



SINGLE BUFFER GATE WITH 3-STATE OUTPUT

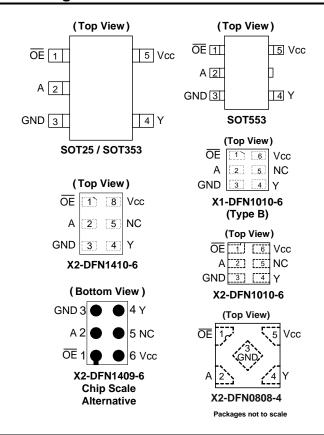
Description

The 74LVC1G125 is a single, non-inverting buffer/bus driver with a 3-state output. The output enters a high-impedance state when a HIGH-level is applied to the output enable $\overline{(\text{OE})}$ pin. The device is designed for operation with a power supply range of 1.65V to 5.5V. The inputs are tolerant to 5.5V, allowing this device to be used in a mixed voltage environment. The device is fully specified for partial power down applications using I_{OFF}. The I_{OFF} circuitry disables the output preventing damaging current backflow when the device is powered down.

Features

- Wide Supply Voltage Range from 1.65 to 5.5V
- ± 24mA Output Drive at 3.3V
- CMOS Low Power Consumption
- I_{OFF} Supports Partial-Power-Down Mode Operation
- Inputs Accept Up to 5.5V
- ESD Protection Tested per JESD 22
 - Exceeds 200-V Machine Model (A115)
 - Exceeds 2000-V Human Body Model (A114)
 - Exceeds 1000-V Charged Device Model (C101)
- Latch-Up Exceeds 100mA per JESD 78, Class I
- Range of Package Options
- Direct Interface with TTL Levels
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Pin Assignments



Applications

- Voltage Level Shifting
- General Purpose Logic
- Power Down Signal Isolation
- Wide Array of Products Such as:
 - PCs, Networking, Notebooks, Netbooks, PDAs
 - Tablet Computers, E-readers
 - Computer Peripherals, Hard Drives, CD/DVD ROMs

April 2016 © Diodes Incorporated

- TVs, DVDs, DVRs, Set Top Boxes
- Cell Phones, Personal Navigation / GPS
- MP3 Players, Cameras, Video Recorders

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.



Ordering Information (Note 4)

Logic Device Packing Package

74 : Logic Prefix LVC: 1.65 to 5.5 V **Logic Family** 1G: One Gate

Function 125: 3-State Buffer **OE** active low

W5: SOT25 **SE: SOT353 Z**: SOT553 -7: 7" Tape & Reel

FS3: X2-DFN0808-4 FW5:X1-DFN1010-6 (Type B)

FW4:X2-DFN1010-6 FX4: X2- DFN1409-6 FZ4: X2- DFN1410-6

Dowt Normals an	Package	Package	Package	7" Tape	and Reel
Part Number	Code	(Notes 5 & 6)	Size	Quantity	Part Number Suffix
74LVC1G125W5-7	W5	SOT25	3.0mm x 2.8mm x 1.2mm 0.95mm lead pitch	3,000/Tape & Reel	-7
74LVC1G125SE-7	SE	SOT353	2.0mm x 2.0mm x 1.1mm 0.65mm lead pitch	3 000/Tane & Reel	
74LVC1G125Z-7	Z	SOT553	1.6mm x 1.6 mm x 0.62mm 0.5mm lead pitch	4,000/Tape & Reel	-7
74LVC1G125FS3-7	FS3	X2-DFN0808-4	0.8mm x 0.8 mm x 0.35mm 0.5mm pad pitch (diamond)	1 5 000/Tane & Reel	
74LVC1G125FW5-7	FW5	X1-DFN1010-6 (Type B)	1.0mm x 1.0mm x 0.5mm 0.35mm pad pitch	5,000/Tape & Reel	-7
74LVC1G125FW4-7	FW4	X2-DFN1010-6	1.0mm x 1.0mm x 0.4mm 0.35mm pad pitch	5,000/Tape & Reel	-7
74LVC1G125FX4-7	FX4	X2-DFN1409-6 (Chip scale alternative)	1.4mm x 0.9mm x 0.4mm 0.5mm pad pitch	5 000/Tane & Reel	
74LVC1G125FZ4-7	FZ4	X2-DFN1410-6	1.4mm x 1.0mm x 0.4mm 0.5mm pad pitch	1 5 000/Tane & Reel 1	

