	eed						_	
Block	Path		t I	LD0 (ns))		t 1] In	put	Output	
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S002	SCK → Q	(HH)	0.380	0.675	1.118	0.012	0.023	0.037	SIN	1.0	Q	22
		(HL)	0.428	0.802	1.354	0.009	0.015	0.025	SCK	1.0	QB	23
	SCK → QB	(HH)	0.520	0.974	1.648	0.012	0.022	0.036	SMC	1.0		
		(HL)	0.494	0.909	1.544	0.011	0.016	0.026	D	1.0		
	Set up time	SIN	0.607		1.328							
	Set up time	SMC	0.611		1.426							
	Set up time	D	0.611		1.426							
	Hold time	SIN	0.096		0.010							
	Hold time	SMC	0.061		0.010							
	Hold time	D	0.122		0.010							
	Min Pulse	SCK	1.055		2.211							

6 - 364

Function	D-F	/F WI	TH R,S,H	OLD,2	TO 1 SEL	ECT	OR			SSI Fa	mily	
Block type					S	tanda	rd type					
Бюск туре	Norma	Normal High speed										
Drivability	Name	cells	Name	cells								
Low Power												
x1	S050	14										
x2												
x4												

Logic Diagram



Truth Table

SIN	SCK	SMC	SDH	S	R	D	Q	QB
Х	1	Х	1	0	0	Χ	н	DLD
Α	1	0	0	0	0	X	Α	AB
X	1	1	0	0	0	В	В	BB
X	>	Х	X	0	0	X	НС	DLD
X	X	Х	X	0	1	X	0	1
X	X	Х	X	1	0	X	1	0
Х	X	X	X	1	1	X	1	1

X:Irrelevant

6 - 366

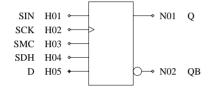
 \leftarrow Prohibition

FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN \rightarrow C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S050	SCK → Q	(HH)	0.414	0.751	1.277	0.012	0.023	0.036	SIN	3.1	Q	23
		(HL)	0.553	1.067	1.837	0.011	0.017	0.028	SCK	1.0	QB	22
	$SCK \rightarrow QB$	(HH)	0.700	1.348	2.334	0.012	0.022	0.036	SMC	1.1		
		(HL)	0.727	1.416	2.500	0.010	0.017	0.028	SDH	1.0		
	$R \rightarrow Q$	(HL)	0.472	0.999	1.709	0.011	0.017	0.028	R	2.1		
	$R \rightarrow QB$	(HH)	0.229	0.421	0.642	0.012	0.023	0.037	S	2.2		
	$S \rightarrow Q$	(HH)	0.187	0.301	0.452	0.012	0.023	0.036	D	3.1		
	$S \rightarrow QB$	(HL)	0.498	1.215	2.118	0.010	0.018	0.031				
	Set up time	SIN	0.802		2.145							
	Set up time	SMC	0.818		2.126							
	Set up time	SDH	0.818		2.126							
	Set up time	D	0.818		2.126							
	Hold time	SIN	0.010		0.010							
	Hold time	SMC	0.010		0.010							
	Hold time	SDH	0.010		0.010							
	Hold time	D	0.010		0.010							
	Release time	R	1.232		1.659							
	Release time	S	1.084		1.198							
1	Removal time	R	0.517		0.333							
1	Removal time	S	0.640		0.702							
1	Min Pulse	SCK	1.183		2.952							
1	Min Pulse	R	0.991		2.710							
	Min Pulse	S	1.035		3.063							

Function	D-F	/F WI	TH HOLD	,2 TO	1 SELECT	OR			SSI Fa	mily	
Block type					S	tanda	rd type				
Вюск турс	Norma	al	High sp	eed							
Drivability	Name	cells	Name	cells							
Low Power											
x1	S052	13									
x2											
x4											

Logic Diagram



Truth Table

SIN	SCK	SMC	SDH	D	Q	QB
Х	1	Х	1	Х	НС	DLD
Α	1	0	0	X	Α	AB
X	1	1	0	В	В	BB
Х	>	Χ	Χ	Χ	НС	DLD

X:Irrelevant

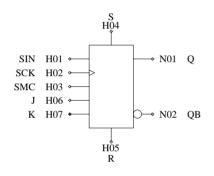
FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S052	SCK → Q	(HH)	0.385	0.680	1.125	0.012	0.023	0.037	SIN	3.1	Q	22
		(HL)	0.457	0.839	1.398	0.009	0.015	0.024	SCK	1.0	QB	22
	SCK → QB	(HH)	0.585	1.074	1.798	0.012	0.023	0.036	SMC	1.1		
		(HL)	0.547	1.008	1.715	0.011	0.017	0.027	SDH	1.0		
	Set up time	SIN	0.713		1.629				D	3.1		
	Set up time	SMC	0.713		1.629							
	Set up time	SDH	0.713		1.629							
	Set up time	D	0.713		1.629							
	Hold time	SIN	0.066		0.010							
	Hold time	SMC	0.010		0.010							
	Hold time	SDH	0.048		0.010							
	Hold time	D	0.068		0.010							
	Min Pulse	SCK	1.086		2.322							

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F	IK.	E/E \//	ITLLDCC		FUNCTION	.1			,	201.5-		
Function	JIX-	1 / I V V	1111 K, 3, L	/-1 /1 1	UNCTIO	N				SSI Fa	mily	
Block type					S	tanda	rd type					
Blook type	Norma											
Drivability	Name	3 -1										
Low Power												
x1	S100	14										
x2												
x4												

Logic Diagram



Truth Table

SIN	SCK	SMC	S	R	J	K	Qn	QBn	Qn+1	QBn+1
Х	Х	Х	1	0	Х	Х	х	Х	1	0
Χ	X	X	0	1	X	X	X	X	0	1
Α	1	0	0	0	X	X	X	X	Α	AB
X	1	1	0	0	В	X	0	1	В	BB
Χ	1	1	0	0	X	С	1	0	СВ	С
Χ	`	X	0	0	X	X	X	X	HC	DLD
Χ	X	X	1	1	X	X	X	X	1	1

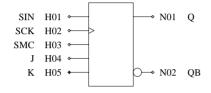
X:Irrelevant

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns)			t 1		l In	put	Ou	tput
type	IN \rightarrow C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S100	SCK → Q	(HH)	0.401	0.729	1.240	0.013	0.023	0.037	SIN	1.0	Q	22
		(HL)	0.552	1.068	1.842	0.010	0.016	0.026	SCK	1.0	QB	22
	$SCK \rightarrow QB$	(HH)	0.716	1.376	2.381	0.012	0.023	0.036	SMC	1.0		
		(HL)	0.739	1.445	2.558	0.011	0.018	0.030	S	2.3		
	$S \rightarrow Q$	(HH)	0.190	0.306	0.457	0.012	0.023	0.037	R	2.1		
	$S \rightarrow QB$	(HL)	0.527	1.268	2.214	0.011	0.020	0.032	J	1.0		
	$R \rightarrow Q$	(HL)	0.487	1.008	1.734	0.010	0.016	0.026	K	1.0		
	$R \rightarrow QB$	(HH)	0.241	0.439	0.670	0.013	0.023	0.037				
	Set up time	SIN	1.680		2.520							
	Set up time	SMC	1.867		2.838							
	Set up time	J	2.002		3.375							
	Set up time	K	1.985		3.046							
	Hold time	SIN	0.010		0.010							
	Hold time	SMC	0.010		0.010							
	Hold time	J	0.010		0.010							
	Hold time	K	0.010		0.010							
	Release time	S	1.085		1.194							
	Release time	R	1.277		1.711							
	Removal time	S	0.640		0.704							
	Removal time	R	0.480		0.291							
	Min Pulse	SCK	1.245		2.997							
	Min Pulse	S	1.107		3.133							
	Min Pulse	R	1.044		2.730							

FUNCTION BLOCK

Function	JK-	F/F W	ITH D-F/F	FUN	CTION				SSI Fa	mily	
Block type					S	tanda	rd type				
Вюск турс	Norma	Normal High speed									
Drivability	Name	cells	Name	cells							
Low Power											
x1	S102	12									
x2											
x4											

Logic Diagram



Truth Table

SIN	SCK	SMC	J	K	Qn	QBn	Qn+1	QBn+1
Α	1	0	Х	Х	Х	Х	Α	AB
X	1	1	В	X	0	1	В	BB
X	1	1	Χ	С	1	0	СВ	С
Х	\	X	X	X	Х	X	Н	OLD

X:Irrelevant

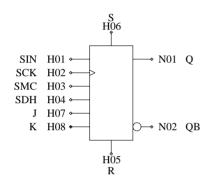
FUNCTION BLOCK

			Swite	ching sp	eed						_	
Block	Path		tι	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S102	SCK → Q	(HH)	0.383	0.685	1.137	0.012	0.023	0.036	SIN	1.0	Q	23
		(HL)	0.456	0.842	1.409	0.009	0.015	0.024	SCK	1.0	QB	22
	SCK → QB	(HH)	0.613	1.124	1.887	0.012	0.022	0.036	SMC	1.0		
		(HL)	0.565	1.058	1.815	0.010	0.015	0.025	J	1.0		
	Set up time	SIN	1.583		2.286				K	1.0		
	Set up time	SMC	1.743		2.435							
	Set up time	J	1.821		3.117							
	Set up time	K	1.789		2.655							
	Hold time	SIN	0.124		0.010							
	Hold time	SMC	0.069		0.010							
	Hold time	J	0.047		0.010							
	Hold time	K	0.010		0.010							
	Min Pulse	SCK	1.190		2.465							

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Function	JK-	F/F W	ITH R,S,F	IOLD,	D-F/F FUN	ICTIC	ON		SSI Fa	mily	
Block type					S	tanda	rd type				
Вюск турс	Norma	al	High sp	eed							
Drivability	Name	cells	Name	cells							
Low Power											
x1	S150	17									
x2											
x4											

Logic Diagram



Truth Table

SIN	SCK	SMC	SDH	S	R	J	K	Qn	QBn	Qn+1	QBn+1
Х	1	Х	1	0	0	Х	Х	х	Х	н	DLD
Α	1	0	0	0	0	Х	X	Х	Х	Α	AB
X	1	1	0	0	0	В	X	0	1	В	BB
Χ	1	1	0	0	0	Χ	С	1	0	СВ	С
X	`	X	Х	0	0	X	X	Х	X	HO	DLD
Χ	X	X	Х	0	1	Χ	X	Х	Х	0	1
Χ	X	X	Х	1	0	Χ	X	Х	Х	1	0
Χ	X	X	Х	1	1	Χ	X	Х	Х	1	1

 \leftarrow Prohibition

X:Irrelevant

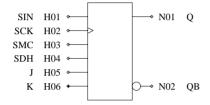
FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S150	SCK → Q	(HH)	0.404	0.739	1.260	0.013	0.023	0.037	SIN	3.0	Q	22
		(HL)	0.551	1.065	1.838	0.010	0.016	0.027	SCK	1.0	QB	22
	SCK → QB	(HH)	0.754	1.444	2.496	0.012	0.023	0.036	SMC	1.0		
		(HL)	0.814	1.612	2.871	0.011	0.018	0.030	SDH	1.0		
	$R \rightarrow Q$	(HL)	0.478	1.064	1.829	0.010	0.016	0.026	R	2.1		
	$R \rightarrow QB$	(HH)	0.272	0.490	0.756	0.012	0.023	0.037	S	2.3		
	$S \rightarrow Q$	(HH)	0.189	0.304	0.454	0.012	0.023	0.037	J	1.0		
	$S \rightarrow QB$	(HL)	0.598	1.423	2.507	0.011	0.020	0.033	K	1.0		
	Set up time	SIN	1.740		2.568							
	Set up time	SMC	2.045		3.296							
	Set up time	SDH	1.793		2.681							
	Set up time	J	2.126		3.454							
	Set up time	K	2.199		3.517							
	Hold time	SIN	0.010		0.010							
	Hold time	SMC	0.010		0.010							
	Hold time	SDH	0.010		0.010							
	Hold time	J	0.010		0.010							
	Hold time	K	0.010		0.010							
	Release time	R	1.233		1.657							
	Release time	S	1.085		1.194							
1	Removal time	R	0.517		0.332							
1	Removal time	S	0.640		0.703							
1	Min Pulse	SCK	1.312		3.297							
1	Min Pulse	R	0.997		2.825							
	Min Pulse	S	1.173		3.416							

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Function	JK-	F/F W	ITH HOLD	D,D-F/	F FUNCTI	ON				SSI Fa	mily	
Block type					S	tanda	rd type				•	
Вюск турс	Norma	Normal High speed										
Drivability	Name	cells	Name	cells								
Low Power												
x1	S152	15										
x2												
x4												

Logic Diagram



Truth Table

SIN	SCK	SMC	SDH	J	K	Qn	QBn	Qn+1	QBn+1
Х	1	Х	1	Х	Х	x	Х	НС	DLD
Α	1	0	0	Χ	X	X	X	Α	AB
X	1	1	0	В	X	0	1	В	BB
X	1	1	0	X	С	1	0	CB	С
Х	>	Χ	Χ	Χ	Χ	X	X	HC	DLD

X:Irrelevant

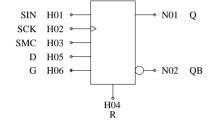
FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN \rightarrow C	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S152	SCK → Q	(HH)	0.370	0.664	1.106	0.012	0.023	0.037	SIN	3.0	Q	22
		(HL)	0.433	0.803	1.348	0.009	0.015	0.024	SCK	1.0	QB	22
	SCK → QB	(HH)	0.603	1.112	1.872	0.012	0.023	0.036	SMC	1.0		
		(HL)	0.586	1.103	1.900	0.010	0.016	0.026	SDH	1.0		
	Set up time	SIN	1.633		2.320				J	1.0		
	Set up time	SMC	1.872		3.047				K	1.0		
	Set up time	SDH	1.666		2.449							
	Set up time	J	2.029		3.176							
	Set up time	K	1.972		3.136							
	Hold time	SIN	0.075		0.010							
	Hold time	SMC	0.010		0.010							
	Hold time	SDH	0.059		0.010							
1	Hold time	J	0.010		0.010							
1	Hold time	K	0.010		0.010							
	Min Pulse	SCK	1.125		2.399							

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Function	D-L	ATCH	WITH R,	D-F/F	FUNCTIO	N				SSI Fa	mily	
Block type					S	tanda	rd type					
Block type	Norma	Normal High speed										
Drivability	Name cells Name cells											
Low Power												
x1	S201	12										
x2												
x4												

Logic Diagram



Truth Table

SIN	SCK	SMC	R	D	G	Q	QB
х	Х	Х	1	Х	X	0	1
Α	1	0	0	X	X	Α	AB
X	>	0	0	X	X	НС	DLD
X	X	1	0	В	1	В	BB
X	X	1	0	X	0	LA ⁻	TCH
X	1	Down	0	1	1	Х	Χ

X:Irrelevant

6 - 378

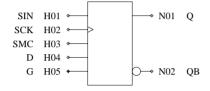
 $\leftarrow \text{Prohibition}$

FUNCTION BLOCK

D			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1		l In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S201	SCK → Q	(HH)	0.833	1.559	2.674	0.012	0.022	0.036	SIN	3.1	Q	22
		(HL)	0.660	1.212	2.083	0.009	0.015	0.024	SCK	1.0	QB	22
	SCK → QB	(HH)	0.529	0.954	1.623	0.012	0.023	0.037	SMC	1.0		
		(HL)	0.723	1.355	2.320	0.010	0.016	0.027	R	2.5		
	$R \rightarrow Q$	(HL)	0.394	0.700	1.146	0.010	0.016	0.025	D	1.0		
	$R \rightarrow QB$	(HH)	0.194	0.310	0.465	0.012	0.023	0.036	G	1.0		
	$D \rightarrow Q$	(HH)	0.700	1.294	2.215	0.012	0.022	0.036				
		(LL)	0.589	1.138	2.099	0.009	0.015	0.024				
	$D \rightarrow QB$	(HL)	0.589	1.091	1.862	0.010	0.016	0.027				
		(LH)	0.457	0.881	1.638	0.012	0.023	0.037				
	$G \rightarrow Q$	(HH)	0.858	1.594	2.716	0.012	0.022	0.036				
		(HL)	0.674	1.233	2.114	0.009	0.015	0.024				
	$G \rightarrow QB$	(HH)	0.543	0.976	1.656	0.012	0.023	0.037				
		(HL)	0.748	1.391	2.362	0.010	0.016	0.027				
	Set up time	SIN	1.194		1.480							
	Set up time	SMC	1.963		2.950							
	Set up time	D	1.736		2.532							
	Hold time	SIN	0.484		0.579							
	Hold time	SMC	0.030		0.010							
	Hold time	D	0.146		0.010							
	Release time	R	1.314		1.756							
	Removal time	R	0.801		1.043							
	Min Pulse	SCK	1.833		3.841							
	Min Pulse	R	1.400		2.892							
	Min Pulse	G	1.833		3.841	l			1	1		1

Function	D-L	ATCH	WITH D-	F/F F	UNCTION					SSI Fa	mily	
Block type					S	tanda	rd type					
Вюск турс	Norma	Normal High speed										
Drivability	Name cells Name cells											
Low Power												
x1	S202	11	S204	11								
x2												
x4												

Logic Diagram



Truth Table

SIN	SCK	SMC	D	G	Q	QB
Α	1	0	Х	Х	Α	AB
Х	`	0	X	X	НС	DLD
X	X	1	В	1	В	BB
X	X	1	X	0	LA	TCH
Х	1	Down	1	1	Х	Χ

X:Irrelevant

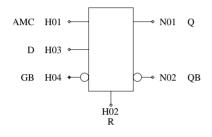
FUNCTION BLOCK

			Swite	ching sp	eed							
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S202	SCK → Q	(HH)	0.700	1.267	2.123	0.012	0.022	0.036	SIN	3.1	Q	22
		(HL)	0.626	1.153	1.992	0.009	0.015	0.024	SCK	1.0	QB	22
	$SCK \rightarrow QB$	(HH)	0.509	0.914	1.556	0.012	0.023	0.036	SMC	1.0		
		(HL)	0.604	1.090	1.820	0.009	0.015	0.025	D	1.0		
	$D \rightarrow Q$	(HH)	0.545	0.978	1.643	0.012	0.023	0.036	G	1.0		
		(LL)	0.556	1.088	2.028	0.009	0.015	0.024				
	$D \rightarrow QB$	(HL)	0.450	0.801	1.340	0.009	0.015	0.025				
		(LH)	0.438	0.846	1.588	0.012	0.023	0.036				
	$G \rightarrow Q$	(HH)	0.710	1.284	2.143	0.012	0.022	0.036				
		(HL)	0.643	1.182	2.034	0.009	0.015	0.024				
	$G \rightarrow QB$	(HH)	0.527	0.943	1.597	0.012	0.023	0.036				
		(HL)	0.614	1.106	1.841	0.009	0.015	0.024				
	Set up time	SIN	1.166		1.335							
	Set up time	SMC	1.713		2.524							
	Set up time	D	1.531		2.248							
	Hold time	SIN	0.538		0.658							
	Hold time	SMC	0.051		0.010							
	Hold time	D	0.203		0.179							
	Min Pulse	SCK	1.731		3.447							
	Min Pulse	G	1.731		3.447							
S204	SCK → Q	(HH)	0.560	0.971	1.576	0.013	0.024	0.038	SIN	3.0	Q	21
		(HL)	0.497	0.955	1.719	0.011	0.018	0.030	SCK	1.0	QB	22
	SCK → QB	(HH)	0.599	1.160	2.092	0.012	0.022	0.036	SMC	1.0		
		(HL)	0.706	1.256	2.090	0.009	0.015	0.024	D G	1.0 1.0		
	$D \to Q$	(HH)	0.404	0.691	1.123	0.013	0.024	0.038	٦	1.0		
	D 0D	(LL)	0.416	0.823	1.628	0.011	0.018	0.030				
	$D \rightarrow QB$	(HL) (LH)	0.549 0.521	0.975 1.037	1.633 2.010	0.009	0.015 0.022	0.024 0.036				
	$G \rightarrow Q$	(LII)	0.568	0.986	1.597	0.012	0.022	0.038				
	G → Q	(HL)	0.505	0.983	1.766	0.013	0.024	0.030				
	$G \rightarrow QB$	(HH)	0.513	1.189	2.138	0.011	0.018	0.036				
	G → QB	(HL)	0.018	1.270	2.106	0.012	0.022	0.030				
	Set up time	SIN	1.167	1.210	1.341	0.009	0.015	0.024				
	Set up time	SMC	1.739		2.689							
1	Set up time	D	1.636		2.439							
	Hold time	SIN	0.536		0.655							
	Hold time	SMC	0.019		0.033							
	Hold time	D	0.125		0.056							
	Min Pulse	SCK	1.756		3.431							
	Min Pulse	G	1.756		3.431							
	WIII I UISE	J	1.750		0.401							