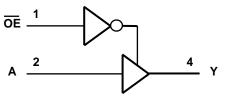
Notes:

- 4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.
- 5. Pad layout as shown on Diodes Inc. suggested pad layout which can be found on our website at http://www.diodes.com/package-outlines.html. 6. The taping orientation is located on our website at http://www.diodes.com/datasheets/ap02007.pdf.

Pin Descriptions

Pin Name	Description
ŌĒ	Output Enable
Α	Data Input
GND	Ground
Υ	Data Output
V _{CC}	Supply Voltage
NC	No Connection

Logic Diagram



Function Table

Inp	Output	
ŌĒ	Α	Y
L	Н	Н
L	L	L
Н	X	Z



Absolute Maximum Ratings (Notes 7 & 8) (@T_A = +25°C, unless otherwise specified.)

Symbol	Description	Rating	Unit
ESD HBM	Human Body Model ESD Protection	2	kV
ESD CDM	Charged Device Model ESD Protection	1	kV
ESD MM	Machine Model ESD Protection	200	V
Vcc	Supply Voltage Range	-0.5 to 6.5	V
VI	Input Voltage Range	-0.5 to 6.5	V
Vo	Voltage Applied to Output in High Impedance or IOFF State	-0.5 to 6.5	V
Vo	Voltage Applied to Output in High or Low State.	-0.5 to V _{CC} +0.5	V
I _{IK}	Input Clamp Current V _I < 0	-50	mA
I _{OK}	Output Clamp Current	-50	mA
I _O	Continuous Output Current	±50	mA
I _{CC} , I _{GN}	Continuous Current Through V _{CC} or GND	±100	mA
TJ	Operating Junction Temperature	-40 to +150	°C
T _{STG}	Storage Temperature	-65 to +150	°C

Notes:

Recommended Operating Conditions (Note 9) (@TA = +25°C, unless otherwise specified.)

Symbol		Parameter	Min	Max	Unit
Vcc	Operating Voltage	Operating	1.65	5.5	V
V CC	Operating voltage	Data Retention Only	1.5	_	V
		V _{CC} = 1.65V to 1.95V	0.65 x V _{CC}	_	
V	High Loyal Input Valtage	V _{CC} = 2.3V to 2.7V	1.7	_	V
V _{IH}	High-Level Input Voltage	V _{CC} = 3V to 3.6V	2	_	V
		V _{CC} = 4.5V to 5.5V	0.7 x V _{CC}	_	
		V _{CC} = 1.65V to 1.95V	_	0.35 x V _{CC}	
V	Low Lovel Input voltage	V _{CC} = 2.3V to 2.7V	_	0.7	V
V_{IL}	Low-Level Input voltage	V _{CC} = 3V to 3.6V	_	0.8	V
		V _{CC} = 4.5V to 5.5V	_	0.3 x V _{CC}	
VI	Input Voltage		0	5.5	V
Vo	Output Voltage		0	Vcc	V
		V _{CC} = 1.65V	_	-4	mA
	High-Level Output Current	V _{CC} = 2.3V	_	-8	
Іон		V _{CC} = 2.7V	_	-12	
IOH		V 2V	_	-16	IIIA
		V _{CC} = 3V	_	-24	
		V _{CC} = 4.5V	_	-32	
		V _{CC} = 1.65V	_	4	
		V _{CC} = 2.3V	_	8	
I _{OL}	Low-Level Output Current	V _{CC} = 2.7V	_	12	mA
IOL	Low Level Output Outlett	V _{CC} = 3V	_	16	IIIA
		VCC = 3V	_	24	
		V _{CC} = 4.5V		32	
		$V_{CC} = 1.8V \pm 0.15V, 2.5V \pm 0.2V$	_	20	
Δt/ΔV	Input Transition Rise or Fall Rate	$V_{CC} = 3.3V \pm 0.3V$	_	10	ns/V
		$V_{CC} = 5V \pm 0.5V$	_	5	
T_A	Operating Free-Air Temperature	_	-40	+125	°C

Note: 9. Unused inputs should be held at $V_{\mbox{CC}}$ or Ground.