Function	D-L	ATCH	WITH R,	SPEC	IAL FUNC	TION				SSI Fa	mily	
Block type					S	tanda	rd type				·	
Вюск турс	Norma	Normal High speed										
Drivability	Name cells Name cells											
Low Power												
x1	S301	8										
x2												
x4												

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Logic Diagram



Truth Table

AMC	R	D	GB	Q	QB
1	0	0	0	0	1
1	0	1	0	1	0
1	0	X	1	LA	TCH
X	1	X	X	0	1
0	0	0	0	0	1
0	0	0	1	0	1
0	0	1	0	0	1
0	0	1	1	1	0

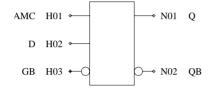
X:Irrelevant

FUNCTION BLOCK

			Swite	ching sp	eed						_	
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	$IN \rightarrow C$	TUC	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S301	$AMC \rightarrow Q$	(HH)	0.603	1.167	2.047	0.012	0.022	0.036	AMC	2.1	Q	22
		(LH)	0.678	1.287	2.217	0.012	0.022	0.036	R	1.0	QB	22
		(LL)	0.635	1.248	2.253	0.009	0.015	0.024	D	1.0		
	$AMC \rightarrow QB$	(HL)	0.499	0.971	1.702	0.010	0.016	0.027	GB	2.1		
		(LH)	0.505	0.993	1.794	0.012	0.023	0.036				
		(LL)	0.574	1.091	1.872	0.010	0.016	0.027				
	$R \rightarrow Q$	(HL)	0.322	0.562	0.913	0.009	0.015	0.024				
		(LH)	0.403	0.811	1.458	0.012	0.022	0.036				
	$R \rightarrow QB$	(HH)	0.193	0.309	0.462	0.012	0.023	0.037				
		(LL)	0.299	0.615	1.113	0.010	0.016	0.027				
	$D \rightarrow Q$	(HH)	0.607	1.154	2.001	0.012	0.022	0.036				
		(LL)	0.474	0.888	1.564	0.009	0.015	0.024				
	$D \rightarrow QB$	(HL)	0.503	0.959	1.656	0.010	0.016	0.027				
		(LH)	0.345	0.634	1.109	0.012	0.023	0.037				
	$GB \rightarrow Q$	(HH)	0.643	1.229	2.143	0.012	0.022	0.036				
		(LH)	0.630	1.213	2.119	0.012	0.022	0.036				
		(LL)	0.495	1.325	2.375	0.009	0.015	0.024				
	$GB \to QB$	(HL)	0.539	1.033	1.798	0.010	0.016	0.027				
		(LH)	0.366	1.067	1.912	0.012	0.023	0.036				
		(LL)	0.526	1.018	1.775	0.010	0.016	0.027				
	Set up time	D	1.757		2.530							
	Hold time	D	0.119		0.010							
	Release time	R	1.432		1.924							
	Removal time	R	0.332		0.119							
	Min Pulse	R	1.071		2.456							
	Min Pulse	GB	1.216		2.821							

Function	D-L	ATCH	I WITH SF	PECIA	L FUNCTI	ON				SSI Fa	mily				
Block type					S	tanda	rd type								
	Norma	al	High sp	eed											
Drivability	Name	cells	Name	cells											
Low Power															
x1	S302	7	S303	7											
x2															
x4															

Logic Diagram



Truth Table

AMC	D	GB	Q	QB
1	0	0	0	1
1	1	0	1	0
1	Χ	1	LA	TCH
0	0	0	0	1
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0

X:Irrelevant

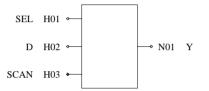
FUNCTION BLOCK

			Swite	ching sp	eed				Ι.			
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN → C	DUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S302	$AMC \rightarrow Q$	(HH)	0.475	0.879	1.500	0.012	0.022	0.036	AMC	2.1	Q	22
		(LH)	0.548	0.995	1.667	0.012	0.022	0.036	D	1.0	QB	22
		(LL)	0.606	1.198	2.172	0.009	0.015	0.024	GB	2.1		
	$AMC \rightarrow QB$	(HL)	0.380	0.702	1.197	0.009	0.015	0.024				
		(LH)	0.487	0.956	1.732	0.013	0.023	0.037				
		(LL)	0.452	0.818	1.363	0.009	0.015	0.024				
	$D \rightarrow Q$	(HH)	0.479	0.867	1.454	0.012	0.023	0.036				
		(LL)	0.442	0.841	1.489	0.009	0.015	0.024				
	$D \rightarrow QB$	(HL)	0.384	0.690	1.150	0.009	0.015	0.025				
		(LH)	0.327	0.602	1.054	0.013	0.023	0.037				
	$GB \rightarrow Q$	(HH)	0.515	0.940	1.596	0.012	0.022	0.036				
		(LH)	0.502	0.924	1.568	0.012	0.023	0.036				
		(LL)	0.465	1.276	2.295	0.009	0.015	0.024				
	$GB \rightarrow QB$	(HL)	0.419	0.763	1.293	0.009	0.015	0.024				
		(LH)	0.349	1.032	1.851	0.013	0.023	0.037				
		(LL)	0.406	0.747	1.267	0.009	0.015	0.024				
	Set up time	D	1.502		2.068							
	Hold time	D	0.148		0.010							
	Min Pulse	GB	1.070		2.816							
S303	$AMC \rightarrow Q$	(HH)	0.331	0.590	0.987	0.013	0.024	0.038	AMC	2.1	Q	21
		(LH)	0.417	0.730	1.184	0.013	0.024	0.038	D	1.0	QB	22
		(LL)	0.491	0.985	1.852	0.011	0.018	0.030	GB	2.0		
	$AMC \rightarrow QB$	(HL)	0.465	0.857	1.469	0.009	0.015	0.024				
		(LH)	0.593	1.188	2.217	0.012	0.022	0.036				
		(LL)	0.553	0.999	1.671	0.009	0.015	0.024				
	$D \rightarrow Q$	(HH)	0.336	0.577	0.936	0.013	0.023	0.038				
		(LL)	0.298	0.563	1.038	0.010	0.016	0.027				
	$D \rightarrow QB$	(HL)	0.470	0.844	1.419	0.009	0.015	0.024				
		(LH)	0.394	0.750	1.369	0.012	0.023	0.036				
	$GB \rightarrow Q$	(HH)	0.378	0.662	1.094	0.013	0.024	0.038				
		(LH)	0.363	0.654	1.079	0.013	0.024	0.038				
I		(LL)	0.326	1.049	1.960	0.010	0.018	0.030				
	$GB \rightarrow QB$	(HL)	0.514	0.932	1.581	0.009	0.015	0.024				
		(LH)	0.401	1.272	2.353	0.012	0.023	0.036				
		(LL)	0.497	0.920	1.562	0.009	0.015	0.024				
	Set up time	D	1.617		2.186							
	Hold time	D	0.140		0.010							
	Min Pulse	GB	1.084		2.722							

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Function	2 T	O 1 D	ATA SELE	СТО	R					SSI Fa	mily	
Block type					Standard type							
Вюск турс	Norma	al	High sp	eed								
Drivability	Name	cells	Name	cells								
Low Power												
x1	S999	4										
x2												
x4												

Logic Diagram



Truth Table

SEL	D	SCAN	Y
1	Α	X	Α
٥	Y	R	В
U	^	ь	וטו

X:Irrelevant

FUNCTION BLOCK

·												
Block	Path		t I	LD0 (ns))		t 1] In	put	Ou	tput
type	IN →	OUT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	Symbol	Fanin	Symbol	Fanout
S999	SEL → Y	(HH)	0.313	0.558	0.902	0.013	0.023	0.037	SEL	1.0	Υ	21
		(HL)	0.295	0.568	0.996	0.010	0.016	0.026	D	1.0		
		(LH)	0.318	0.552	0.899	0.013	0.023	0.037	SCAN	1.0		
		(LL)	0.321	0.612	1.123	0.010	0.016	0.026				
	$D \rightarrow Y$	(HH)	0.247	0.409	0.642	0.013	0.023	0.037				
		(LL)	0.268	0.497	0.901	0.010	0.016	0.026				
	SCAN → Y	(HH)	0.256	0.422	0.659	0.013	0.023	0.037				
		(LL)	0.273	0.506	0.917	0.010	0.016	0.026				

INDEX

Name	Function	I/O cells	int. cells	Page
B001	I/O BUFFER 12mA	1	10	1-24
B003	I/O BUFFER 9mA	1	10	1-24
B005	I/O BUFFER 18mA	1	14	1-24
B007	3-STATE OUTPUT BUFFER 12mA	1	6	1-14
B008	3-STATE OUTPUT BUFFER 9mA	1	6	1-14
B009	3-STATE OUTPUT BUFFER 18mA	1	10	1-14
B00C	I/O BUFFER 6mA	1	10	1-24
B00E	3-STATE OUTPUT BUFFER 6mA	1	6	1-14
B00F	I/O BUFFER 24mA	1	14	1-24
B00H	3-STATE OUTPUT BUFFER 24mA	1	10	1-14
B00T	3-STATE OUTPUT BUFFER 3mA	1	6	1-14
B00U	I/O BUFFER 3mA	1	10	1-24
B021	HIGH SPEED I/O BUFFER 12mA	1	16	1-28
B023	HIGH SPEED I/O BUFFER 9mA	1	16	1-28
B025	HIGH SPEED I/O BUFFER 18mA	1	20	1-28
B027	HIGH SPEED 3-STATE OUTPUT BUFFER 12mA	1	12	1-18
B028	HIGH SPEED 3-STATE OUTPUT BUFFER 9mA	1	12	1-18
B029	HIGH SPEED 3-STATE OUTPUT BUFFER 18mA	1	16	1-18
B02C	HIGH SPEED I/O BUFFER 6mA	1	16	1-28
B02E	HIGH SPEED 3-STATE OUTPUT BUFFER 6mA	1	12	1-18
B02F	HIGH SPEED I/O BUFFER 24mA	1	20	1-28
B02H	HIGH SPEED 3-STATE OUTPUT BUFFER 24mA	1	16	1-18
B02T	HIGH SPEED 3-STATE OUTPUT BUFFER 3mA	1	12	1-18
B02U	HIGH SPEED I/O BUFFER 3mA	1	16	1-28
B031	HIGH SPEED I/O BUFFER 12mA 50kΩ PULL-DOWN	1	16	1-28
B033	HIGH SPEED I/O BUFFER 9mA 50kΩ PULL-DOWN	1	16	1-28
B035	HIGH SPEED I/O BUFFER 18mA 50kΩ PULL-DOWN	1	20	1-28
B037	HIGH SPEED 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	12	1-18
B038	HIGH SPEED 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	12	1-18
B039	HIGH SPEED 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	1	16	1-18
B03C	HIGH SPEED I/O BUFFER 6mA 50kΩ PULL-DOWN	1	16	1-28
B03E	HIGH SPEED 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	12	1-18
B03F	HIGH SPEED I/O BUFFER 24mA 50kΩ PULL-DOWN	1	20	1-28
В03Н	HIGH SPEED 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	1	16	1-18
B03T	HIGH SPEED 3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-DOWN	1	12	1-18
B03U	HIGH SPEED I/O BUFFER 3mA 50kΩ PULL-DOWN	1	16	1-28
B041	HIGH SPEED I/O BUFFER 12mA 50kΩ PULL-UP	1	16	1-28
B043	HIGH SPEED I/O BUFFER 9mA 50kΩ PULL-UP	1	16	1-28
B045	HIGH SPEED I/O BUFFER 18mA 50kΩ PULL-UP	1	20	1-28
B047	HIGH SPEED 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	12	1-18
B048	HIGH SPEED 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-UP	1	12	1-18
B049	HIGH SPEED 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	16	1-18
B04C	HIGH SPEED I/O BUFFER 6mA 50kΩ PULL-UP	1	16	1-28
B04E	HIGH SPEED 3-STATE OUTPUT BUFFER 6mA $50 \mathrm{k}\Omega$ PULL-UP	1	12	1-18
B04F	HIGH SPEED I/O BUFFER 24mA 50kΩ PULL-UP	1	20	1-28
B04H	HIGH SPEED 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	16	1-18
B04T	HIGH SPEED 3-STATE OUTPUT BUFFER 3mA $50 \mathrm{k}\Omega$ PULL-UP	1	12	1-18
B04U	HIGH SPEED I/O BUFFER 3mA 50kΩ PULL-UP	1	16	1-28
B051	HIGH SPEED I/O BUFFER 12mA 5kΩ PULL-UP	1	16	1-28
B053	HIGH SPEED I/O BUFFER 9mA 5kΩ PULL-UP	1	16	1-28
B055	HIGH SPEED I/O BUFFER 18mA 5kΩ PULL-UP	1	20	1-28
B057	HIGH SPEED 3-STATE OUTPUT BUFFER 12mA $5 \mathrm{k}\Omega$ PULL-UP	1	12	1-18

Name	Function	I/O cells	int. cells	Page
B058	HIGH SPEED 3-STATE OUTPUT BUFFER 9mA 5kΩ PULL-UP	1	12	1-18
B059	HIGH SPEED 3-STATE OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	16	1-18
B05C	HIGH SPEED I/O BUFFER 6mA 5kΩ PULL-UP	1	16	1-28
B05E	HIGH SPEED 3-STATE OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	12	1-18
B05F	HIGH SPEED I/O BUFFER 24mA 5kΩ PULL-UP	1	20	1-28
B05H	HIGH SPEED 3-STATE OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	16	1-18
B05T	HIGH SPEED 3-STATE OUTPUT BUFFER 3mA 5kΩ PULL-UP	1	12	1-18
B05U	HIGH SPEED I/O BUFFER 3mA 5kΩ PULL-UP	1	16	1-28
B0D1	I/O BUFFER 12mA 50kΩ PULL-DOWN	1	10	1-24
B0D3	I/O BUFFER 9mA 50kΩ PULL-DOWN	1	10	1-24
B0D5	I/O BUFFER 18mA 50kΩ PULL-DOWN	1	14	1-24
B0D7	3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	6	1-14
B0D8	3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	6	1-14
B0D9	3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	1	10	1-14
B0DC	I/O BUFFER 6mA 50kΩ PULL-DOWN	1	10	1-24
B0DE	3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	6	1-14
B0DF	I/O BUFFER 24mA 50kΩ PULL-DOWN	1	14	1-24
B0DH	3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	1	10	1-14
B0DT	3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-DOWN	1	6	1-14
B0DU	I/O BUFFER 3mA 50kΩ PULL-DOWN	1	10	1-24
	I/O BUFFER 12mA 50kΩ PULL-UP	1	10	1-24
	I/O BUFFER 9mA 50kΩ PULL-UP	1	10	1-24
B0U5	I/O BUFFER 18mA 50kΩ PULL-UP	1	14	1-24
B0U7	3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	6	1-14
B0U8	3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-UP	1	6	1-14
B0U9	3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	10	1-14
B0UC	I/O BUFFER 6mA 50kΩ PULL-UP	1	10	1-24
B0UE	3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-UP	1	6	1-14
B0UF	I/O BUFFER 24mA 50kΩ PULL-UP	1	14	1-24
B0UH	3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	10	1-14
B0UT	3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-UP	1	6	1-14
B0UU	I/O BUFFER 3mA 50kΩ PULL-UP	1	10	1-24
B0W1	I/O BUFFER 12mA 5kΩ PULL-UP	1	10	1-24
	I/O BUFFER 9mA 5kΩ PULL-UP	1	10	1-24
	I/O BUFFER 18mA 5kΩ PULL-UP	1	14	1-24
	3-STATE OUTPUT BUFFER 12mA 5kΩ PULL-UP	1	6	1-14
B0W8	3-STATE OUTPUT BUFFER 9mA 5kΩ PULL-UP	1	6	1-14
B0W9	3-STATE OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	10	1-14
B0WC	I/O BUFFER 6mA 5kΩ PULL-UP	1	10	1-14
B0WE	3-STATE OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	6	1-24
B0WF	I/O BUFFER 24mA 5kΩ PULL-UP	1	14	1-14
_	3-STATE OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	10	1-14
	3-STATE OUTPUT BUFFER 3mA 5kΩ PULL-UP	1	6	1-14
B0WU	I/O BUFFER 3mA 5kΩ PULL-UP	1	10	1-14
BD07	CMOS 3-STATE OUTPUT BUFFER 12mA	1	42	2-16
BD07 BD08	CMOS 3-STATE OUTPUT BUFFER 12MA	1	42	2-16
BD08	CMOS 3-STATE OUTPUT BUFFER 9MA CMOS 3-STATE OUTPUT BUFFER 18MA	2		
BD09	CMOS 3-STATE OUTPUT BUFFER 1811IA CMOS 3-STATE OUTPUT BUFFER 6mA	1	42 32	2-16 2-16
		2		
BD0H	CMOS 3-STATE OUTPUT BUFFER 24mA		42	2-16
BD0T	CMOS 3-STATE OUTPUT BUFFER 3mA	1	32	2-16
BD17	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 12mA	1	42	2-24
BD18 BD19	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 9mA TTL HIGH SPEED 3-STATE OUTPUT BUFFER 18mA	2	42 42	2-24 2-24
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Name	Function	I/O cells	int. cells	Page
BD1E	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 6mA	1	32	2-24
BD1H	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 24mA	2	42	2-24
BD1T	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 3mA	1	32	2-24
BD27	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	42	2-24
BD28	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	42	2-24
BD29	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	2	42	2-24
BD2E	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	32	2-24
BD2H	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	2	42	2-24
BD2T	TTL HIGH SPEED 3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-DOWN	1	32	2-24
BE01	LOW-NOISE I/O BUFFER 12mA	1	10	1-26
BE03	LOW-NOISE I/O BUFFER 9mA	1	10	1-26
BE05	LOW-NOISE I/O BUFFER 18mA	1	10	1-26
BE07	LOW-NOISE 3-STATE OUTPUT BUFFER 12mA	1	6	1-16
BE08	LOW-NOISE 3-STATE OUTPUT BUFFER 9mA	1	6	1-16
BE09	LOW-NOISE 3-STATE OUTPUT BUFFER 18mA	1	6	1-16
BE0C	LOW-NOISE I/O BUFFER 6mA	1	10	1-26
BE0E	LOW-NOISE 3-STATE OUTPUT BUFFER 6mA	1	6	1-16
BE0F	LOW-NOISE I/O BUFFER 24mA	1	10	1-26
BE0H	LOW-NOISE 3-STATE OUTPUT BUFFER 24mA	1	6	1-16
BED1	LOW-NOISE I/O BUFFER 12mA 50kΩ PULL-DOWN	1	10	1-26
BED3	LOW-NOISE I/O BUFFER 9mA 50kΩ PULL-DOWN	1	10	1-26
BED5	LOW-NOISE I/O BUFFER 18mA 50kΩ PULL-DOWN	1	10	1-26
BED7	LOW-NOISE 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	6	1-26
BED8	LOW-NOISE 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	6	1-16
BED9	LOW-NOISE 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	1	6	1-16
BEDC	LOW-NOISE I/O BUFFER 6mA 50kΩ PULL-DOWN	1	10	1-16
BEDE	LOW-NOISE 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	6	1-26
BEDF	LOW-NOISE I/O BUFFER 24mA 50kΩ PULL-DOWN	1	10	1-16
BEDH	LOW-NOISE 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	1	6	1-16
BEU1	LOW-NOISE I/O BUFFER 12mA 50kΩ PULL-UP	1	10	1-16
BEU3	LOW-NOISE I/O BUFFER 12IIIA 30KΩ PULL-UP	1	10	1-26
BEU5	LOW-NOISE I/O BUFFER 911/A 50kΩ PULL-UP	1	10	1-26
BEU7	LOW-NOISE 1/O BOFFER 1811/A 30KΩ FULL-UP	1 1	6	1-16
			_	1-16
BEU8 BEU9	LOW-NOISE 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-UP LOW-NOISE 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-UP	1 1	6 6	1-16
BEUC	LOW-NOISE 3-3 TATE OUTPUT BUPPER 1811/A 50KΩ PULL-UP	1	10	1-16
			6	
BEUE	LOW-NOISE 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-UP	1	_	1-16
BEUF	LOW-NOISE I/O BUFFER 24mA 50kΩ PULL-UP	1	10	1-26
BEUH BEW4	LOW-NOISE 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	6	1-16
BEW1	LOW-NOISE I/O BUFFER 12mA 5kΩ PULL-UP	1	10	1-26
BEW3	LOW-NOISE I/O BUFFER 9mA 5kΩ PULL-UP	1	10	1-26
BEW5	LOW-NOISE I/O BUFFER 18mA 5kΩ PULL-UP	1	10	1-26
BEW7	LOW NOISE 3-STATE OUTPUT BUFFER 12mA 5k\(\Omega\) PULL-UP	1	6	1-16
BEW8	LOW-NOISE 3-STATE OUTPUT BUFFER 9mA 5kΩ PULL-UP	1	6	1-16
BEW9	LOW-NOISE 3-STATE OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	6	1-16
BEWC	LOW-NOISE I/O BUFFER 6mA 5kΩ PULL-UP	1	10	1-26
BEWE	LOW-NOISE 3-STATE OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	6	1-16
BEWF	LOW-NOISE I/O BUFFER 24mA 5kΩ PULL-UP	1	10	1-26
BEWH	LOW-NOISE 3-STATE OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	6	1-16
BFD1	LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-DOWN	1	14	1-32
BFD3	LOW-NOISE SCHMITT I/O BUFFER 9mA 50kΩ PULL-DOWN	1	14	1-32
BFD5	LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-DOWN	1	14	1-32
BFDC	LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-DOWN	1	14	1-32