^{7.} Stresses beyond the absolute maximum may result in immediate failure or reduced reliability. These are stress values and device

operation should be within recommend values.

8. Forcing the maximum allowed voltage could cause a condition exceeding the maximum current or conversely forcing the maximum current could cause a condition exceeding the maximum voltage. The ratings of both current and voltage must be maintained within the controlled range.



Electrical Characteristics (All typical values are at $V_{CC} = 3.3V$, $T_A = +25$ °C)

Symbol	Parameter	Test Conditions	V	-4	10°C to +85°	С	-40°C to	+125°C	Unit
Symbol	Parameter	rest Conditions	V _{CC}	Min	Тур	Max	Min	Max	Unit
		I _{OH} = -100μA	1.65V to 5.5V	V _{CC} -0.1	_	1	V _{CC} - 0.1	1	
		I _{OH} = -4mA	1.65V	1.2	_	_	0.95	_	
		$I_{OH} = -8mA$	2.3V	1.9	_	1	1.7	1	
Voн	High-Level Output Voltage	$I_{OH} = -12mA$	2.7V	2.2	_	1	1.9	1	V
	o aip air i oiliago	$I_{OH} = -16mA$	3V	2.4	_	1	2.2	1	
		I _{OH} = -24mA	3 V	2.3	_	_	2.0	_	
		I _{OH} = -32mA	4.5V	3.8	_	_	3.4	_	
		I _{OL} = 100μA	1.65V to 5.5V	_	_	0.1	_	0.1	
		I _{OL} = 4mA	1.65V	_	_	0.45	_	0.7	
		I _{OL} = 8mA	2.3V	_	_	0.3	_	0.45	V
V_{OL}	Low-Level Output Voltage	$I_{OL} = 12mA$	2.7V	_	_	0.4	_	0.6	
	Output Voltage	I _{OL} = 16mA	3V	_	_	0.4	_	0.6	
		I _{OL} = 24mA	30	_	_	0.55	_	0.8	
		I _{OL} = 32mA	4.5V	_	_	0.55	_	.8	
II	Input Current	V _I = 5.5 V or GND	0 to 5.5V	_	± 0.1	±5	_	± 100	μA
l _{OFF}	Power Down Leakage Current	V_1 or $V_0 = 5.5V$	0V	_	_	±10	_	±200	μΑ
l _{OZ}	Z State Leakage Current	V _O =0 to 5.5V	3.6V		0.1	10		20	μA
Icc	Supply Current	V _I = 5.5V or GND I _O =0	5.5V	_	0.1	10	_	200	μA
ΔI _{CC}	Additional Supply Current	Input at V _{CC} –0.6V	3V to 5.5V			500	_	5,000	μΑ
Ci	Input Capacitance	$V_i = V_{CC} - \text{or GND}$	3.3V	_	5		_		pF

Package Characteristics (All typical values are at V_{CC} = 3.3V, T_A = +25°C)

Symbol	Parameter	Test Conditions	V _{CC}	Min	Тур	Max	Unit
	SOT25		-	204	_		
		SOT353		_	371	_	
		SOT553		_	231	_	
0	Thermal Resistance	X2-DFN0808-4	(Nata 10)	_	400	_	°C/W
θ _{JA}	Junction-to-Ambient	X1-DFN1010-6 (Type B)	(Note 10)	_	435	_	C/VV
		X2-DFN1010-6		_	445	_	
		X2-DFN1409-6		_	470	_	
		X2-DFN1410-6		_	460	_	
		SOT25		_	52	_	
		SOT353		_	143	_	
		SOT553		_	105	_	
0	Thermal Resistance	X2-DFN0808-4	(Note 10)	_	225	_	°C/W
$\theta_{ m JC}$	Junction-to-Case	X1-DFN1010-6 (Type B)	(Note 10)	_	250	_	C/VV
		X2-DFN1010-6		_	250	_	
		X2-DFN1409-6		_	275	_	
		X2-DFN1410-6		_	265	_	