BFDF LOW-NOISE SCHMITT I/O BUFFER 24mA 50kΩ PULL-DOWN BFI1 LOW-NOISE SCHMITT I/O BUFFER 12mA 1 BFI3 LOW-NOISE SCHMITT I/O BUFFER 9mA 1 BFI5 LOW-NOISE SCHMITT I/O BUFFER 18mA 1 BFIC LOW-NOISE SCHMITT I/O BUFFER 6mA 1 BFIF LOW-NOISE SCHMITT I/O BUFFER 24mA 1 BFU1 LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-UP 1 BFU3 LOW-NOISE SCHMITT I/O BUFFER 9mA 50kΩ PULL-UP 1 BFU5 LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-UP 1 BFU6 LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP 1 BFUC LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP 1 BFUC LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP 1 BFUF LOW-NOISE SCHMITT I/O BUFFER 24mA 50kΩ PULL-UP 1 BFW1 LOW-NOISE SCHMITT I/O BUFFER 12mA 5kΩ PULL-UP 1 BFW3 LOW-NOISE SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP 1 BFW3 LOW-NOISE SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP 1 BFW5 LOW-NOISE SCHMITT I/O BUFFER 18mA 5kΩ PULL-UP	14 14 14 14 14 14 14 14 14 14 14 14	Page 1-32 1-32 1-32 1-32 1-32 1-32 1-32 1-32
BFI3 LOW-NOISE SCHMITT I/O BUFFER 9mA 1 BFI5 LOW-NOISE SCHMITT I/O BUFFER 18mA 1 BFIC LOW-NOISE SCHMITT I/O BUFFER 6mA 1 BFIF LOW-NOISE SCHMITT I/O BUFFER 24mA 1 BFU1 LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-UP 1 BFU3 LOW-NOISE SCHMITT I/O BUFFER 9mA 50kΩ PULL-UP 1 BFU5 LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-UP 1 BFUC LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP 1 BFW1 LOW-NOISE SCHMITT I/O BUFFER 12mA 5kΩ PULL-UP 1 BFW3 LOW-NOISE SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP 1 BFW5 LOW-NOISE SCHMITT I/O BUFFER 18mA 5kΩ PULL-UP 1	14 14 14 14 14 14 14 14 14	1-32 1-32 1-32 1-32 1-32 1-32 1-32 1-32
BFI3 LOW-NOISE SCHMITT I/O BUFFER 9mA 1 BFI5 LOW-NOISE SCHMITT I/O BUFFER 18mA 1 BFIC LOW-NOISE SCHMITT I/O BUFFER 6mA 1 BFIF LOW-NOISE SCHMITT I/O BUFFER 24mA 1 BFU1 LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-UP 1 BFU3 LOW-NOISE SCHMITT I/O BUFFER 9mA 50kΩ PULL-UP 1 BFU5 LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-UP 1 BFUC LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP 1 BFW1 LOW-NOISE SCHMITT I/O BUFFER 12mA 5kΩ PULL-UP 1 BFW3 LOW-NOISE SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP 1 BFW5 LOW-NOISE SCHMITT I/O BUFFER 18mA 5kΩ PULL-UP 1	14 14 14 14 14 14 14 14 14	1-32 1-32 1-32 1-32 1-32 1-32 1-32 1-32
BFI5 LOW-NOISE SCHMITT I/O BUFFER 18mA 1 BFIC LOW-NOISE SCHMITT I/O BUFFER 6mA 1 BFIF LOW-NOISE SCHMITT I/O BUFFER 24mA 1 BFU1 LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-UP 1 BFU3 LOW-NOISE SCHMITT I/O BUFFER 9mA 50kΩ PULL-UP 1 BFU5 LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-UP 1 BFUC LOW-NOISE SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP 1 BFUF LOW-NOISE SCHMITT I/O BUFFER 24mA 50kΩ PULL-UP 1 BFW1 LOW-NOISE SCHMITT I/O BUFFER 12mA 5kΩ PULL-UP 1 BFW3 LOW-NOISE SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP 1 BFW5 LOW-NOISE SCHMITT I/O BUFFER 18mA 5kΩ PULL-UP 1	14 14 14 14 14 14 14 14	1-32 1-32 1-32 1-32 1-32 1-32 1-32
BFIF LOW-NOISE SCHMITT I/O BUFFER 24mA 1 BFU1 LOW-NOISE SCHMITT I/O BUFFER 12mA $50k\Omega$ PULL-UP 1 BFU3 LOW-NOISE SCHMITT I/O BUFFER $9mA$ $50k\Omega$ PULL-UP 1 BFU5 LOW-NOISE SCHMITT I/O BUFFER $18mA$ $50k\Omega$ PULL-UP 1 BFUC LOW-NOISE SCHMITT I/O BUFFER $6mA$ $50k\Omega$ PULL-UP 1 BFUF LOW-NOISE SCHMITT I/O BUFFER $24mA$ $20k\Omega$ PULL-UP 1 BFW1 LOW-NOISE SCHMITT I/O BUFFER $24mA$ $20k\Omega$ PULL-UP 1 BFW3 LOW-NOISE SCHMITT I/O BUFFER $24mA$ $20k\Omega$ PULL-UP 1 BFW3 LOW-NOISE SCHMITT I/O BUFFER $24mA$ $20k\Omega$ PULL-UP 1	14 14 14 14 14 14 14	1-32 1-32 1-32 1-32 1-32
BFU1 LOW-NOISE SCHMITT I/O BUFFER $12mA 50k\Omega$ PULL-UP 1 BFU3 LOW-NOISE SCHMITT I/O BUFFER $9mA 50k\Omega$ PULL-UP 1 BFU5 LOW-NOISE SCHMITT I/O BUFFER $18mA 50k\Omega$ PULL-UP 1 BFUC LOW-NOISE SCHMITT I/O BUFFER $6mA 50k\Omega$ PULL-UP 1 BFUF LOW-NOISE SCHMITT I/O BUFFER $24mA 50k\Omega$ PULL-UP 1 BFW1 LOW-NOISE SCHMITT I/O BUFFER $12mA 5k\Omega$ PULL-UP 1 BFW3 LOW-NOISE SCHMITT I/O BUFFER $9mA 5k\Omega$ PULL-UP 1 BFW5 LOW-NOISE SCHMITT I/O BUFFER $18mA 5k\Omega$ PULL-UP 1	14 14 14 14 14 14	1-32 1-32 1-32 1-32 1-32
BFU1LOW-NOISE SCHMITT I/O BUFFER 12 mA 50 k Ω PULL-UP1BFU3LOW-NOISE SCHMITT I/O BUFFER 9 mA 50 k Ω PULL-UP1BFU5LOW-NOISE SCHMITT I/O BUFFER 18 mA 50 k Ω PULL-UP1BFUCLOW-NOISE SCHMITT I/O BUFFER 6 mA 50 k Ω PULL-UP1BFUFLOW-NOISE SCHMITT I/O BUFFER 24 mA 50 k Ω PULL-UP1BFW1LOW-NOISE SCHMITT I/O BUFFER 12 mA 5 k Ω PULL-UP1BFW3LOW-NOISE SCHMITT I/O BUFFER 9 mA 5 k Ω PULL-UP1BFW5LOW-NOISE SCHMITT I/O BUFFER 18 mA 5 k Ω PULL-UP1	14 14 14 14 14 14	1-32 1-32 1-32 1-32 1-32
BFU5LOW-NOISE SCHMITT I/O BUFFER $18mA 50k\Omega$ PULL-UP1BFUCLOW-NOISE SCHMITT I/O BUFFER $6mA 50k\Omega$ PULL-UP1BFUFLOW-NOISE SCHMITT I/O BUFFER $24mA 50k\Omega$ PULL-UP1BFW1LOW-NOISE SCHMITT I/O BUFFER $12mA 5k\Omega$ PULL-UP1BFW3LOW-NOISE SCHMITT I/O BUFFER $9mA 5k\Omega$ PULL-UP1BFW5LOW-NOISE SCHMITT I/O BUFFER $18mA 5k\Omega$ PULL-UP1	14 14 14 14	1-32 1-32 1-32
BFUCLOW-NOISE SCHMITT I/O BUFFER 6mA $50k\Omega$ PULL-UP1BFUFLOW-NOISE SCHMITT I/O BUFFER $24mA 50k\Omega$ PULL-UP1BFW1LOW-NOISE SCHMITT I/O BUFFER $12mA 5k\Omega$ PULL-UP1BFW3LOW-NOISE SCHMITT I/O BUFFER $9mA 5k\Omega$ PULL-UP1BFW5LOW-NOISE SCHMITT I/O BUFFER $18mA 5k\Omega$ PULL-UP1	14 14 14	1-32 1-32
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BFUFLOW-NOISE SCHMITT I/O BUFFER 24mA 50 k Ω PULL-UP1BFW1LOW-NOISE SCHMITT I/O BUFFER 12 mA 5 k Ω PULL-UP1BFW3LOW-NOISE SCHMITT I/O BUFFER 9 mA 5 k Ω PULL-UP1BFW5LOW-NOISE SCHMITT I/O BUFFER 18 mA 10 mA 10 mA 10 mm1	14	1-32
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BFW3 LOW-NOISE SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP 1 BFW5 LOW-NOISE SCHMITT I/O BUFFER 18mA 5kΩ PULL-UP 1	14	
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BN3F33 I/O BUFFER WITH EN(OR) 24mA	8 4 8 4 4 4 4 4 4 4 4 4
BN3F35 CMOS I/O BUFFER WITH EN(OR) 24mA 2 36 2-4 BN3U33 I/O BUFFER WITH EN(OR) 3mA 1 16 1-3 BN5133 I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN 1 16 1-3 BN5133 I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN 1 16 1-3 BN5533 I/O BUFFER WITH EN(OR) 9mA 50kΩ PULL-DOWN 1 16 1-3 BN5533 I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN 1 16 1-3 BN5533 I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN 1 16 1-3 BN5633 I/O BUFFER WITH EN(OR) 3mA 50kΩ PULL-DOWN 1 16 1-3 BN5733 I/O BUFFER WITH EN(OR) 3mA 50kΩ PULL-DOWN 1 16 1-3 BN6135 TTL I/O BUFFER WITH EN(OR) 3mA 50kΩ PULL-DOWN 1 16 1-3 BN6335 TTL I/O BUFFER WITH EN(OR) 12mA 1 46 2-5 BN6535 TTL I/O BUFFER WITH EN(OR) 18mA 2 46 2-5 BN6535 TTL I/O BUFFER WITH EN(OR) 6mA 1 36 2-5 BN6635 TTL I/O BUFFER WITH EN(OR) 3mA 1 36	8 4 8 4 4 4 4 4 4 4 4 4
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BN5F33 I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN 1 20 1-5	4 4 4 4
BN5U33 I/O BUFFER WITH EN(OR) 3mA 50kΩ PULL-DOWN 1 16 1-5	4 4 4
BN6135 TTL I/O BUFFER WITH EN(OR) 12mA	4 4 4
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BN7F33 LOW NOISE I/O BUFFER WITH EN(OR) 24mA 1 10 1-3 BN7F35 CMOS LOW NOISE I/O BUFFER WITH EN(OR) 24mA 2 24 2-5 BN9135 TTL I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN 1 46 2-5 BN9335 TTL I/O BUFFER WITH EN(OR) 9mA 50kΩ PULL-DOWN 1 46 2-5 BN9535 TTL I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN 2 46 2-5 BN9C35 TTL I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN 1 36 2-5 BN9F35 TTL I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN 2 46 2-5	_
BN7F35CMOS LOW NOISE I/O BUFFER WITH EN(OR) 24mA2242-5BN9135TTL I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN1462-5BN9335TTL I/O BUFFER WITH EN(OR) 9mA 50kΩ PULL-DOWN1462-5BN9535TTL I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN2462-5BN9C35TTL I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN1362-5BN9F35TTL I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN2462-5	_
BN9335TTL I/O BUFFER WITH EN(OR) 9mA 50 k Ω PULL-DOWN1462-5BN9535TTL I/O BUFFER WITH EN(OR) 18 mA 50 k Ω PULL-DOWN2462-5BN9C35TTL I/O BUFFER WITH EN(OR) 6 mA 50 k Ω PULL-DOWN1362-5BN9F35TTL I/O BUFFER WITH EN(OR) 24 mA 50 k Ω PULL-DOWN2462-5	2
BN9335 TTL I/O BUFFER WITH EN(OR) 9mA 50kΩ PULL-DOWN 1 46 2-5 BN9535 TTL I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN 2 46 2-5 BN9C35 TTL I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN 1 36 2-5 BN9F35 TTL I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN 2 46 2-5	4
BN9C35 TTL I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN 1 36 2-5 BN9F35 TTL I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN 2 46 2-5	4
BN9F35 TTL I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN 2 46 2-5	4
	4
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BN9U35 TTL I/O BUFFER WITH EN(OR) 3mA 50 k Ω PULL-DOWN 1 1 36 2-5	
BNA135 LOW NOISE I/O BUFFER WITH EN(OR) 12mA 1 20 2-5	
BNA535 LOW NOISE I/O BUFFER WITH EN(OR) 18mA 2 20 2-5	8
BNAF35 LOW NOISE I/O BUFFER WITH EN(OR) 24mA 2 20 2-5	8
BNB133 LOW NOISE I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN 1 10 1-3	8
BNB333 LOW NOISE I/O BUFFER WITH EN(OR) 9mA 50kΩ PULL-DOWN 1 10 1-3	8
BNB533 LOW NOISE I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN 1 10 1-3	8
BNBC33 LOW NOISE I/O BUFFER WITH EN(OR) 6mA 50kΩ PULL-DOWN 1 10 1-3	
BNBF33 LOW NOISE I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN 1 10 1-3	_
BND135 LOW NOISE I/O BUFFER WITH EN(OR) 12mA 50kΩ PULL-DOWN 1 20 2-5	8
BND535 LOW NOISE I/O BUFFER WITH EN(OR) 18mA 50kΩ PULL-DOWN 2 20 2-5	8
BNDF35 LOW NOISE I/O BUFFER WITH EN(OR) 24mA 50kΩ PULL-DOWN 2 20 2-5	$\overline{}$
BP01 CMOS LOW-NOISE I/O BUFFER 12mA 1 24 2-3	8
BP05 CMOS LOW-NOISE I/O BUFFER 18mA 2 24 2-3	_
BP0F CMOS LOW-NOISE I/O BUFFER 24mA 2 24 2-3	2
BQI1 CMOS SCHMITT I/O BUFFER 12mA 1 50 2-3	2
BQI3 CMOS SCHMITT I/O BUFFER 9mA 1 50 2-3	2 2 2
BQI5 CMOS SCHMITT I/O BUFFER 18mA 2 50 2-3	2 2 2 4
BQIC CMOS SCHMITT I/O BUFFER 6mA 1 40 2-3	2 2 2 4 4
BQIF CMOS SCHMITT I/O BUFFER 24mA 2 50 2-3	2 2 2 4 4 4

Name	Function	I/O cells	int. cells	Page
BQIU	CMOS SCHMITT I/O BUFFER 3mA	1	40	2-34
BSD1	SCHMITT I/O BUFFER 12mA 50kΩ PULL-DOWN	1	14	1-30
BSD3	SCHMITT I/O BUFFER 9mA 50kΩ PULL-DOWN	1	14	1-30
BSD5	SCHMITT I/O BUFFER 18mA 50kΩ PULL-DOWN	1	18	1-30
BSDC	SCHMITT I/O BUFFER 6mA 50kΩ PULL-DOWN	1	14	1-30
BSDF	SCHMITT I/O BUFFER 24mA 50kΩ PULL-DOWN	1	18	1-30
BSDU	SCHMITT I/O BUFFER 3mA 50kΩ PULL-DOWN	1	14	1-30
BSI1	SCHMITT I/O BUFFER 12mA	1	14	1-30
BSI3	SCHMITT I/O BUFFER 9mA	1	14	1-30
BSI5	SCHMITT I/O BUFFER 18mA	1	18	1-30
BSIC	SCHMITT I/O BUFFER 6mA	1	14	1-30
BSIF	SCHMITT I/O BUFFER 24mA	1	18	1-30
BSIU	SCHMITT I/O BUFFER 3mA	1	14	1-30
BSU1	SCHMITT I/O BUFFER 12mA 50kΩ PULL-UP	1	14	1-30
BSU3	SCHMITT I/O BUFFER 9mA 50kΩ PULL-UP	1	14	1-30
BSU5	SCHMITT I/O BUFFER 18mA 50kΩ PULL-UP	1	18	1-30
BSUC	SCHMITT I/O BUFFER 6mA 50kΩ PULL-UP	1	14	1-30
BSUF	SCHMITT I/O BUFFER 24mA 50kΩ PULL-UP	1	18	1-30
BSUU	SCHMITT I/O BUFFER 3mA 50kΩ PULL-UP	1	14	1-30
BSW1	SCHMITT I/O BUFFER 12mA 5kΩ PULL-UP	1	14	1-30
BSW3	SCHMITT I/O BUFFER 9mA 5kΩ PULL-UP	1	14	1-30
BSW5	SCHMITT I/O BUFFER 18mA 5kΩ PULL-UP	1	18	1-30
BSWC	SCHMITT I/O BUFFER 6mA 5kΩ PULL-UP	1	14	1-30
BSWF	SCHMITT I/O BUFFER 24mA 5kΩ PULL-UP	1	18	1-30
BSWU	SCHMITT I/O BUFFER 3mA 5kΩ PULL-UP	1	14	1-30
BUI1	CMOS LOW-NOISE SCHMITT I/O BUFFER 12mA	1	28	2-36
BUI5	CMOS LOW-NOISE SCHMITT I/O BUFFER 18mA	2	28	2-36
BUIF	CMOS LOW-NOISE SCHMITT I/O BUFFER 24mA	2	28	2-36
BV08	TTL 3-STATE OUTPUT BUFFER 9mA	1	20	2-20
BV0E	TTL 3-STATE OUTPUT BUFFER 6mA	1	16	2-20
BV0M	TTL 3-STATE OUTPUT BUFFER 2mA	1	16	2-20
BV0Q	TTL 3-STATE OUTPUT BUFFER 1mA	1	16	2-20
BV0T	TTL 3-STATE OUTPUT BUFFER 3mA	1	16	2-20
BVD8	TTL 3-STATE OUTPUT BUFFER 9mA 50kΩ PULL-DOWN	1	20	2-20
BVDE	TTL 3-STATE OUTPUT BUFFER 6mA 50kΩ PULL-DOWN	1	16	2-20
BVDM	TTL 3-STATE OUTPUT BUFFER 2mA 50kΩ PULL-DOWN	1	16	2-20
BVDQ	TTL 3-STATE OUTPUT BUFFER 1mA 50kΩ PULL-DOWN	1	16	2-20
BVDT	TTL 3-STATE OUTPUT BUFFER 3mA 50kΩ PULL-DOWN	1	16	2-20
BW03	TTL I/O BUFFER 9mA	1	24	2-38
BW0C	TTL I/O BUFFER 6mA	1	20	2-38
BW0K	TTL I/O BUFFER 2mA	1	20	2-38
BW0U	TTL I/O BUFFER 3mA	1	20	2-38
BW0X	TTL I/O BUFFER 1mA	1	20	2-38
BWD3	TTL I/O BUFFER 9mA 50kΩ PULL-DOWN	1	24	2-38
BWDC	TTL I/O BUFFER 6mA 50kΩ PULL-DOWN	1	20	2-38
BWDK	TTL I/O BUFFER 2mA 50kΩ PULL-DOWN	1	20	2-38
BWDU	TTL I/O BUFFER 3mA 50kΩ PULL-DOWN	1	20	2-38
BWDX	TTL I/O BUFFER 1mA 50kΩ PULL-DOWN	1	20	2-38
BX01	TTL LOW-NOISE I/O BUFFER 12mA	1	20	2-40
BX05	TTL LOW-NOISE I/O BUFFER 18mA	2	20	2-40
BX0F	TTL LOW-NOISE I/O BUFFER 24mA	2	20	2-40
BXD1	TTL LOW-NOISE I/O BUFFER 12mA 50kΩ PULL-DOWN	1	20	2-40
BXD5	TTL LOW-NOISE I/O BUFFER 18mA 50kΩ PULL-DOWN	2	20	2-40
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Name	Function	I/O cells	int. cells	Page
BXDF	TTL LOW-NOISE I/O BUFFER 24mA 50kΩ PULL-DOWN	2	20	2-40
BY07	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 12mA	1	16	2-22
BY09	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 18mA	2	16	2-22
BY0H	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 24mA	2	16	2-22
BYD7	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 12mA 50kΩ PULL-DOWN	1	16	2-22
BYD9	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 18mA 50kΩ PULL-DOWN	2	16	2-22
BYDH	TTL LOW-NOISE 3-STATE OUTPUT BUFFER 24mA 50kΩ PULL-DOWN	2	16	2-22
BZD1	TTL LOW-NOISE SCHMITT I/O BUFFER 12mA 50kΩ PULL-DOWN	1	24	2-46
BZD5	TTL LOW-NOISE SCHMITT I/O BUFFER 18mA 50kΩ PULL-DOWN	2	24	2-46
BZDF	TTL LOW-NOISE SCHMITT I/O BUFFER 24mA 50kΩ PULL-DOWN	2	24	2-46
BZI1	TTL LOW-NOISE SCHMITT I/O BUFFER 12mA	1	24	2-46
BZI5	TTL LOW-NOISE SCHMITT I/O BUFFER 18mA	2	24	2-46
BZIF	TTL LOW-NOISE SCHMITT I/O BUFFER 24mA	2	24	2-46
EET1	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 9mA	1	2	1-22
EET3	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 9mA 50kΩ PULL-UP	1	2	1-22
EET5	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 18mA	1	2	1-22
EET7	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	2	1-22
EET9	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 12mA	1	2	1-22
EETB	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	2	1-22
EETD	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 24mA	1	2	1-22
EETF	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	2	1-22
EETJ	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 6mA	1	2	1-22
EEUJ	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 6mA 50kΩ PULL-UP	1	2	1-22
EEW3	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 9mA 5kΩ PULLUP	1	2	1-22
EEW7	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	2	1-22
EEWB	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 12mA 5kΩ PULL-UP	1	2	1-22
EEWF	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	2	1-22
EEWJ	LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	2	1-22
EGTL	GTL OUTPUT BUFFER WITH ENB	2	18	4-10
EVT5	TTL N-CH OPEN DRAIN OUTPUT BUFFER 18mA	2	8	2-26
EVT9	TTL N-CH OPEN DRAIN OUTPUT BUFFER 12mA	1	8	2-26
EVTD	TTL N-CH OPEN DRAIN OUTPUT BUFFER 24mA	2	8	2-26
EVTH	TTL N-CH OPEN DRAIN OUTPUT BUFFER 3mA	1	4	2-26
EVTJ	TTL N-CH OPEN DRAIN OUTPUT BUFFER 6mA	1	4	2-26
EXT1	N-CH OPEN DRAIN OUTPUT BUFFER 9mA	1	4	1-20
EXT3	N-CH OPEN DRAIN OUTPUT BUFFER 9mA 50kΩ PULL-UP	1	4	1-20
EXT5	N-CH OPEN DRAIN OUTPUT BUFFER 18mA	1	8	1-20
EXT7	N-CH OPEN DRAIN OUTPUT BUFFER 18mA 50kΩ PULL-UP	1	8	1-20
EXT9	N-CH OPEN DRAIN OUTPUT BUFFER 12mA	1	4	1-20
EXTB	N-CH OPEN DRAIN OUTPUT BUFFER 12mA 50kΩ PULL-UP	1	4	1-20
EXTD	N-CH OPEN DRAIN OUTPUT BUFFER 24mA	1	8	1-20
EXTF	N-CH OPEN DRAIN OUTPUT BUFFER 24mA 50kΩ PULL-UP	1	8	1-20
EXTH	N-CH OPEN DRAIN OUTPUT BUFFER 3mA	1	4	1-20
EXTJ	N-CH OPEN DRAIN OUTPUT BUFFER 6mA	1	4	1-20
EXUH	N-CH OPEN DRAIN OUTPUT BUFFER 3mA 50kΩ PULL-UP	1	4	1-20
EXUJ	N-CH OPEN DRAIN OUTPUT BUFFER 6mA 50kΩ PULL-UP	1	4	1-20
EXW3	N-CH OPEN DRAIN OUTPUT BUFFER 9mA 5kΩ PULL-UP	1	4	1-20
EXW7	N-CH OPEN DRAIN OUTPUT BUFFER 18mA 5kΩ PULL-UP	1	8	1-20
EXWB	N-CH OPEN DRAIN OUTPUT BUFFER 12mA 5kΩ PULL-UP	1	4	1-20
EXWF	N-CH OPEN DRAIN OUTPUT BUFFER 24mA 5kΩ PULL-UP	1	8	1-20
EXWH	N-CH OPEN DRAIN OUTPUT BUFFER 3mA 5kΩ PULL-UP	1	4	1-20
EXWJ	N-CH OPEN DRAIN OUTPUT BUFFER 6mA 5kΩ PULL-UP	1	4	1-20
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Name	Function	I/O cells	int. cells	Page
EYT5	TTL LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 18mA	2	2	2-28
EYT9	TTL LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 12mA	1	2	2-28
EYTD	TTL LOW-NOISE N-CH OPEN DRAIN OUTPUT BUFFER 24mA	2	2	2-28
F091	H,L LEVEL GENERATOR	-	1	6-2
F093	INTERFACE BLOCK FOR OSCILLATOR BUFFER	-	1	6-4
F101	INVERTER SINGLE OUT	-	1	6-6
F102	INVERTER SINGLE OUT (X2 DRIVE)	-	2	6-6
	INVERTER MULTI OUT (X3 DRIVE)	-	3	6-6
	INVERTER MULTI OUT (X4 DRIVE)	-	4	6-6
F108	INVERTER MULTI OUT (X8 DRIVE)	-	12	6-6
F111	BUFFER SINGLE OUT	-	2	6-8
F112	BUFFER SINGLE OUT (X2 DRIVE)	-	3	6-8
F113	BUFFER MULTI OUT (X3 DRIVE)	-	4	6-8
F114	BUFFER MULTI OUT (X4 DRIVE)	-	5	6-8
F118	BUFFER MULTI OUT (X8 DRIVE)	-	11	6-8
F131	DELAY GATE	-	6	6-18
F132	DELAY GATE	-	10	6-18
F143	INVERTER SINGLE OUT (X3 DRIVE)	-	3	6-6
F144	INVERTER SINGLE OUT (X4 DRIVE)	-	4	6-6
F148	INVERTER SINGLE OUT (X8 DRIVE)	-	12	6-6
F153	BUFFER SINGLE OUT (X3 DRIVE)	_	4	6-8
F154	BUFFER SINGLE OUT (X4 DRIVE)	_	5	6-8
F158	BUFFER SINGLE OUT (X8 DRIVE)	_	11	6-8
	2-INPUT NOR	_	2	6-20
	2-INPUT NOR 1-INPUT INVERTER	_	3	6-20
F203	3-INPUT NOR	_	3	6-22
	3-INPUT NOR 1-INPUT INVERTER	-	4	6-22
	3-INPUT NOR 2-INPUT INVERTER	-	4	6-22
	4-INPUT NOR	-	4	6-24
	4-INPUT NOR 1-INPUT INVERTER	-	5	6-24
	4-INPUT NOR 2-INPUT INVERTER	-	5	6-24
F205	5-INPUT NOR	-	5	6-28
	5-INPUT NOR 1-INPUT INVERTER	_	5	6-28
	5-INPUT NOR 2-INPUT INVERTER	-	6	6-28
	5-INPUT NOR 3-INPUT INVERTER	-	6	6-28
F206	6-INPUT NOR	-	5	6-32
	6-INPUT NOR 1-INPUT INVERTER	_	6	6-32
	6-INPUT NOR 2-INPUT INVERTER	_	6	6-32
	6-INPUT NOR 3-INPUT INVERTER	-	7	6-32
F208	8-INPUT NOR	-	7	6-36
	8-INPUT NOR 1-INPUT INVERTER	-	8	6-36
	8-INPUT NOR 2-INPUT INVERTER	-	8	6-36
	8-INPUT NOR 3-INPUT INVERTER	-	9	6-36
	8-INPUT NOR 4-INPUT INVERTER	-	9	6-36
F212	2-INPUT OR	_	2	6-40
F213	3-INPUT OR	-	3	6-42
F214	4-INPUT OR	_	3	6-44
F214N1	4-INPUT OR 1-INPUT INVERTER	-	4	6-44
F215	5-INPUT OR	_	5	6-46
	5-INPUT OR 1-INPUT INVERTER	 -	5	6-46
F216	6-INPUT OR	_	5	6-50
	6-INPUT OR 1-INPUT INVERTER	_	6	6-50
F216N2	6-INPUT OR 2-INPUT INVERTER	-	6	6-50
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F218N1 8-INPUT OR 1-INPUT INVERTER - 9 6-64	Name	Function	I/O cells	int. cells	Page
F218N2 8-INPUT OR 2-INPUT INVERTER	F218	8-INPUT OR	-	8	
F218N3	F218N1	8-INPUT OR 1-INPUT INVERTER	-	9	6-54
F222 2-INPUT NOR (X2 DRIVE) - 4 6-20 F222N1 2-INPUT NOR (X2 DRIVE) - 5 6-62 F223N2 3-INPUT NOR (X2 DRIVE) - 6 6-22 F223N3 3-INPUT NOR (X2 DRIVE) - 7 6-22 F223N2 3-INPUT NOR (X2 DRIVE) - 7 6-22 F224N3 3-INPUT NOR (X2 DRIVE) - 7 6-22 F224V3 3-INPUT NOR (X2 DRIVE) - 7 6-22 F224V4 4-INPUT NOR (X2 DRIVE) - 8 6-24 F224V4 4-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-24 F224N2 4-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-24 F224N2 4-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-24 F225N3 5-INPUT NOR (X2 DRIVE) - 6 6-28 F225N3 5-INPUT NOR (X2 DRIVE) - 7 6-28 F225N3 5-INPUT NOR (X2 DRIVE) - 7 6-28 F225N3 5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225N3 5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F226N3 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F226N3 6-INPUT OR (X2 DRIVE) - 9 6-36 F226N3 6-INPUT OR (X2 DRIVE) - 9 6-36 F226N3 6-INPUT OR (X2 DRIVE) - 9 6-36 F226N3 6-INPUT OR (X2 DRIVE) - 9 6-36 F226N3 6-INPUT OR (X2 DRIVE) - 9 6-36 F226N3 6-INPUT OR (X2 DRIVE) - 9 6-36 F226N3 6-INPUT OR (X2 DRIVE) - 9 6-36 F226N3 6-			-	9	
F222N1 2-INPUT NOR (1-INPUT INVERTER (X2 DRIVE)	F218N3	8-INPUT OR 3-INPUT INVERTER	-	10	6-54
F222N1 2-INPUT NOR (1-INPUT INVERTER (X2 DRIVE)	F222	2-INPUT NOR (X2 DRIVE)	-	4	6-20
F223N1 3-INPUT NOR (X2 DRIVE) - 6 6-22	F222N1	,	-	5	6-20
F223N1 3-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-22			-	6	6-22
F224 4-INPUT NOR (X2 DRIVE) - 8 6-24 F22411 4-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 9 6-24 F22412 4-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-24 F22521 5-INPUT NOR (X2 DRIVE) - 6 6 6-28 F225251 5-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 6 6 6-28 F225252 5-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225252 5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225253 5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F2266 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-32 F2267 6-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F22680 6-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F22680 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F22680 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F22680 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F22680 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-32 F22680 8-INPUT NOR (X2 DRIVE) - 8 6-36 F22881 8-INPUT NOR (X2 DRIVE) - 9 6-36 F22881 8-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 9 6-36 F22881 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F22882 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F22883 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F22884 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F22894 8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F22894 8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F22894 8-INPUT OR (X2 DRIVE) - 10 6-36 F22895 8-INPUT OR (X2 DRIVE) - 10 6-36 F22896 8-INPUT OR (X2 DRIVE) - 7 6-46 F2336 1-INPUT OR (X2 DRIVE) - 7 6-46 F2336 1-INPUT OR (X2 DRIVE) - 7 6-46 F2336 1-INPUT OR (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-50 F2360 1-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-	F223N1	,	-	7	6-22
F224N1 4-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 9 6-24 F224N1 4-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-24 F225 5-INPUT NOR (X2 DRIVE) - 6 6-28 F225N1 5-INPUT NOR (X2 DRIVE) - 7 6-628 F225N3 5-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225N3 5-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225N3 5-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225N3 5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F226N3 5-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-28 F226N3 5-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-36 F228N1 3-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-36 F228N2 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N2 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 8-INPUT NOR (X2 DRIVE) - 4 6-44 F2344 1-INPUT NOR (X2 DRIVE) - 4 6-44 F2344 1-INPUT NOR (X2 DRIVE) - 7 6-46 F234 4-INPUT OR (X2 DRIVE) - 4 6-44 F2341 4-INPUT OR (X2 DRIVE) - 7 6-46 F236 5-INPUT OR (X2 DRIVE) - 7 6-46 F236 5-INPUT OR (X2 DRIVE) - 7 6-46 F236 6-INPUT OR (X2 DRIVE) - 7 6-46 F238N3 1-INPUT OR (X2 DRIVE) - 7 6-4	F223N2	3-INPUT NOR 2-INPUT INVERTER (X2 DRIVE)	-	7	6-22
F224N2 4-INPUT NOR 2-INPUT INVERTER (X2 DRIVE)	F224	4-INPUT NOR (X2 DRIVE)	-	8	6-24
F225 S-INPUT NOR (X2 DRIVE) - 6 6-28 F225N1 S-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 6 6-28 F225N2 S-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225N3 S-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F226N1 G-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N1 G-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N2 G-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 8 6-32 F226N3 G-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-32 F228 INPUT NOR X-INPUT INVERTER (X2 DRIVE) - 8 6-36 F228 INBUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 3-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N4 3-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 3-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F2	F224N1	4-INPUT NOR 1-INPUT INVERTER (X2 DRIVE)	-	9	6-24
F225 S-INPUT NOR (X2 DRIVE) - 6 6-28 F225N1 S-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 6 6-28 F225N2 S-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225N3 S-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F226N1 G-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N1 G-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N2 G-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 8 6-32 F226N3 G-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-32 F228 INPUT NOR X-INPUT INVERTER (X2 DRIVE) - 8 6-36 F228 INBUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 3-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N4 3-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 3-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F2			-	9	6-24
F22SN1 5-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 6 6-28 F22SN2 5-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-28 F22SN3 5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F2266 6-INPUT NOR (X2 DRIVE) - 7 6-32 F2267 6-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F22680 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-32 F22680 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-32 F22803 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-36 F22810 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F22820 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F22821 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228281 8-INPUT OR (X2 DRIVE) - 10 6-36 F228282 8-INPUT OR (X2 DRIVE) - 1 6-40			-	6	6-28
F225N2 5-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-28 F225N3 5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F226 6-INPUT NOR (X2 DRIVE) - 7 6-32 F226N1 6-INPUT NOR (X2 DRIVE) - 7 6-32 F226N2 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F228N3 6-INPUT NOR (X2 DRIVE) - 8 6-32 F228N3 6-INPUT NOR (X2 DRIVE) - 8 6-32 F228N3 8-INPUT NOR (X2 DRIVE) - 9 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N4 8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N4 8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F232N3 1-INPUT OR (X2 DRIVE) - 10 6-36 F232N4 4-INPUT OR (X2 DRIVE) - 1 6-42 F2333 3-INPUT OR (X2 DRIVE) -	F225N1		-	6	6-28
F22SN3 5-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 7 6-28 F226B 6-INPUT NOR (X2 DRIVE) - 6 6-32 F226B1 6-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226B2 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226B3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-32 F228B1 8-INPUT NOR (X2 DRIVE) - 9 6-36 F228D1 8-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228D1 8-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228D1 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228D3 8-INPUT OR (X2 DRIVE) - 10 6-36 F228D4 8-INPUT OR (X2 DRIVE) - 10 6-36 F2322 2-INPUT OR (X2 DRIVE) - 4 6-42 F2334 4-INPUT OR (X2 DRIVE) - 4 6-42 F2344 1-INPUT OR (X2 DRIVE)			-	7	
F2266 G-INPUT NOR (X2 DRIVE) - 6 6-32 F226N1 G-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N2 G-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 G-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-32 F226N3 G-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-32 F228N1 B-INPUT NOR (X2 DRIVE) - 9 6-36 F228N1 B-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 B-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 B-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 B-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N4 B-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 B-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 B-INPUT OR (X2 DRIVE) - 1 0 6-36 F232 2-INPUT OR (X2 DRIVE) - 4 6-42 F233 3-INPUT OR (X2 DRIVE) - 4 6-42 F234 4-INPUT OR (X2 DRIVE) - 5 6-44 F234N1 4-INPUT OR I-INPUT INVERTER (X2 DRIVE) - 7 6-46 F235 5-INPUT OR (X2 DRIVE) - 7 6-46 F236 6-INPUT OR (X2 DRIVE) - 7 6-50 F236 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR (X2 DRIVE) - 8 6-50 F238N3 B-INPUT OR (X2 DRIVE) - 8 6-50 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 8 6-50 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 B-INPUT OR C-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 B-INPUT OR C-INPUT INVERTER (X4 DRIVE) - 6 6-60 F303N1 B-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F308N1 B-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F308N1 B-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F308N1 B-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F308N1 B-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 5 6-66 F303NN1 B-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 5 6-66 F303NN1 B-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 5 6-66 F303NN1 B-INPUT NAND 1-INP			-	7	6-28
F226N2 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-36 F228N3 8-INPUT NOR (X2 DRIVE) - 9 6-36 F228N1 8-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N2 8-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N2 8-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N4 8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N2 2-INPUT OR (X2 DRIVE) - 10 6-36 F2332 2-INPUT OR (X2 DRIVE) - 4 6-42 F234M1 4-INPUT OR (X2 DRIVE) - 4 6-44 F2334M1 4-INPUT OR (X2 DRIVE) - 5 6-44 F2355 5-INPUT OR (X2 DRIVE) - 7 6-46 F235N1 5-INPUT OR (X2 DRIVE) - 7 6-46 F235N1 5-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N2 6-INPUT OR (X2 DRIVE) - 8 6-50 F236N3 6-INPUT OR (X2 DRIVE) - 8 6-50 F236N3 6-INPUT OR (X2 DRIVE) - 8 6-50 F236N3 8-INPUT OR (X2 DRIVE) - 8 6-50 F238N3 8-INPUT OR (X2 DRIVE) - 9 6-54 F238N1 8-INPUT OR (X2 DRIVE) - 10 6-54 F238N2 8-INPUT OR (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR (X4 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X4 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X4 DRIVE) - 10 6-54 F238N1 2-INPUT NOR (X4 DRIVE) - 6 6-40 F238N1 2-INPUT NOR (X4 DRIVE) - 7 6-20 F302N1 2-INPUT NOR (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER	F226		-	6	6-32
F226N2 6-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 7 6-32 F226N3 6-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 8 6-36 F228N3 8-INPUT NOR (X2 DRIVE) - 9 6-36 F228N1 8-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N2 8-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N2 8-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N4 8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N2 2-INPUT OR (X2 DRIVE) - 10 6-36 F2332 2-INPUT OR (X2 DRIVE) - 4 6-42 F234M1 4-INPUT OR (X2 DRIVE) - 4 6-44 F2334M1 4-INPUT OR (X2 DRIVE) - 5 6-44 F2355 5-INPUT OR (X2 DRIVE) - 7 6-46 F235N1 5-INPUT OR (X2 DRIVE) - 7 6-46 F235N1 5-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N2 6-INPUT OR (X2 DRIVE) - 8 6-50 F236N3 6-INPUT OR (X2 DRIVE) - 8 6-50 F236N3 6-INPUT OR (X2 DRIVE) - 8 6-50 F236N3 8-INPUT OR (X2 DRIVE) - 8 6-50 F238N3 8-INPUT OR (X2 DRIVE) - 9 6-54 F238N1 8-INPUT OR (X2 DRIVE) - 10 6-54 F238N2 8-INPUT OR (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR (X4 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X4 DRIVE) - 10 6-54 F238N3 8-INPUT OR X-INPUT INVERTER (X4 DRIVE) - 10 6-54 F238N1 2-INPUT NOR (X4 DRIVE) - 6 6-40 F238N1 2-INPUT NOR (X4 DRIVE) - 7 6-20 F302N1 2-INPUT NOR (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F303N3 3-INPUT NAND 1-INPUT INVERTER	F226N1	6-INPUT NOR 1-INPUT INVERTER (X2 DRIVE)	-	7	6-32
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F228 8-INPUT NOR (X2 DRIVE) - 8 6-36 F228N1 8-INPUT NOR 1-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N2 8-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N4 8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N2 2-INPUT OR (X2 DRIVE) - 3 6-40 F233 3-INPUT OR (X2 DRIVE) - 4 6-42 F234 4-INPUT OR (X2 DRIVE) - 4 6-44 F2344 4-INPUT OR (X2 DRIVE) - 5 6-44 F2354 4-INPUT OR (X2 DRIVE) - 7 6-46 F2354 5-INPUT OR (X2 DRIVE) - 7 6-46 F2355 5-INPUT OR (X2 DRIVE) - 7 6-46 F2355 5-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 7 6-50 F236N2 6-INPUT OR (X2 DRIVE) - 8			-	8	
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F228N2 8-INPUT NOR 2-INPUT INVERTER (X2 DRIVE) - 9 6-36 F228N3 8-INPUT NOR 3-INPUT INVERTER (X2 DRIVE) - 10 6-36 F228N4 8-INPUT NOR 4-INPUT INVERTER (X2 DRIVE) - 10 6-36 F2320 2-INPUT OR (X2 DRIVE) - 3 6-40 F233 3-INPUT OR (X2 DRIVE) - 4 6-42 F234 4-INPUT OR (X2 DRIVE) - 4 6-42 F234 4-INPUT OR (X2 DRIVE) - 5 6-44 F234M1 4-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 7 6-46 F2355 5-INPUT OR (X2 DRIVE) - 7 6-46 F2366 6-INPUT OR (X2 DRIVE) - 7 6-46 F2367 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 8 6-50 F236N2 6-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 8 6-50 F238N3 8-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 9 6-54 F238N3 8-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 9 6-54 F238N3 8-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 11 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR (X4 DRIVE) - 10 6-54 F238N3 8-INPUT OR (X4 DRIVE) - 10 6-54 F238N3 8-INPUT OR (X4 DRIVE) - 10 6-54 F238N3 8-INPUT OR (X4 DRIVE) - 10 6-54 F238N3 8-INPUT NOR (X4 DRIVE) - 10 6-54 F238N3	F228N1		-	9	
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F233 3-INPUT OR (X2 DRIVE) - 4 6-42			-		
F234 4-INPUT OR (X2 DRIVE) - 4 6-44 F234N1 4-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 5 6-44 F235 5-INPUT OR (X2 DRIVE) - 7 6-46 F235A011 5-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 7 6-46 F236C 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 8 6-50 F236N2 6-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 8 6-50 F238 8-INPUT OR (X2 DRIVE) - 9 6-54 F238N1 8-INPUT OR (X2 DRIVE) - 10 6-54 F238N2 8-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 11 6-54 F238N3 8-INPUT OR (X4 DRIVE) - 6 6-40 F2282 2-INPUT NOR (X4 DRIVE) - 6 6-40 F282N1 2-INPUT NAND - 7 6-20 F30301 2-INPUT NAND - 7			-		
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F235N1 5-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 7 6-46 F236 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 8 6-50 F236N2 6-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 9 6-54 F238N3 8-INPUT OR (X2 DRIVE) - 10 6-54 F238N2 8-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N2 8-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 11 6-54 F228N2 2-INPUT OR (X4 DRIVE) - 11 6-54 F252 2-INPUT NOR (X4 DRIVE) - 6 6-40 F282 2-INPUT NOR (X4 DRIVE) - 6 6-20 F282N1 2-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F3030 3-INPUT NAND 1-INPUT INVERTER - 3 6-58 F3031 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F304N1 4-INPUT NA	F234N1	4-INPUT OR 1-INPUT INVERTER (X2 DRIVE)	-	5	6-44
F236 6-INPUT OR (X2 DRIVE) - 7 6-50 F236N1 6-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 8 6-50 F236N2 6-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 8 6-50 F238 8-INPUT OR (X2 DRIVE) - 9 6-54 F238N1 8-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N2 8-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 11 6-54 F252 2-INPUT OR (X4 DRIVE) - 6 6-40 F282 2-INPUT NOR (X4 DRIVE) - 6 6-20 F282N1 2-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F302 2-INPUT NAND - 2 6-58 F302N1 2-INPUT NAND - 3 6-68 F303N1 3-INPUT NAND 1-INPUT INVERTER - 3 6-60 F303N1 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F304N1 4-INPUT NAND 2-INPUT INVERTER - <td>F235</td> <td>5-INPUT OR (X2 DRIVE)</td> <td>-</td> <td>7</td> <td>6-46</td>	F235	5-INPUT OR (X2 DRIVE)	-	7	6-46
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S-1NPUT OR (X2 DRIVE) - 9 6-54	F236N1	6-INPUT OR 1-INPUT INVERTER (X2 DRIVE)	-	8	6-50
F238N1 8-INPUT OR 1-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N2 8-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 10 6-54 F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 11 6-54 F252 2-INPUT OR (X4 DRIVE) - 6 6-40 F282 2-INPUT NOR (X4 DRIVE) - 6 6-20 F282 2-INPUT NOR (X4 DRIVE) - 7 6-20 F282N1 2-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F302 2-INPUT NAND - 2 6-58 F302N1 2-INPUT NAND 1-INPUT INVERTER - 3 6-58 F303 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F303N1 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F303N2 3-INPUT NAND 2-INPUT INVERTER - 4 6-62 F304 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 1-INPUT INVERTER - 6 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 7 6 F305N2 5-INPUT NAND 2-INPUT INVERTER -	F236N2	6-INPUT OR 2-INPUT INVERTER (X2 DRIVE)	-	8	6-50
F238N2 8-INPUT OR 2-INPUT INVERTER (X2 DRIVE) - 10 6-54	F238	8-INPUT OR (X2 DRIVE)	-	9	6-54
F238N3 8-INPUT OR 3-INPUT INVERTER (X2 DRIVE) - 11 6-54 F252 2-INPUT OR (X4 DRIVE) - 6 6-40 F282 2-INPUT NOR (X4 DRIVE) - 6 6-20 F282N1 2-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F302 2-INPUT NAND - 2 6-58 F302N1 2-INPUT NAND 1-INPUT INVERTER - 3 6-60 F303 3-INPUT NAND - 3 6-60 F303N1 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F303N2 3-INPUT NAND 2-INPUT INVERTER - 4 6-62 F304 4-INPUT NAND - 4 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 5 6-66	F238N1	8-INPUT OR 1-INPUT INVERTER (X2 DRIVE)	-	10	6-54
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F282N1 2-INPUT NOR 1-INPUT INVERTER (X4 DRIVE) - 7 6-20 F302 2-INPUT NAND - 2 6-58 F302N1 2-INPUT NAND 1-INPUT INVERTER - 3 6-58 F303 3-INPUT NAND - 3 6-60 F303N1 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F303N2 3-INPUT NAND 2-INPUT INVERTER - 4 6-60 F304 4-INPUT NAND - 4 6-62 F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F252	2-INPUT OR (X4 DRIVE)	-	6	6-40
F302 2-INPUT NAND - 2 6-58 F302N1 2-INPUT NAND 1-INPUT INVERTER - 3 6-58 F303 3-INPUT NAND - 3 6-60 F303N1 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F303N2 3-INPUT NAND 2-INPUT INVERTER - 4 6-62 F304 4-INPUT NAND - 4 6-62 F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 5 6-66	F282	2-INPUT NOR (X4 DRIVE)	-	6	6-20
F302N1 2-INPUT NAND 1-INPUT INVERTER - 3 6-58 F303 3-INPUT NAND - 3 6-60 F303N1 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F303N2 3-INPUT NAND 2-INPUT INVERTER - 4 6-60 F304 4-INPUT NAND - 4 6-62 F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 5 6-66	F282N1	2-INPUT NOR 1-INPUT INVERTER (X4 DRIVE)	-	7	6-20
F303 3-INPUT NAND - 3 6-60 F303N1 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F303N2 3-INPUT NAND 2-INPUT INVERTER - 4 6-60 F304 4-INPUT NAND - 4 6-62 F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-66 F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 5 6-66	F302	2-INPUT NAND	-	2	6-58
F303N1 3-INPUT NAND 1-INPUT INVERTER - 4 6-60 F303N2 3-INPUT NAND 2-INPUT INVERTER - 4 6-60 F304 4-INPUT NAND - 4 6-62 F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F302N1	2-INPUT NAND 1-INPUT INVERTER	-	3	6-58
F303N2 3-INPUT NAND 2-INPUT INVERTER - 4 6-60 F304 4-INPUT NAND - 4 6-62 F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F303	3-INPUT NAND	-	3	6-60
F304 4-INPUT NAND - 4 6-62 F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F303N1	3-INPUT NAND 1-INPUT INVERTER	-	4	6-60
F304N1 4-INPUT NAND 1-INPUT INVERTER - 5 6-62 F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F303N2	3-INPUT NAND 2-INPUT INVERTER		4	6-60
F304N2 4-INPUT NAND 2-INPUT INVERTER - 5 6-62 F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F304	4-INPUT NAND		4	6-62
F305 5-INPUT NAND - 5 6-66 F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F304N1	4-INPUT NAND 1-INPUT INVERTER	-	5	6-62
F305N1 5-INPUT NAND 1-INPUT INVERTER - 5 6-66 F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F304N2	4-INPUT NAND 2-INPUT INVERTER		5	6-62
F305N2 5-INPUT NAND 2-INPUT INVERTER - 6 6-66	F305	5-INPUT NAND		5	6-66
	F305N1	5-INPUT NAND 1-INPUT INVERTER		5	6-66
F305N3 5-INPUT NAND 3-INPUT INVERTER	F305N2	5-INPUT NAND 2-INPUT INVERTER	-	6	6-66
	F305N3	5-INPUT NAND 3-INPUT INVERTER	-	6	6-66