Note: 10. Test condition for each of the eight package types: Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



Switching Characteristics

Figure 1 Typical Values at $T_A = +25^{\circ}C$ and nominal voltages 1.8V, 2.5V, 2.7V, 3.3V, and 5.0V.

Darameter	From	То	V	T _A	= -40°C to +8	5°C	T _A = -40°C	to +125°C	linit
Parameter	Input	Output	V _{CC}	Min	Тур	Max	Min	Max	Unit
			1.8V ± 0.15V	1.0	3.3	8.0	1.0	10.5	
			$2.5V \pm 0.2V$	0.5	2.2	5.5	0.5	7.0	
t_{pd}	Α	Y	2.7V	0.5	2.5	5.5	0.5	7.5	ns
			3.3V ± 0.3V	0.5	2.1	4.5	0.5	6.0	
			5.0V ± 0.5V	0.5	1.7	4.0	0.5	5.5	
	ŌĒ		1.8 V ± 0.15V	1.0	4.1	9.4	1.0	12.0	
			2.5V ± 0.2V	0.5	2.8	6.6	0.5	8.5	
t _{en}		Y	2.7V	0.5	3.3	6.6	0.5	8.5	ns
			$3.3V \pm 0.3V$	0.5	2.4	5.3	0.5	7.0	
			$5.0V \pm 0.5V$	0.5	2.1	5.0	0.5	6.5	
			1.8V ± 0.15V	1.0	4.3	9.2	1.0	12.0	
	t _{dis}		$2.5V \pm 0.2V$	0.5	2.7	5.0	0.5	6.5	
t_{dis}		Υ	2.7V	0.5	3.0	5.0	0.5	6.5	ns
			3.3V ± 0.3V	0.5	3.1	5.0	0.5	6.5	
			$5.0V \pm 0.5V$	0.5	2.2	4.2	0.5	5.5	

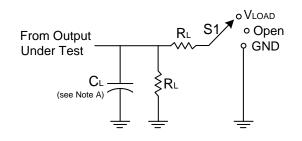
Operating Characteristics

 $T_A = +25$ °C

Parameter		Test Conditions	V _{CC} = 1.8V Typ	V _{CC} = 2.5V Typ	V _{CC} = 3.3V Typ	V _{CC} = 5V Typ	Unit	
0	Power Dissipation	Outputs Enabled	f = 10MHz	19	19	19	21	pF
C _{pd}	Capacitance Outputs	Outputs Disabled	I = IUIVIAZ	2	2	3	4	рг



Parameter Measurement Information

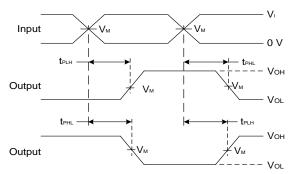


TEST	S1
t _{PLH} /t _{PHL}	Open
t _{PLZ} /t _{PZL}	V_{LOAD}
t _{PHZ} /t _{PZH}	GND

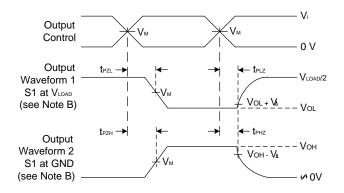
V	Inputs		V	V V		Б	V Δ
V _{CC}	Vı	t _r /t _f	V _M	V_{LOAD}	CL	R_L	VA
1.8V±0.15V	Vcc	≤2ns	V _{CC} /2	2 x V _{CC}	30pF	1kΩ	0.15V
2.5V±0.2V	Vcc	≤2ns	V _{CC} /2	2 x V _{CC}	30pF	500Ω	0.15V
2.7V	2.7V	≤2.5ns	1.5V	6V	50pF	500Ω	0.3V
3.3V±0.3V	3V	≤2.5ns	1.5V	6V	50pF	500Ω	0.3V
5V±0.5V	V _{CC}	≤2.5ns	V _{CC} /2	2 x V _{CC}	50pF	500Ω	0.3V