F306 G-NPUT NAND -	Name	Function	I/O cells	int. cells	Page
F308N2 6-INPUT NAND 3-INPUT INVERTER - 6 6-70	F306	6-INPUT NAND	-	6	
F308N3	F306N1	6-INPUT NAND 1-INPUT INVERTER	-	6	6-70
F308	F306N2	6-INPUT NAND 2-INPUT INVERTER	-	6	
SAINPUT NAND 1-INPUT INVERTER - 7 6-74	F306N3	6-INPUT NAND 3-INPUT INVERTER	-	7	6-70
SAMPUT NAND 2-INPUT INVERTER - 7 6-64	F308		-	6	6-74
F308N3	F308N1	8-INPUT NAND 1-INPUT INVERTER	-	7	6-74
SAMPUT NAND 4-INPUT INVERTER - 8 6-74	F308N2	8-INPUT NAND 2-INPUT INVERTER	-	7	6-74
F312 2-INPUT AND	F308N3	8-INPUT NAND 3-INPUT INVERTER	-	8	6-74
F313 3-INPUT AND	F308N4	8-INPUT NAND 4-INPUT INVERTER	-	8	6-74
F3144 4-INPUT AND 4-INPUT INVERTER	F312	2-INPUT AND	-	2	6-78
F314N1 4-INPUT AND 1-INPUT INVERTER	F313	3-INPUT AND	-	3	6-80
F315N 5-INPUT AND -	F314	4-INPUT AND	-	3	6-82
S-INPUT AND 1-INPUT INVERTER - 5 6-84	F314N1	4-INPUT AND 1-INPUT INVERTER	-	4	6-82
F3161 G-INPUT AND	F315	5-INPUT AND	-	5	6-84
F316N1 G-INPUT AND 1-INPUT INVERTER	F315N1	5-INPUT AND 1-INPUT INVERTER	-	5	6-84
F316N2 G-INPUT AND 2-INPUT INVERTER	F316	6-INPUT AND	-	6	6-88
F318N 8-INPUT AND - 6 6-92	F316N1	6-INPUT AND 1-INPUT INVERTER	-	6	6-88
F318N	F316N2	6-INPUT AND 2-INPUT INVERTER	-	6	6-88
S-INPUT AND 2-INPUT INVERTER - 7 6-92	F318		-	6	6-92
F318N3	F318N1	8-INPUT AND 1-INPUT INVERTER	-	7	6-92
F322 2-INPUT NAND (X2 DRIVE) - 4 6-58 F322M1 2-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 5 6-58 F323M1 3-INPUT NAND (X2 DRIVE) - 6 6-60 F323M1 3-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-60 F323M2 3-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-60 F323M2 3-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 8 6-62 F324 4-INPUT NAND (X2 DRIVE) - 8 6-62 F324M1 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324M2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324M2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F325M2 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 6 6-66 F325M3 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 6 6-66 F325M1 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325M3 5-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325M3 5-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-67 F326M1 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326M2 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326M3 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326M3 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F328M3 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F328M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-74 F328M1 8-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) -	F318N2	8-INPUT AND 2-INPUT INVERTER	-	7	6-92
F322 2-INPUT NAND (X2 DRIVE) - 4 6-58 F322M1 2-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 5 6-58 F323M1 3-INPUT NAND (X2 DRIVE) - 6 6-60 F323M1 3-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-60 F323M2 3-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-60 F323M2 3-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 8 6-62 F324 4-INPUT NAND (X2 DRIVE) - 8 6-62 F324M1 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324M2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324M2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F325M2 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 6 6-66 F325M3 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 6 6-66 F325M1 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325M3 5-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325M3 5-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-67 F326M1 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326M2 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326M3 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326M3 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F328M3 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F328M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-74 F328M1 8-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338M1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) -			-		6-92
F332N1 2-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 5 6-58 F323 3-INPUT NAND (X2 DRIVE) - 6 6 6-60 F323N1 3-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-60 F323N2 3-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-60 F324 4-INPUT NAND (X2 DRIVE) - 8 6-62 F324N1 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324N2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324N2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324N2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 6 6-66 F325D1 5-INPUT NAND (X2 DRIVE) - 6 6-66 F325D1 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 6 6-66 F325D1 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325N3 5-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-66 F326N3 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N1 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N1 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N2 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N3 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N3 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-74 F328N1 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N2 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F3330 3-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F3331 3-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F3333 3-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-84 F3356N1 4-INPUT AND (X2 DRIVE) - 7 6-84 F3356N1 5-INPUT AND (X2 DRIVE) - 7 6-88 F336N1 5-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-88 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-88 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-88 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-88 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-88 F336N2 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-88 F336N2 6-INPUT AND 1-INPUT INVERT	F322		-	4	
F3233 3-INPUT NAND (X2 DRIVE) - 6 6-60 6-60 6-30 6-	F322N1		-	5	
F323N1 3-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-60 F323N2 3-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 8 6-62 F324N1 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324N2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324N2 4-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 9 6-62 F325N1 5-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 6 6-66 F325N1 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325N1 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325N2 5-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325N3 5-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325N3 5-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N1 6-INPUT NAND (X2 DRIVE) - 7 6-70 F326N2 6-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N3 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N3 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-74 F328N3 8-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N3 8-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N3 8-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N3 8-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F3330 3-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 6-80 F3331 3-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 6-80 F3331 3-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 6-80 F3331 3-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-84 6-80 F336N1 4-INPUT AND (X2 DRIVE) - 7 6-84 6-80 F336N1 4-INPUT AND (X2 DRIVE) - 7 6-84 6-80 F336N1 4-INPUT AND (X2 DRIVE) - 7 6-84 6-80 F336N1 4-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-84 6-80 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-88 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-			-	6	6-60
F323N2 3-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-60 F324 4-INPUT NAND (X2 DRIVE) - 8 6-62 F324N1 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324N2 4-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 9 6-62 F324N2 4-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 6 6-66 F325N2 5-INPUT NAND (X2 DRIVE) - 6 6-66 F325N1 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325N2 5-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325N3 5-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-66 F325N3 5-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N1 6-INPUT NAND 1-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N2 6-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 7 6-70 F326N3 6-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 7 6-74 F328N3 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N3 8-INPUT NAND 2-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 8 6-74 F328N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F328N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F328N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338N3 3-INPUT AND (X2 DRIVE) - 9 6-74 F338N4 8-INPUT NAND 3-INPUT INVERTER (X2 DRIVE) - 9 6-74 F338N5 3-INPUT AND (X2 DRIVE) - 7 6-84 F336N6 5-INPUT AND (X2 DRIVE) - 7 6-84 F336N6 6-INPUT AND (X2 DRIVE) - 7 6-84 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-84 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-84 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-84 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-84 F336N1 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-84 F336N2 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 7 6-88 F336N2 6-INPUT AND 1-INPUT INVERTER (X2 DRIVE) - 8		, ,	-	7	6-60
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F434NB 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 7 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 7 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 7 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 7 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 7 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 7 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 7 6-156 F434NDP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 5 6-156 F435DP 2-3-INPUT OR-AND-INVERTER (X2 DRIVE) - 5 6-156 F4363DP 2-3-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-160 F4363DP 2-3-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-160 F4369 3-3-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-162 F4369 3-3-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-162 F4369 3-3-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-164 F437NP 1-2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-164 F437NP 1-2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-164 F438NP 2-2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-166 F442 4-4-INPUT AND-OR-INVERTER (X2 DRIVE) - 6 6-166 F442 4-4-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-166 F442 4-4-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-166 F442 4-4-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-166 F453 1-2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-166 F454 2-2-2-2-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-166 F455 1-2-3-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-166 F450 1-2-3-INPUT OR-AND-INVERTER (X2 DRIVE) - 6 6-166 F451 1-3-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-			-	6	6-156
F434NBP 2-2-INPUT OR-AND-INVERTER (X2 DRIVE)		,	-	5	
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F442 4-4-INPUT AND-OR-INVERTER - 8 6-136 F454 2-2-2-2-INPUT OR-AND-INVERTER - 8 6-168 F462 1-2-3-INPUT AND-OR-INVERTER - 6 6-138 F511 2-INPUT EXCLUSIVE OR - 4 6-98 F512 2-INPUT EXCLUSIVE NOR - 4 6-102 F516 3-INPUT EXCLUSIVE NOR - 8 6-100 F517 3-INPUT EXCLUSIVE NOR - 8 6-104 F521 1-BIT FULL ADDER - 9 6-332 F523 4-BIT FULL ADDER - 9 6-332 F523 4-BIT LOOK AHEAD CARRY GENERATOR - 34 6-338 F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH EN - 5 6-16 F552 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 </td <td>F438NP</td> <td>2-2-2-INPUT OR-AND-INVERTER (X2 DRIVE)</td> <td>-</td> <td>6</td> <td>6-166</td>	F438NP	2-2-2-INPUT OR-AND-INVERTER (X2 DRIVE)	-	6	6-166
F454 2-2-2-2-INPUT OR-AND-INVERTER - 8 6-168 F462 1-2-3-INPUT AND-OR-INVERTER - 6 6-138 F511 2-INPUT EXCLUSIVE OR - 4 6-98 F512 2-INPUT EXCLUSIVE NOR - 4 6-102 F516 3-INPUT EXCLUSIVE OR - 8 6-104 F517 3-INPUT EXCLUSIVE NOR - 8 6-104 F521 1-BIT FULL ADDER - 9 6-332 F523 4-BIT FULL ADDER - 34 6-334 F526 4-BIT LOOK AHEAD CARRY GENERATOR - 34 6-338 F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 3 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31		,	-	_	
F462 1-2-3-INPUT AND-OR-INVERTER - 6 6-138 F511 2-INPUT EXCLUSIVE OR - 4 6-98 F512 2-INPUT EXCLUSIVE NOR - 4 6-102 F516 3-INPUT EXCLUSIVE OR - 8 6-100 F517 3-INPUT EXCLUSIVE NOR - 8 6-104 F521 1-BIT FULL ADDER - 9 6-332 F523 4-BIT FULL ADDER - 34 6-334 F526 4-BIT LOOK AHEAD CARRY GENERATOR - 34 6-338 F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH ENB - 5 6-16 F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
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F512 2-INPUT EXCLUSIVE NOR - 4 6-102 F516 3-INPUT EXCLUSIVE OR - 8 6-100 F517 3-INPUT EXCLUSIVE NOR - 8 6-104 F521 1-BIT FULL ADDER - 9 6-332 F523 4-BIT FULL ADDER - 34 6-334 F526 4-BIT LOOK AHEAD CARRY GENERATOR - 34 6-338 F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH EN - 5 6-16 F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298		2-INPUT EXCLUSIVE OR	-	_	
F516 3-INPUT EXCLUSIVE OR - 8 6-100 F517 3-INPUT EXCLUSIVE NOR - 8 6-104 F521 1-BIT FULL ADDER - 9 6-332 F523 4-BIT FULL ADDER - 34 6-334 F526 4-BIT LOOK AHEAD CARRY GENERATOR - 34 6-338 F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH EN - 5 6-16 F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			-		
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F521 1-BIT FULL ADDER - 9 6-332 F523 4-BIT FULL ADDER - 34 6-334 F526 4-BIT LOOK AHEAD CARRY GENERATOR - 34 6-38 F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH EN - 5 6-16 F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 27 6-304 F552 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298		3-INPUT EXCLUSIVE NOR	-	_	
F523 4-BIT FULL ADDER - 34 6-334 F526 4-BIT LOOK AHEAD CARRY GENERATOR - 34 6-338 F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH EN - 5 6-16 F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 27 6-304 F552 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			-	_	
F526 4-BIT LOOK AHEAD CARRY GENERATOR - 34 6-338 F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH EN - 5 6-16 F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 27 6-304 F552 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			-	_	
F527 1-BIT CARRY LOOK AHEAD ADDER - 68 6-340 F531 3-STATE BUFFER WITH ENB - 5 6-16 F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 27 6-304 F552 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298		4-BIT LOOK AHEAD CARRY GENERATOR	-		
F531 3-STATE BUFFER WITH EN - 5 6-16 F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 27 6-304 F552 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			-		
F532 3-STATE BUFFER WITH ENB - 5 6-16 F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 27 6-304 F552 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298	F531		-		
F550 QUAD 8 TO 1 MULTIPLEXER POSITIVE OUTPUT - 64 6-312 F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 27 6-304 F552 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			-		
F551 QUAD 4 TO 1 MULTIPLEXER POSITIVE OUTPUT - 27 6-304 F552 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			-	_	
F552 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT - 13 6-298 F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			-		
F553 QUAD 8 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 64 6-316 F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			_		
F554 QUAD 4 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 31 6-304 F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298					
F555 QUAD 2 TO 1 MULTIPLEXER NEGATIVE OUTPUT - 9 6-298			_		
			_		
	F560	2 TO 4 DECODER POSITIVE OUTPUT	-	10	6-320

Name	Function	I/O cells	int. cells	Page
F561	2 TO 4 DECODER NEGATIVE OUTPUT	-	10	6-320
F563	8 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	17	6-308
F564	4 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	8	6-302
F565	2 TO 1 MULTIPLEXER POSITIVE OUTPUT	-	4	6-296
F569	8 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB	-	18	6-308
F570	4 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB	-	10	6-302
F571	2 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB	-	6	6-296
F572	QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB	-	14	6-298
F579	8 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	17	6-308
F57A	4 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	10	6-302
F57B	2 TO 1 MULTIPLEXER NEGATIVE OUTPUT	-	5	6-296
F581	8-BIT ODD PARITY GENERATOR	-	19	6-328
F582	8-BIT EVEN PARITY GENERATOR	-	19	6-330
F595	RS-LATCH	_	5	6-214
F596	RS-F/F WITH R,S	_	11	6-262
F601	D-LATCH	_	6	6-170
	D-LATCH QB OUT ONLY	_	5	6-170
	D-LATCH QB OUT ONLY (X2 DRIVE)	_	6	6-170
	D-LATCH (X2 DRIVE)	_	8	6-170
	D-LATCH Q OUT ONLY	_	5	6-170
	D-LATCH Q OUT ONLY (X2 DRIVE)	-	6	6-170
	D-LATCH WITH R	-	6	6-176
	D-LATCH WITH K D-LATCH WITH R QB OUT ONLY	-	5	6-176
	D-LATCH WITH R QB OUT ONLY D-LATCH WITH R QB OUT ONLY (X2 DRIVE)	-	6	
		-		6-176
	D-LATCH WITH R (X2 DRIVE)	-	9	6-176
	D-LATCH WITH R Q OUT ONLY	-	6	6-176
	D-LATCH WITH R Q OUT ONLY (X2 DRIVE)	-	7	6-176
F603	D-LATCH WITH RB	-	7	6-182
	D-LATCH WITH RB QB OUT ONLY	-	6	6-182
	D-LATCH WITH RB QB OUT ONLY (X2 DRIVE)	-	7	6-182
	D-LATCH WITH RB (X2 DRIVE)	-	8	6-182
-	D-LATCH WITH RB Q OUT ONLY	-	5	6-182
	D-LATCH WITH RB Q OUT ONLY (X2 DRIVE)	-	6	6-182
	D-LATCH (GB)	-	6	6-190
	D-LATCH (GB) QB OUT ONLY	-	5	6-190
	D-LATCH (GB) QB OUT ONLY (X2 DRIVE)	-	6	6-190
	D-LATCH (GB) (X2 DRIVE)	-	8	6-190
	D-LATCH (GB) Q OUT ONLY	-	5	6-190
	D-LATCH (GB) Q OUT ONLY (X2 DRIVE)	-	6	6-190
F605	D-LATCH (GB) WITH RB	-	7	6-196
	D-LATCH (GB) WITH RB QB OUT ONLY	-	6	6-196
	D-LATCH (GB) WITH RB QB OUT ONLY (X2 DRIVE)	-	7	6-196
	D-LATCH (GB) WITH RB (X2 DRIVE)	-	8	6-196
	D-LATCH (GB) WITH RB Q OUT ONLY	-	5	6-196
F605NQP	D-LATCH (GB) WITH RB Q OUT ONLY (X2 DRIVE)	-	6	6-196
F611	D-F/F	-	8	6-216
F614	D-F/F WITH R,S	-	10	6-226
F615	D-F/F WITH RB	-	9	6-230
	D-F/F WITH RB QB OUT ONLY	-	8	6-230
	D-F/F WITH RB QB OUT ONLY (X2 DRIVE)	-	9	6-230
	D-F/F WITH RB (X2 DRIVE)	-	11	6-230
	D-F/F WITH RB Q OUT ONLY	-	8	6-230
F615NQP	D-F/F WITH RB Q OUT ONLY (X2 DRIVE)	-	9	6-230

F616NB D-F/F WITH SB QB OUT ONLY - F616NBP D-F/F WITH SB QB OUT ONLY (X2 DRIVE) - F616NP D-F/F WITH SB (X2 DRIVE) - F616NQ D-F/F WITH SB Q OUT ONLY -	9 8 9 1	Page 6-234 6-234 6-234
F616NBP D-F/F WITH SB QB OUT ONLY (X2 DRIVE) - F616NP D-F/F WITH SB (X2 DRIVE) - F616NQ D-F/F WITH SB Q OUT ONLY -	9	
F616NP D-F/F WITH SB (X2 DRIVE) - 1 F616NQ D-F/F WITH SB Q OUT ONLY - -	_	6-224
F616NQ D-F/F WITH SB Q OUT ONLY -	1	U-23 4
		6-234
E616NODD E/E WITH SB O OUT ONLY (Y2 DDIVE)	8	6-234
F616NQPD-F/F WITH SB Q OUT ONLY (X2 DRIVE)	9	6-234
F617 D-F/F WITH RB,SB - 1	0	6-238
F631 D-F/F (CB) -	8	6-242
F637 D-F/F (CB) WITH RB,SB -	0	6-252
F641 D-F/F -	8	6-216
F641NB D-F/F QB OUT ONLY -	7	6-216
F641NBP D-F/F QB OUT ONLY (X2 DRIVE)	8	6-216
F641NP D-F/F (X2 DRIVE)	0	6-216
F641NQ D-F/F Q OUT ONLY -	7	6-216
F641NQP D-F/F Q OUT ONLY (X2 DRIVE)	8	6-216
	9	6-218
F642NB D-F/F WITH R QB OUT ONLY -	8	6-218
F642NBP D-F/F WITH R QB OUT ONLY (X2 DRIVE)	9	6-218
F642NP D-F/F WITH R (X2 DRIVE)	1	6-218
F642NQ D-F/F WITH R Q OUT ONLY	8	6-218
F642NQP D-F/F WITH R Q OUT ONLY (X2 DRIVE)	9	6-218
} 	9	6-222
F643NB D-F/F WITH S QB OUT ONLY -	8	6-222
F643NBP D-F/F WITH S QB OUT ONLY (X2 DRIVE)	9	6-222
	1	6-222
F643NQ D-F/F WITH S Q OUT ONLY -	8	6-222
F643NQP D-F/F WITH S Q OUT ONLY (X2 DRIVE)	9	6-222
	0	6-226
F644NB D-F/F WITH R,S QB OUT ONLY -	9	6-226
F644NBP D-F/F WITH R,S QB OUT ONLY (X2 DRIVE)	0	6-226
F644NP D-F/F WITH R,S (X2 DRIVE) - 1	2	6-226
F644NQ D-F/F WITH R,S Q OUT ONLY -	9	6-226
F644NQP D-F/F WITH R,S Q OUT ONLY (X2 DRIVE) - 1	0	6-226
F647 D-F/F WITH RB,SB - 1	0	6-238
F647NB D-F/F WITH RB,SB QB OUT ONLY -	9	6-238
F647NBP D-F/F WITH RB,SB QB OUT ONLY (X2 DRIVE)	0	6-238
F647NP D-F/F WITH RB,SB (X2 DRIVE) - 1	2	6-238
F647NQ D-F/F WITH RB,SB Q OUT ONLY -	9	6-238
F647NQP D-F/F WITH RB,SB Q OUT ONLY (X2 DRIVE)	0	6-238
F661 D-F/F (CB) -	8	6-242
F661NB D-F/F (CB) QB OUT ONLY -	7	6-242
F661NBP D-F/F (CB) QB OUT ONLY (X2 DRIVE)	8	6-242
F661NP D-F/F (CB) (X2 DRIVE) - 1	0	6-242
F661NQ D-F/F (CB) Q OUT ONLY -	7	6-242
F661NQP D-F/F (CB) Q OUT ONLY (X2 DRIVE)	8	6-242
F665 D-F/F (CB) WITH RB -	9	6-244
F665NB D-F/F (CB) WITH RB QB OUT ONLY -	8	6-244
F665NBP D-F/F (CB) WITH RB QB OUT ONLY (X2 DRIVE)	9	6-244
F665NP D-F/F (CB) WITH RB (X2 DRIVE) - 1	1	6-244
F665NQ D-F/F (CB) WITH RB Q OUT ONLY -	8	6-244
F665NQP D-F/F (CB) WITH RB Q OUT ONLY (X2 DRIVE)	9	6-244
	9	6-248
F666NB D-F/F (CB) WITH SB QB OUT ONLY -	8	6-248