Voltage Waveform Pulse Duration



Voltage Waveform Propagation Delay Times Inverting and Non Inverting Outputs



Voltage Waveform Enable and Disable Times Low and High Level Enabling

Figure 1 Load Circuit and Voltage Waveforms

A. Includes test lead and test apparatus capacitance. Notes:

B. All pulses are supplied at pulse repetition rate ≤ 10MHz.

C. Inputs are measured separately one transition per measurement.

D. tpLz and tpHz are the same as tdis.

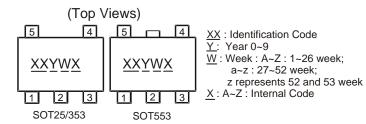
E. t_{PZL} and t_{PZH} are the same as t_{EN}.

F. tpLH and tpHL are the same as tpD.



Marking Information

(1) SOT25, SOT353 and SOT553



Part Number	Package	Identification Code
74LVC1G125W5-7	SOT25	UY
74LVC1G125SE-7	SOT353	UY
74LVC1G125Z-7	SOT553	UY

(2) DFN Packages

(Top View)

XX $\underline{Y} \underline{W} \underline{X}$ \underline{XX} : Identification Code \underline{Y} : Year 0~9

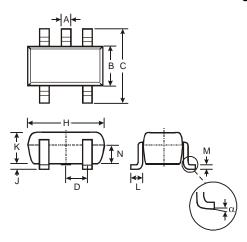
<u>Y</u>: Week: A~Z:1~26 week; a~z:27~52 week; z represents 52 and 53 week <u>X</u>: A~Z: Internal Code

Part Number	Package	Identification Code
74LVC1G125FS3-7	X2-DFN0808-4	WY
74LVC1G125FW5-7	X1-DFN1010-6 (Type B)	VY
74LVC1G125FW4-7	X2-DFN1010-6	UY
74LVC1G125FX4-7	X2-DFN1409-6	MW
74LVC1G125FZ4-7	X2-DFN1410-6	UY



Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT25

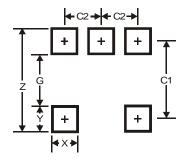


SOT25			
Dim	Min	Max	Тур
Α	0.35	0.50	0.38
В	1.50	1.70	1.60
O	2.70	3.00	2.80
D	-	-	0.95
Н	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
Z	0.70	0.80	0.75
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT25

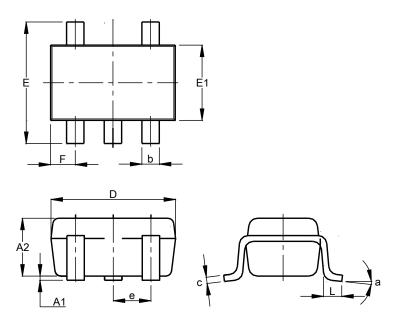


Dimensions	Value
Z	3.20
G	1.60
Х	0.55
Υ	0.80
C1	2.40
C2	0.95



Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT353

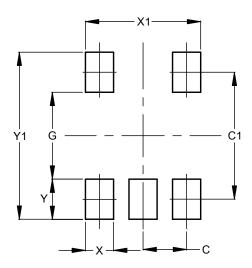


SOT353				
Dim	Min	Max	Тур	
A1	0.00	0.10	0.05	
A2	0.90	1.00	1.00	
b	0.10	0.30	0.25	
С	0.10	0.22	0.11	
D	1.80	2.20	2.15	
Ε	2.00	2.20	2.10	
E1	1.15	1.35	1.30	
е	C).650 B	SC	
F	0.40	0.45	0.425	
L	0.25	0.40	0.30	
а	0°	8°		
All Dimensions in mm				

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT353

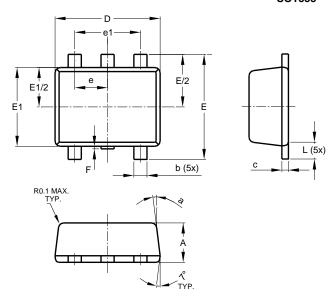


Dimensions	Value (in mm)	
С	0.650	
C1	1.900	
G	1.300	
Х	0.420	
X1	1.720	
Υ	0.600	
Y1	2.500	



Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT553

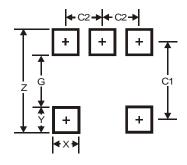


SOT553			
Dim	Min	Max	Тур
Α	0.55	0.62	0.60
b	0.15	0.30	0.20
С	0.10	0.18	0.15
D	1.50	1.70	1.60
Е	1.55	1.70	1.60
E1	1.10	1.25	1.20
е	0.50 BSC		
e1	1.00 BSC		
F	0.00	0.10	
L	0.10	0.30	0.20
а	6°	8°	7°
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT553

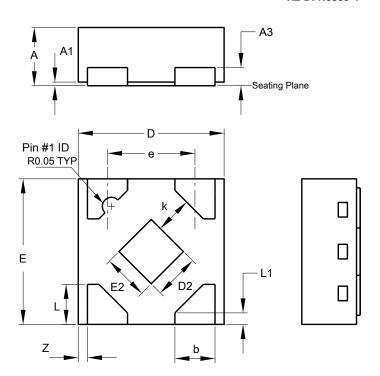


Dimensions	Value	
Z	2.2	
G	1.2	
Х	0.375	
Υ	0.5	
C1	1.7	
C2	0.5	



Please see http://www.diodes.com/package-outlines.html for the latest version.

X2-DFN0808-4

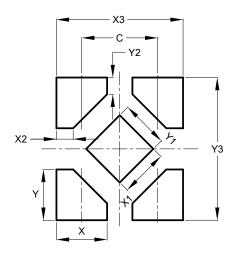


X2-DFN0808-4				
Dim	Min	Max	Тур	
Α	0.25	0.35	0.30	
A1	0	0.04	0.02	
А3	-	-	0.13	
b	0.17	0.27	0.22	
D	0.75	0.85	0.80	
D2	0.15	0.35	0.25	
E	0.75	0.85	0.80	
E2	0.15	0.35	0.25	
е	-	-	0.48	
k	0.20	-		
L	0.17	0.27	0.22	
L1	0.02	0.12	0.07	
z	-	-	0.05	
All Dimensions in mm				

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

X2-DFN0808-4

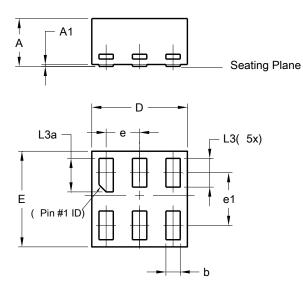


Dimensions	Value
С	0.480
Х	0.320
X1	0.300
X2	0.106
Х3	0.800
Y	0.320
Y1	0.300
Y2	0.106
Y3	0.900



Please see http://www.diodes.com/package-outlines.html for the latest version.

X1-DFN1010-6 (Type B)

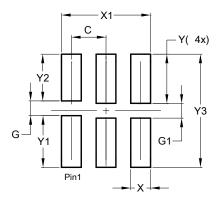


	X1-DFN1010-6 (Type B)				
Dim	Min Max Typ				
Α	-	0.50	0.39		
A1	-	0.04	-		
b	0.12	0.20	0.15		
D	0.95	1.050	1.00		
Е	0.95	1.050	1.00		
е	e 0.35 BSC				
e1	0.55 BSC				
L3	0.27	0.30	0.30		
L3a	0.32	0.40	0.35		
All Dimensions in mm					