Name	Function	I/O cells	int. cells	Page
F666NBP	D-F/F (CB) WITH SB QB OUT ONLY (X2 DRIVE)	-	9	6-248
	D-F/F (CB) WITH SB (X2 DRIVE)	-	11	6-248
	D-F/F (CB) WITH SB Q OUT ONLY	-	8	6-248
	D-F/F (CB) WITH SB Q OUT ONLY (X2 DRIVE)	-	9	6-248
	D-F/F (CB) WITH RB,SB	-	10	6-252
	D-F/F (CB) WITH RB,SB QB OUT ONLY	-	9	6-252
	D-F/F (CB) WITH RB,SB QB OUT ONLY (X2 DRIVE)	-	10	6-252
	D-F/F (CB) WITH RB,SB (X2 DRIVE)	-	12	6-252
	D-F/F (CB) WITH RB,SB Q OUT ONLY	-	9	6-252
	D-F/F (CB) WITH RB,SB Q OUT ONLY (X2 DRIVE)	-	10	6-252
F6R1	D-LATCH HIGH SPEED	-	6	6-174
F6R2	D-LATCH WITH R HIGH SPEED	-	7	6-180
F6R5	D-LATCH WITH RB HIGH SPEED	-	6	6-186
F6R8	D-LATCH (GB) HIGH SPEED	-	6	6-194
F714	T-F/F WITH R,S	-	9	6-264
F717	T-F/F WITH RB,SB	-	9	6-268
F737	T-F/F (TB) WITH RB,SB	_	9	6-272
F744	T-F/F WITH R,S	_	9	6-264
	T-F/F WITH R,S (X2 DRIVE)	_	11	6-264
	T-F/F WITH R,S Q OUT ONLY	_	8	6-264
	T-F/F WITH R,S Q OUT ONLY (X2 DRIVE)	_	9	6-264
	T-F/F WITH RB,SB	_	9	6-268
	T-F/F WITH RB,SB (X2 DRIVE)	_	11	6-268
	T-F/F WITH RB,SB Q OUT ONLY	_	8	6-268
	T-F/F WITH RB,SB Q OUT ONLY (X2 DRIVE)	_	9	6-268
F767	T-F/F (TB) WITH RB,SB		9	6-272
	T-F/F (TB) WITH RB,SB (X2 DRIVE)	-	11	6-272
	T-F/F (TB) WITH RB,SB Q OUT ONLY	_	8	6-272
	T-F/F (TB) WITH RB,SB Q OUT ONLY (X2 DRIVE)	_	9	6-272
F771	JK-F/F		10	6-280
	JK-F/F QB OUT ONLY		9	6-280
	JK-F/F QB OUT ONLY (X2 DRIVE)		10	6-280
	JK-F/F (X2 DRIVE)	_	12	6-280
	JK-F/F Q OUT ONLY	-	9	6-280
	JK-F/F Q OUT ONLY (X2 DRIVE)	_	10	6-280
	JK-F/F WITH R,S	-	12	6-282
	JK-F/F WITH R,S QB OUT ONLY		11	6-282
	JK-F/F WITH R,S QB OUT ONLY (X2 DRIVE)	_	12	6-282
	JK-F/F WITH R,S (X2 DRIVE)		14	6-282
	JK-F/F WITH R,S Q OUT ONLY	_	11	6-282
	JK-F/F WITH R,S Q OUT ONLY (X2 DRIVE)	_	12	6-282
	JK-F/F WITH RB,SB	-	12	6-286
	JK-F/F WITH RB,SB QB OUT ONLY	_	11	6-286
	JK-F/F WITH RB,SB QB OUT ONLY (X2 DRIVE)	_	12	6-286
	JK-F/F WITH RB,SB (X2 DRIVE)	_	14	6-286
	JK-F/F WITH RB,SB Q OUT ONLY	_	11	6-286
	JK-F/F WITH RB,SB Q OUT ONLY JK-F/F WITH RB,SB Q OUT ONLY (X2 DRIVE)	_	12	6-286
F777NQP F781	JK-F/F (CB)	_	10	6-290
	JK-F/F (CB) JK-F/F (CB) QB OUT ONLY	-		
	JK-F/F (CB) QB OUT ONLY JK-F/F (CB) QB OUT ONLY (X2 DRIVE)	-	9	6-290
		-	10	6-290
	JK-F/F (CB) (X2 DRIVE)	-	12	6-290
	JK-F/F (CB) Q OUT ONLY JK-F/F (CB) Q OUT ONLY(X2 DRIVE)	-	9 10	6-290 6-290
1701NQP	UNTITI (OD) & OUT ONLI (AZ DNIVE)		10	0-290

Name	Function	I/O cells	int. cells	Page
F787	JK-F/F (CB) WITH RB,SB	-	12	6-292
F787NB	JK-F/F (CB) WITH RB,SB QB OUT ONLY	-	11	6-292
	JK-F/F (CB) WITH RB,SB QB OUT ONLY (X2 DRIVE)	-	12	6-292
	JK-F/F (CB) WITH RB,SB (X2 DRIVE)	-	14	6-292
	JK-F/F (CB) WITH RB,SB Q OUT ONLY	-	11	6-292
	JK-F/F (CB) WITH RB,SB Q OUT ONLY (X2 DRIVE)	-	12	6-292
F791	T-F/F WITH DATA-HOLD R,S	-	12	6-276
F792	T-F/F (TB) WITH DATA-HOLD RB,SB	-	12	6-278
F901	4-BIT D-LATCH	-	20	6-200
F902	8-BIT D-LATCH	-	38	6-206
F911	4-BIT SHIFT REGISTER WITH R	-	33	6-354
F912	4-BIT SHIFT REGISTER WITH LOAD	-	35	6-356
F913	4-BIT SERIAL/PARALLEL SHIFT REGISTER WITH RB	-	39	6-350
F914	4-BIT SERIAL/PARALLEL SHIFT REGISTER	-	28	6-348
F922	4-BIT D-F/F WITH R	-	33	6-258
	4-BIT D-F/F	_	28	6-256
F961	4-BIT SYNCHRONOUS BINARY COUNTER WITH RB	_	54	6-358
F962	4-BIT SYNCHRONOUS BINARY UP COUNTER WITH RB	_	39	6-360
F971	4-BIT D-LATCH HIGH SPEED	_	20	6-204
F972	8-BIT D-LATCH HIGH SPEED	_	38	6-210
.	2 TO 4 DECODER NEGATIVE OUTPUT WITH ENB	_	13	6-320
	3 TO 8 DECODER NEGATIVE OUTPUT WITH ENB		26	6-324
F985	4-BIT MAGNITUDE COMPARATOR		32	6-344
F9E6	DIGITAL PLL(25MHZ TO 50MHZ)	-	1900	5-6
F9E8	DIGITAL PLL(50MHZ TO 75MHZ)		1596	5-8
FC42	CLOCK TREE SYNTHESIS DRIVER	-	132	6-14
FC44	CLOCK TREE SYNTHESIS DRIVER	-	340	6-14
FC82	CLOCK TREE SYNTHESIS DRIVER	-	396	6-14
FC84	CLOCK TREE SYNTHESIS DRIVER		1020	6-14
FC64 FCK1	CLOCK DRIVER (LOW DRIVE)	-	40	6-10
FCK1	CLOCK DRIVER (LOW MIDDLE DRIVE)	-	80	6-10
FCK2 FCK3	CLOCK DRIVER (MIDDLE DRIVE)	-	120	6-10
FCK4	CLOCK DRIVER (WIDDLE DRIVE)	<u> </u>	160	6-10
FCK4 FCK5	,	-		
FCKS	CLOCK DRIVER (HIGH DRIVE) CLOCK DRIVER SINGLE OUT (LOW DRIVE)	-	200 40	6-10 6-12
FCKB	CLOCK DRIVER SINGLE OUT (LOWEW MIDDLE DRIVE)	-	80	6-12
FCKC	CLOCK DRIVER SINGLE OUT (MIDDLE DRIVE)		120	6-12
FCKD	CLOCK DRIVER SINGLE OUT (WIDDLE DRIVE) CLOCK DRIVER SINGLE OUT (UPPER MIDDLE DRIVE)	-	160	6-12
FCKE	CLOCK DRIVER SINGLE OUT (HIGH DRIVE)	-	200	6-12
FDA1	INPUT BUFFER WITH FAILSAFE 50kΩ PULL-DOWN	1		1-4
			4	
FDB1 FDE1	INPUT BUFFER CLOCK DRIVER 50kΩ PULL-DOWN	1	24	1-2 1-4
FDF1	INPUT BUFFER WITH FAILSAFE SCHMITT 50kΩ PULL-DOWN INPUT BUFFER SCHMITT 50kΩ PULL-DOWN		8	
FDG1	INPUT BUFFER SCHMITT 50kΩ PULL-DOWN INPUT BUFFER CLOCK DRIVER 50kΩ PULL-DOWN	1	8 24	2-2 2-2
FDH1	INPUT BUFFER WITH FAILSAFE CLOCK DRIVER 50kΩ PULL-DOWN	1	24	1-4
FDS1	INPUT BUFFER SCHMITT 50KΩ PULL-DOWN	1	8	1-2
FDV1	INPUT BUFFER 50kΩ PULL-DOWN	1	4	2-2
FE01	LOW-NOISE OUTPUT BUFFER 9mA	1	4	1-10
FE02	LOW NOISE OUTPUT BUFFER 12mA	1	4	1-10
FE03	LOW NOISE OUTPUT BUFFER 6mA	1	4	1-10
FE04	LOW-NOISE OUTPUT BUFFER 6mA	1	4	1-10
FE06	LOW-NOISE OUTPUT BUFFER 24mA	1	4	1-10
FI01	INPUT BUFFER]]	4	1-2

FIOP 3V INPUT BUFFER REFERENCE CLOCK	Name	Function	I/O cells	int. cells	Page
FIA1	FI0P	3V INPUT BUFFER REFERENCE CLOCK	1	3	5-2
FIBT	FI0Q	5V INPUT BUFFER REFERENCE CLOCK	1	3	5-4
FID1	FIA1	INPUT BUFFER WITH FAILSAFE	1	4	1-4
FIET	FIB1	INPUT BUFFER CLOCK DRIVER	1	24	1-2
FIET	FID1	INPUT BUFFER 50kΩ PULL-DOWN	1	4	1-2
FF1	-		1	8	1-4
FIGH INPUT BUFFER CLOCK DRIVER FIH1 INPUT BUFFER WITH FAILSAFE CLOCK DRIVER FIP1 GTI. INPUT BUFFER FOR REFERENCE VOLTAGE 1 - 4-8 FIP3 P-ECL INPUT BUFFER FOR REFERENCE VOLTAGE 1 0 4-16 FIP4 P-ECL INPUT BUFFER FOR REFERENCE VOLTAGE 1 0 4-16 FIP4 P-ECL INPUT BUFFER FOR REFERENCE VOLTAGE 1 0 4-16 FIP4 P-ECL INPUT BUFFER FOR REFERENCE VOLTAGE 1 0 4-16 FIR1 GTI. INPUT BUFFER FOR REFERENCE VOLTAGE 1 1 0 4-16 FIR1 GTI. INPUT BUFFER FOR REFERENCE VOLTAGE 1 1 0 4-16 FIR1 INPUT BUFFER SCHMITT 1 1 8 4-6 FIS1 INPUT BUFFER SCHMITT 1 1 8 1-2 FIV1 INPUT BUFFER SCHMITT 1 1 4 1-2 FIV1 INPUT BUFFER SCHMITT 1 1 4 1-2 FIV1 INPUT BUFFER SCHMITT 1 1 4 1-2 FIV1 INPUT BUFFER SCH PULL-UP 1 1 4 1-2 FIV1 INPUT BUFFER SCH PULL-UP 1 1 4 1-2 FIX1 P-ECL INPUT BUFFER WITH EN 1 1 26 4-14 FIX2 P-ECL INPUT BUFFER WITH EN 1 1 26 4-14 FIX3 ON GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 1 1 24 4-2 FIX1 SINPUT BUFFER WITH EN(OR) 1 1 4 1-6 FIX13 INPUT BUFFER WITH EN(OR) 1 1 4 1-6 FIX13 INPUT BUFFER WITH EN(OR) 1 1 4 1-6 FIX133 INPUT BUFFER WITH EN(OR) 5002 OUTPUT BUFFER WITH EN(OR) 5002 OUTPUT BUFFER BMA 1 1 4 1-8 FOO3 OUTPUT BUFFER BMA 1 1 4 1-8 FOO3 OUTPUT BUFFER SMA 1 1 4 1-8 FOO3 OUTPUT BUFFER SMA 1 1 4 1-8 FOO3 OUTPUT BUFFER SMA 1 1 4 1-8 FOO4 OUTPUT BUFFER SMA 1 1 4 1-8 FOO5 OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-8 FOO6 OUTPUT BUFFER SMA 1 1 4 1-8 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-8 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-12 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-12 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-12 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-12 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-12 FOO7 HIGH SPEED OUTPUT BUFFER SMA 1 1 4 1-12 FOO7 HIGH SPEED OUTPUT BU					
FIH1					
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FIS1 INPUT BUFFER SOKΩ PULL-UP	-			_	
FIU1 INPUT BUFFER 50kΩ PULL-UP FIV1 INPUT BUFFER FIV1 INPUT BUFFER SKΩ PULL-UP FIX1 P-ECL INPUT BUFFER WITH EN FIX2 P-ECL INPUT BUFFER WITH EN FIX3 SY GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX4 SV GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX5 SY GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX6 SY GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX7 SINPUT BUFFER WITH EN(OR) FIX1 INPUT BUFFER WITH EN(OR) FIX1335 INPUT BUFFER WITH EN(OR) FIX1 INPUT BUFFER WITH EN(OR) FIX1335 INPUT BUFFER WITH EN(OR) FIX1335 INPUT BUFFER WITH EN(OR) FIX1336 INPUT BUFFER WITH EN(OR) FIX1337 INPUT BUFFER WITH EN(OR) FIX1338 INPUT BUFFER WITH EN(OR) FIX1339 INPUT BUFFER WITH EN(OR) FIX1330 INPUT BUFFER SMA FIX14 FIX130 INPUT BUFFER SMA FIX14 FIX150 INPUT BUFFER SMA FIX150 INPUT BUFFER WITH EN(OR) FIX150 INPUT BUFFER SMA FIX16 FIX150 INPUT BUFFER SMA FIX16 FIX16 INPUT BUFFER SMA FIX16 INPUT B				_	
FIV1 INPUT BUFFER SkΩ PULL-UP FIX1 P-CL INPUT BUFFER SkΩ PULL-UP FIX2 P-ECL INPUT BUFFER WITH EN FIX2 P-ECL INPUT BUFFER WITH EN FIX4 3V GTU/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX5 3V GTU/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX6 3V GTU/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX7 SV GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX8 SV GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX9 SV GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX9 SV GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX9 SV GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX9 SV GTL/P-ECL INPUT BUFFER WITH EN(OR) FIX93 SINPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN FIX93 SINPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN FIX935 SINPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN FIX935 SINPUT BUFFER FOR HOTH EN(OR) 50kΩ PULL-DOWN FIX935 SINPUT BUFFER SMTH FIX935 SINP				_	
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FIX2 P-ECL INPUT BUFFER WITH EN FIXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIXA 5V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL FIX3 SINPUT BUFFER WITH EN(OR) FIX335 INPUT BUFFER WITH EN(OR) FIX335 INPUT BUFFER WITH EN(OR) FIX233 INPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN FIX2335 INPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN FIX235 INPUT BUFFER FOR ENABLE TERMINAL FIXA 1 4 1-6 FIXA 1 4 1-6 FIXA 1 5V EVENT EN E				-	
FIXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 1 24 4-2 FIZA 5V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 1 24 4-4 FN13 INPUT BUFFER WITH EN(OR) 1 4 1-6 FN1335 INPUT BUFFER WITH EN(OR) 1 4 2-4 FN23 INPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN 1 4 4-6 FN2335 INPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN 1 4 4-6 FN2335 INPUT BUFFER 9mA 1 4 4-18 FO01 OUTPUT BUFFER 9mA 1 4 4-18 FO02 OUTPUT BUFFER 12mA 1 4 1-8 FO03 OUTPUT BUFFER 18mA 1 1 8 1-8 FO04 OUTPUT BUFFER 6mA 1 1 4 1-8 FO06 OUTPUT BUFFER 3mA 1 1 4 1-8 FO09 OUTPUT BUFFER 3mA 1 1 4 1-8 FO09 OUTPUT BUFFER 12mA 1 1 8 1-8 FO21 HIGH SPEED OUTPUT BUFFER 12mA 1 1 4 1-12 FO22 HIGH SPEED OUTPUT BUFFER 18mA 1 1 4 1-12 FO23 HIGH SPEED OUTPUT BUFFER 18mA 1 1 4 1-12 FO24 HIGH SPEED OUTPUT BUFFER 18mA 1 1 4 1-12 FO25 HIGH SPEED OUTPUT BUFFER 18mA 1 1 4 1-12 FO26 HIGH SPEED OUTPUT BUFFER 3mA 1 1 4 1-12 FO27 HIGH SPEED OUTPUT BUFFER 3mA 1 1 4 1-12 FO28 HIGH SPEED OUTPUT BUFFER 8mA 1 1 8 1-12 FO29 HIGH SPEED OUTPUT BUFFER 5mA 1 1 4 1-12 FO21 INPUT BUFFER CLOCK DRIVER 50KΩ PULL-UP 1 24 1-2 FUSA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50KΩ PULL-UP 1 24 4-2 FV01 TTL OUTPUT BUFFER 6mA 1 1 8 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 8mA 1 4 2-12 FW01 TTL OUTPUT BUFFER 12mA 2 4 2-12 FW01 TTL OUTPUT BUFFER 12mA 2 4 2-12					
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FN23 INPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN	-				
FN2335 INPUT BUFFER WITH EN(OR) 50kΩ PULL-DOWN 1	-				
FO01 OUTPUT BUFFER 9mA					
FO02 OUTPUT BUFFER 12mA 1 4 1-8 FO03 OUTPUT BUFFER 18mA 1 8 1-8 FO04 OUTPUT BUFFER 6mA 1 4 1-8 FO06 OUTPUT BUFFER 6mA 1 4 1-8 FO09 OUTPUT BUFFER 24mA 1 4 1-8 FO09 P-ECL OUTPUT BUFFER 3mA 1 4 1-8 FO09 P-ECL OUTPUT BUFFER 9mA 1 4 1-12 FO21 HIGH SPEED OUTPUT BUFFER 9mA 1 4 1-12 FO22 HIGH SPEED OUTPUT BUFFER 12mA 1 4 1-12 FO23 HIGH SPEED OUTPUT BUFFER 18mA 1 8 1-12 FO24 HIGH SPEED OUTPUT BUFFER 6mA 1 4 1-12 FO25 HIGH SPEED OUTPUT BUFFER 8mA 1 8 1-12 FO26 HIGH SPEED OUTPUT BUFFER 8mA 1 4 1-12 FO29 HIGH SPEED OUTPUT BUFFER 70kQ PULL-UP 1 24 1-2 FUS1 INPUT BUFFER COCK DRIVER 50kQ PULL-UP 1 8 1-2 FUS2 <td></td> <td></td> <td></td> <td></td> <td></td>					
FO03 OUTPUT BUFFER 18mA 1 8 1-8 FO04 OUTPUT BUFFER 6mA 1 4 1-8 FO06 OUTPUT BUFFER 24mA 1 8 1-8 FO09 OUTPUT BUFFER 3mA 1 4 1-8 FO00 P-ECL OUTPUT BUFFER 1 4 1-8 FO03 P-ECL OUTPUT BUFFER 9mA 1 4 1-12 FO22 HIGH SPEED OUTPUT BUFFER 12mA 1 4 1-12 FO23 HIGH SPEED OUTPUT BUFFER 18mA 1 8 1-12 FO24 HIGH SPEED OUTPUT BUFFER 6mA 1 4 1-12 FO25 HIGH SPEED OUTPUT BUFFER 24mA 1 8 1-12 FO26 HIGH SPEED OUTPUT BUFFER 24mA 1 8 1-12 FO29 HIGH SPEED OUTPUT BUFFER 3mA 1 4 1-12 FUS1 INPUT BUFFER CLOCK DRIVER 50kΩ PULL-UP 1 24 1-2 FUS1 INPUT BUFFER SCHMITT 50kΩ PULL-UP 1 8 1-2 FUXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP 1 8 2-10					
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FO23 HIGH SPEED OUTPUT BUFFER 18mA 1 8 1-12 FO24 HIGH SPEED OUTPUT BUFFER 6mA 1 4 1-12 FO26 HIGH SPEED OUTPUT BUFFER 24mA 1 8 1-12 FO29 HIGH SPEED OUTPUT BUFFER 3mA 1 4 1-12 FUB1 INPUT BUFFER CLOCK DRIVER 50kΩ PULL-UP 1 24 1-2 FUS1 INPUT BUFFER SCHMITT 50kΩ PULL-UP 1 8 1-2 FUXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP 1 24 4-2 FV01 TTL OUTPUT BUFFER 9mA 1 8 2-10 FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FO21	HIGH SPEED OUTPUT BUFFER 9mA	1	4	1-12
FO24 HIGH SPEED OUTPUT BUFFER 6mA 1 4 1-12 FO26 HIGH SPEED OUTPUT BUFFER 24mA 1 8 1-12 FO29 HIGH SPEED OUTPUT BUFFER 3mA 1 4 1-12 FUB1 INPUT BUFFER CLOCK DRIVER 50kΩ PULL-UP 1 24 1-2 FUS1 INPUT BUFFER SCHMITT 50kΩ PULL-UP 1 8 1-2 FUXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP 1 24 4-2 FV01 TTL OUTPUT BUFFER 9mA 1 8 2-10 FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FO22	HIGH SPEED OUTPUT BUFFER 12mA	1	4	1-12
FO26 HIGH SPEED OUTPUT BUFFER 24mA 1 8 1-12 FO29 HIGH SPEED OUTPUT BUFFER 3mA 1 4 1-12 FUB1 INPUT BUFFER CLOCK DRIVER 50kΩ PULL-UP 1 24 1-2 FUS1 INPUT BUFFER SCHMITT 50kΩ PULL-UP 1 8 1-2 FUXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP 1 24 4-2 FV01 TTL OUTPUT BUFFER 9mA 1 8 2-10 FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 5kΩ PULL-UP 1 24 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FO23	HIGH SPEED OUTPUT BUFFER 18mA	1	8	1-12
FO29 HIGH SPEED OUTPUT BUFFER 3mA 1 4 1-12 FUB1 INPUT BUFFER CLOCK DRIVER 50kΩ PULL-UP 1 24 1-2 FUS1 INPUT BUFFER SCHMITT 50kΩ PULL-UP 1 8 1-2 FUXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP 1 24 4-2 FV01 TTL OUTPUT BUFFER 9mA 1 8 2-10 FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FO24	HIGH SPEED OUTPUT BUFFER 6mA	1	4	1-12
FUB1 INPUT BUFFER CLOCK DRIVER 50kΩ PULL-UP 1 24 1-2 FUS1 INPUT BUFFER SCHMITT 50kΩ PULL-UP 1 8 1-2 FUXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP 1 24 4-2 FV01 TTL OUTPUT BUFFER 9mA 1 8 2-10 FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FO26	HIGH SPEED OUTPUT BUFFER 24mA	1	8	1-12
FUS1 INPUT BUFFER SCHMITT 50kΩ PULL-UP 1 8 1-2 FUXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP 1 24 4-2 FV01 TTL OUTPUT BUFFER 9mA 1 8 2-10 FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FO29	HIGH SPEED OUTPUT BUFFER 3mA	1	4	1-12
FUXA 3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL 50kΩ PULL-UP 1 24 4-2 FV01 TTL OUTPUT BUFFER 9mA 1 8 2-10 FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FUB1	INPUT BUFFER CLOCK DRIVER 50kΩ PULL-UP	1	24	1-2
FV01 TTL OUTPUT BUFFER 9mA 1 8 2-10 FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FUS1	INPUT BUFFER SCHMITT 50kΩ PULL-UP	1	8	1-2
FV04 TTL OUTPUT BUFFER 6mA 1 4 2-10 FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FUXA	3V GTL/P-ECL INPUT BUFFER FOR ENABLE TERMINAL $50 \text{k}\Omega$ PULL-UP	1	24	4-2
FV09 TTL OUTPUT BUFFER 3mA 1 4 2-10 FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FV01	TTL OUTPUT BUFFER 9mA	1	8	2-10
FV0A TTL OUTPUT BUFFER 1mA 1 4 2-10 FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FV04	TTL OUTPUT BUFFER 6mA	1	4	2-10
FV0B TTL OUTPUT BUFFER 2mA 1 4 2-10 FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FV09	TTL OUTPUT BUFFER 3mA	1	4	2-10
FW02 TTL LOW-NOISE OUTPUT BUFFER 12mA 1 4 2-12 FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FV0A	TTL OUTPUT BUFFER 1mA	1	4	2-10
FW03 TTL LOW-NOISE OUTPUT BUFFER 18mA 2 4 2-12 FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FV0B	TTL OUTPUT BUFFER 2mA	1	4	2-10
FW06 TTL LOW-NOISE OUTPUT BUFFER 24mA 2 4 2-12 FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FW02	TTL LOW-NOISE OUTPUT BUFFER 12mA	1	4	2-12
FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FW03	TTL LOW-NOISE OUTPUT BUFFER 18mA	2	4	2-12
FWB1 INPUT BUFFER CLOCK DRIVER 5kΩ PULL-UP 1 24 1-2	FW06	TTL LOW-NOISE OUTPUT BUFFER 24mA	2	4	2-12
	FWB1			24	1-2
	-	INPUT BUFFER SCHMITT 5kΩ PULL-UP		_	

Name	Function	I/O cells	int. cells	Page
FY01	CMOS OUTPUT BUFFER 9mA	1	24	2-6
FY02	CMOS OUTPUT BUFFER 12mA	1	24	2-6
FY03	CMOS OUTPUT BUFFER 18mA	2	24	2-6
FY04	CMOS OUTPUT BUFFER 6mA	1	20	2-6
FY06	CMOS OUTPUT BUFFER 24mA	2	24	2-6
FY09	CMOS OUTPUT BUFFER 3mA	1	20	2-6
FY11	TTL HIGH SPEED OUTPUT BUFFER 9mA	1	8	2-14
FY12	TTL HIGH SPEED OUTPUT BUFFER 12mA	1	8	2-14
FY13	TTL HIGH SPEED OUTPUT BUFFER 18mA	2	8	2-14
FY14	TTL HIGH SPEED OUTPUT BUFFER 6mA	1	4	2-14
FY16	TTL HIGH SPEED OUTPUT BUFFER 24mA	2	8	2-14
FY19	TTL HIGH SPEED OUTPUT BUFFER 3mA	1	4	2-14
FZ02	CMOS LOW-NOISE OUTPUT BUFFER 12mA	1	8	2-8
FZ03	CMOS LOW-NOISE OUTPUT BUFFER 18mA	2	8	2-8
FZ06	CMOS LOW-NOISE OUTPUT BUFFER 24mA	2	8	2-8
L101	INVERTER SINGLE OUT(LOW POWER)	-	1	6-6
L111	BUFFER SINGLE OUT(LOW POWER)	_	1	6-8
L202	2-INPUT NOR (LOW POWER)	_	1	6-20
	2-INPUT NOR 1-INPUT INVERTER (LOW POWER)	_	2	6-20
L203	3-INPUT NOR (LOW POWER)	_	2	6-22
L203N1	3-INPUT NOR 1-INPUT INVERTER (LOW POWER)	_	2	6-22
!	3-INPUT NOR 2-INPUT INVERTER (LOW POWER)		3	6-22
L2031\Z	4-INPUT NOR (LOW POWER)		2	6-24
	4-INPUT NOR 1-INPUT INVERTER (LOW POWER)	_	3	6-24
L204N2	4-INPUT NOR 2-INPUT INVERTER (LOW POWER)	_	3	6-24
L204112	5-INPUT NOR (LOW POWER)	-	4	6-28
L205N1	5-INPUT NOR 1-INPUT INVERTER (LOW POWER)	-	5	6-28
	5-INPUT NOR 2-INPUT INVERTER (LOW POWER)	_	5	6-28
	5-INPUT NOR 3-INPUT INVERTER (LOW POWER)	_	6	6-28
L212	2-INPUT OR (LOW POWER)	_	2	6-40
L213	3-INPUT OR (LOW POWER)		2	6-42
L214	4-INPUT OR (LOW POWER)		3	6-44
L214N1	4-INPUT OR 1-INPUT INVERTER (LOW POWER)	_	3	6-44
L214N1	5-INPUT OR (LOW POWER)	-	4	6-46
L215 L215N1	5-INPUT OR 1-INPUT INVERTER (LOW POWER)		4	6-46
L302	2-INPUT NAND (LOW POWER)		1	6-58
L302N1	2-INPUT NAND (LOW FOWER)	_	2	6-58
L303	3-INPUT NAND (LOW POWER)		2	6-60
L303N1	3-INPUT NAND (LOW FOWER)		2	6-60
L303N1	3-INPUT NAND 2-INPUT INVERTER (LOW POWER)		3	6-60
L304	4-INPUT NAND (LOW POWER)	_	2	6-62
L304N1	4-INPUT NAND (LOW POWER)	-	3	6-62
	4-INPUT NAND 1-INPUT INVERTER (LOW POWER)	_	3	6-62
L305	5-INPUT NAND (LOW POWER)	_	3	6-66
L305N1	5-INPUT NAND (LOW FOWER)	_	3	
L305N1	5-INPUT NAND 1-INPUT INVERTER (LOW POWER) 5-INPUT NAND 2-INPUT INVERTER (LOW POWER)	_	4	6-66 6-66
L305N2 L305N3	,	-		6-66
L305N3	5-INPUT NAND 3-INPUT INVERTER (LOW POWER) 6-INPUT NAND (LOW POWER)		3	6-70
		-		
L306N1 L306N2	6-INPUT NAND 1-INPUT INVERTER (LOW POWER)	-	4	6-70
	6-INPUT NAND 2-INPUT INVERTER (LOW POWER)	_	4	6-70
L306N3	6-INPUT NAND 3-INPUT INVERTER (LOW POWER)	-	5	6-70
L312 L313	2-INPUT AND (LOW POWER) 3-INPUT AND (LOW POWER)	-	2	6-78 6-80
LUIU	O-INI OT AND (LOW FOWER)	_	۷	6-80

Name	Function	I/O cells	int. cells	Page
L314	4-INPUT AND (LOW POWER)	-	3	6-82
L314N1	4-INPUT AND 1-INPUT INVERTER (LOW POWER)	-	3	6-82
L315	5-INPUT AND (LOW POWER)	-	4	6-84
L315N1	5-INPUT AND 1-INPUT INVERTER (LOW POWER)	-	4	6-84
L316	6-INPUT AND (LOW POWER)	-	4	6-88
L316N1	6-INPUT AND 1-INPUT INVERTER (LOW POWER)	-	5	6-88
L316N2	6-INPUT AND 2-INPUT INVERTER (LOW POWER)	-	5	6-88
L318	8-INPUT AND (LOW POWER)	-	5	6-92
L318N1	8-INPUT AND 1-INPUT INVERTER (LOW POWER)	-	6	6-92
	8-INPUT AND 2-INPUT INVERTER (LOW POWER)	-	6	6-92
	8-INPUT AND 3-INPUT INVERTER (LOW POWER)	-	7	6-92
L421	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-106
L421NA	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-106
	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-106
	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-106
	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-106
L421NE	1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-106
L422	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-110
L422NA	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-110
	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-110
	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-110
	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	_	4	6-110
	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-110
L422NF	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	_	4	6-110
	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-110
L422NH	1-1-2-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-110
L423	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	2	6-116
L423NA	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-116
	1-3-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-116
L423NC	1-3-INPUT AND-OR-INVERTER (LOW POWER)	_	4	6-116
L423ND	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-116
L423NE	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-116
L423NF	1-3-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-116
	1-3-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-116
L424	2-2-INPUT AND-OR-INVERTER (LOW POWER)	_	2	6-122
	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-122
	2-2-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-122
	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-122
	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-122
	2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	4	6-122
L425	2-2-2-INPUT AND-OR-INVERTER (LOW POWER)	-	3	6-126
L426	3-3-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-128
L427	2-3-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-130
L428	1-2-2-INPUT AND-OR-INVERTER (LOW POWER)	_	3	6-132
L429	2-2-2-INPUT AND-OR-INVERTER (LOW POWER)	_	4	6-134
L431	1-2-INPUT OR-AND-INVERTER (LOW POWER)	_	2	6-140
L431NA	1-2-INPUT OR-AND-INVERTER (LOW POWER)	_	2	6-140
L431NB	1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-140
	1-2-INPUT OR-AND-INVERTER (LOW POWER)	_	3	6-140
	1-2-INPUT OR-AND-INVERTER (LOW POWER)	_	2	6-140
	1-2-INPUT OR-AND-INVERTER (LOW POWER)	_	3	6-140
L43111L	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	_	2	6-144
L432NA	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-144
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L432NR 1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	Name	Function	I/O cells	int. cells	Page
L432ND 1-1-2-INPUT OR-AND-INVERTER (LOW POWER) - 4 6-144	L432NB	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	
L432NE 1-12-INPUT OR-AND-INVERTER (LOW POWER) 	L432NC	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-144
L432NE 1-1-2-INPUT OR-AND-INVERTER (LOW POWER) - 4 6-144	L432ND	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-144
L432NG 1-1-2-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-144 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-148 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-144 6-145 6-145 6-144 6-145	L432NE		-	3	6-144
L432NH 1-1-2-INPUT OR-AND-INVERTER (LOW POWER) - 2 6-150	L432NF		-	4	6-144
L432NH 1-1-2-INPUT OR-AND-INVERTER (LOW POWER) - 2 6-150	L432NG	1-1-2-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-144
L433NA 1-3-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-150	L432NH		-	3	6-144
L433NA 1-3-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-150			-	2	6-150
L433NC 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-150 L433NT 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 2 6-156 L434NB 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 2 6-156 L434NA 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-156 L434NB 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-156 L434ND 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-160 L435 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L436 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L437 1-2.2.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L438 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-164 L442 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-164 L442 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-164 L444 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 5 6-168 L445 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 5 6-168 L446 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 5 6-168 L451 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 5 6-168 L511 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 7 6-226 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 7 6-226 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 7 6-226 L517 1-3.INPUT EXCLUSIVE OR (LOW POWER) - 7 6-226 L517 1-4.ITPLEXER POSITIVE OUTPUT WITH ENB (LOW POWER) - 7 6-226 L517 1-4.ITPLEXER POSITIVE OUT	L433NA		-	3	6-150
L433NC 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-150 L433NT 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-150 L433NF 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 2 6-156 L434NB 1-3.INPUT OR-AND-INVERTER (LOW POWER) - 2 6-156 L434NA 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-156 L434NB 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-156 L434ND 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-160 L435 2-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L436 3-3.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L437 1-2-2.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L438 2-2.2.INPUT OR-AND-INVERTER (LOW POWER) - 3 6-164 L442 4-4.INPUT AND-OR-INVERTER (LOW POWER) - 3 6-164 L442 4-4.INPUT AND-OR-INVERTER (LOW POWER) - 5 6-168 L444 2 4-4.INPUT AND-OR-INVERTER (LOW POWER) - 5 6-168 L445 1-2.3.INPUT OR-AND-INVERTER (LOW POWER) - 5 6-168 L451 1-2.INPUT EXCLUSIVE OR (LOW POWER) - 5 6-168 L511 2.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-104 L517 3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-104 L517 3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 3.INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 2.TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 6 6-320 L517 2.TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 6 6-320 L517 2.TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 6 6-320 L517 2.TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 7 6-226 L610 D-LATCH (GB) QUT ONLY (LOW POWER) - 7 6-226 L611 D-F/F WITH R.S. Q OUT ONLY (LOW POWER) - 7 6-226 L611 D-F/F WITH R.S. Q OUT ONLY (LOW POWER) - 7 6-226 L617 D-F/F (CB) WITH RB Q OUT ONLY (LOW POWER) - 7 6-226 L617 D-F/F (CB) W	L433NB	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	3	6-150
L433NE	L433NC		-	4	6-150
L433NE	L433ND		-	4	6-150
L433NF 1-3-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-150	L433NE		-	3	6-150
L433NG	L433NF		-	3	6-150
L434	L433NG	1-3-INPUT OR-AND-INVERTER (LOW POWER)	-	4	6-150
L434NA 2-2-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-156 L434NB 2-2-INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2-INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-156 L434ND 2-2-INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2-INPUT OR-AND-INVERTER (LOW POWER) - 4 6-156 L434ND 2-2-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-160 L435 2-3-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L436 3-3-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L437 1-2-2-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-162 L438 2-2-2-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-164 L438 2-2-2-INPUT OR-AND-INVERTER (LOW POWER) - 3 6-164 L439 1-2-2-INPUT OR-AND-INVERTER (LOW POWER) - 5 6-168 L441 4-4-INPUT AND-OR-INVERTER (LOW POWER) - 5 6-168 L442 1-2-3-INPUT OR-AND-INVERTER (LOW POWER) - 5 6-168 L454 2-2-2-2-INPUT OR-AND-INVERTER (LOW POWER) - 5 6-168 L462 1-2-3-INPUT AND-OR-INVERTER (LOW POWER) - 5 6-168 L462 1-2-3-INPUT EXCLUSIVE OR (LOW POWER) - 3 6-192 L512 2-INPUT EXCLUSIVE OR (LOW POWER) - 3 6-192 L513 3-INPUT EXCLUSIVE OR (LOW POWER) - 3 6-192 L514 3-INPUT EXCLUSIVE OR (LOW POWER) - 6 6-100 L517 3-INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 3-INPUT EXCLUSIVE OR (LOW POWER) - 6 6-320 L517 2-TO 4 DECODER POSITIVE OUTPUT (LOW POWER) - 6 6-320 L517 2-TO 4 DECODER NEGATIVE OUTPUT (LOW POWER) - 6 6-320 L517 2-TO 4 DECODER NEGATIVE OUTPUT (LOW POWER) - 6 6-320 L517 2-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 6 6-320 L517 2-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 6 6-320 L519 2-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 6 6-320 L519 2-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 6 6-320 L519 2-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 6 6-320 L519 2-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 7 6-226 L510 1-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 7 6-226 L510 1-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 7 6-226 L510 1-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (LOW POWER) - 7 6-226 L510 1-TO 4 DECODER NEGATIVE OUTPUT WITH ENB (-	2	6-156
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L517 3-INPUT EXCLUSIVE NOR (LOW POWER) - 6 6-104	L512	2-INPUT EXCLUSIVE NOR (LOW POWER)	-	3	6-102
L560 2 TO 4 DECODER POSITIVE OUTPUT (LOW POWER) - 6 6-320 L561 2 TO 4 DECODER NEGATIVE OUTPUT (LOW POWER) - 6 6-320 L571 2 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB (LOW POWER) - 4 6-296 L572 QUAD 2 TO 1 MULTIPLEXER POSITIVE OUTPUT WITH ENB (LOW POWER) - 10 6-298 L601 D-LATCH Q OUT ONLY (LOW POWER) - 3 6-170 L602 D-LATCH WITH R Q OUT ONLY (LOW POWER) - 4 6-176 L603 D-LATCH WITH RB Q OUT ONLY (LOW POWER) - 4 6-182 L604 D-LATCH (GB) Q OUT ONLY (LOW POWER) - 4 6-182 L605 D-LATCH (GB) WITH RB Q OUT ONLY (LOW POWER) - 4 6-188 L611 D-F/F Q OUT ONLY (LOW POWER) - 4 6-188 L611 D-F/F WITH R,S Q OUT ONLY (LOW POWER) - 7 6-236 L617 D-F/F (CB) Q OUT ONLY (LOW POWER) - 7 6-238 L631 D-F/F (CB) WITH RB,SB Q OUT ONLY (LOW POWER) - 7 6-232 L714 T-F/F WITH RB,SB Q OUT ONLY (LOW POWER)<	L516	3-INPUT EXCLUSIVE OR (LOW POWER)	-	6	6-100
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