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

X1-DFN1010-6 (Type B)

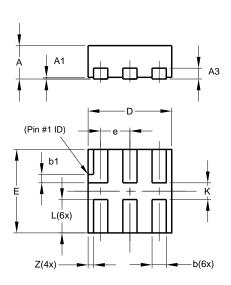


Dimensions	Value	
פווטופוושוווע	(in mm)	
С	0.350	
G	0.150	
G1	0.150	
Х	0.200	
X1	0.900	
Y	0.500	
Y1	0.525	
Y2	0.475	
Y3	1.150	



Please see http://www.diodes.com/package-outlines.html for the latest version.

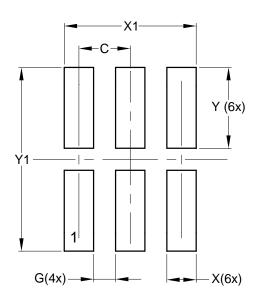
X2-DFN1010-6



	X2-DFN1010-6			
Dim	Min	Max	Тур	
Α	_	0.40	0.39	
A1	0.00	0.05	0.02	
A3			0.13	
b	0.14	0.20	0.17	
b1	0.05	0.15	0.10	
D	0.95	1.05	1.00	
Е	0.95	1.05	1.00	
е			0.35	
L	0.35	0.45	0.40	
K	0.15			
Z			0.065	
All Dimensions in mm				

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.



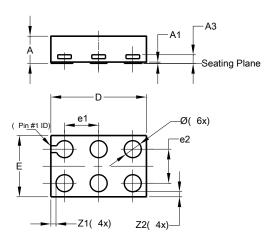
X2-DFN1010-6

Dimensions	Value (in mm)
С	0.350
G	0.150
Х	0.200
X1	0.900
Υ	0.550
Y1	1.250



Please see http://www.diodes.com/package-outlines.html for the latest version.

X2-DFN1409-6 CHIP SCALE ALTERNATIVE

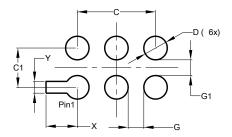


X2-DFN1409-6				
Dim	Min	Max	Тур	
Α	-	0.40	0.39	
A1	0	0.05	0.02	
A3	-	ı	0.13	
Ø	0.20	0.30	0.25	
D	1.35	1.45	1.40	
Е	0.85	0.95	0.90	
e1	1	-	0.50	
e2	-	ı	0.50	
Z 1	-	-	0.075	
Z2	-	-	0.075	
All Dimensions in mm				

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

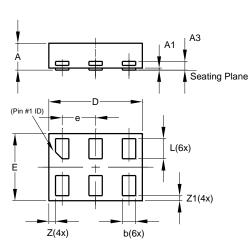
X2-DFN1409-6 CHIP SCALE ALTERNATIVE



Dimensions	Value	
Dillielisions	(in mm)	
С	1.000	
C1	0.500	
D	0.300	
G	0.200	
G1	0.200	
Х	0.400	
Υ	0.150	



Please see http://www.diodes.com/package-outlines.html for the latest version.

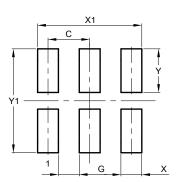


X2-DFN1410-6

X2-DFN1410-6				
Dim	Min	Max	Тур	
Α		0.40	0.39	
A 1	0.00	0.05	0.02	
А3			0.13	
b	0.15	0.25	0.20	
D	1.35	1.45	1.40	
Е	0.95	1.05	1.00	
е			0.50	
L	0.25	0.35	0.30	
Z			0.10	
Z 1	0.045	0.105	0.075	
All Dimensions in mm				

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.



X2-DFN1410-6

Dimensions	Value (in mm)	
С	0.500	
G	0.250	
X	0.250	
X1	1.250	
Y	0.525	
Y1	1.250	



IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel.

Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

- A. Life support devices or systems are devices or systems which:
 - 1. are intended to implant into the body, or
 - 2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.
- B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2016, Diodes Incorporated

www.diodes.com