



### 74AUP1G08

#### SINGLE 2 INPUT POSITIVE AND GATE

### Description

The Advanced, Ultra Low Power (AUP) CMOS logic family is designed for low power and extended battery life in portable applications.

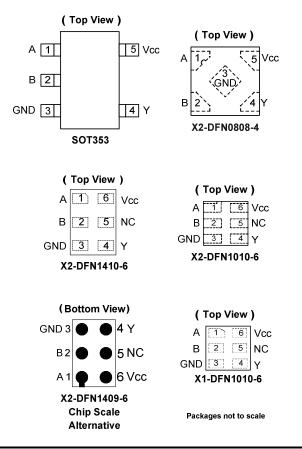
The 74AUP1G08 is a single, two-input, positive AND gate with a standard push-pull output designed for operation over a power supply range of 0.8V to 3.6V. The device is fully specified for partial power down applications using  $I_{OFF}$ . The  $I_{OFF}$  circuitry disables the output preventing damaging current backflow when the device is powered down. The gate performs the positive Boolean function:

$$Y = A \bullet B$$
 or  $Y = \overline{\overline{A} + \overline{B}}$ 

### **Features**

- Advanced Ultra Low Power (AUP) CMOS
- Supply Voltage Range from 0.8V to 3.6V
- ±4mA Output Drive at 3.0V
- Low Static Power Consumption lcc < 0.9μA</li>
- Low Dynamic Power Consumption C<sub>PD</sub> = 6.3 pF (Typical at 3.6V)
- Schmitt Trigger Action at All Inputs Make the Circuit Tolerant for Slower Input Rise and Fall Time. The hysteresis is typically 250mV at V<sub>CC</sub> = 3.0V.
- I<sub>OFF</sub> Supports Partial-Power-Down Mode Operation
- ESD Protection Exceeds JESD 22
   2000-V Human Body Model (A114)
   Exceeds 1000-V Charged Device Model (C101)
- Latch-Up Exceeds 100mA per JESD 78, Class I
- Leadless packages named per JESD30E
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

# Pin Assignments



### Applications

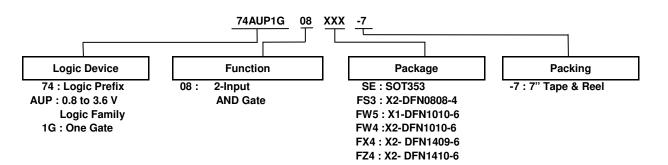
- Suited for battery and low power needs
- Wide array of products such as:
  - Tablets, E-readers
  - Cell Phones, Personal Navigation / GPS
  - MP3 Players ,Cameras, Video Recorders
  - PCs, Ultrabooks, Notebooks, Netbooks
  - Computer Peripherals, Hard Drives, SSDs, CD/DVD ROMs
  - TVs, DVDs, DVRs, Set-Top Boxess

Notes: 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.

See http://www.diodes.com for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.</li>



### **Ordering Information**



Device	Package	Package	Package	7" Tape	and Reel
Device	Code	(Notes 4 & 5)	Size	Quantity	Part Number Suffix
74AUP1G08SE-7	SE	SOT353	2.0mm x 2.0mm x 1.1mm 0.65 mm lead pitch	3,000/Tape & Reel	-7
74AUP1G08FS3-7	FS3	X2-DFN0808-4	0.8mm x 0.8mm x 0.35mm 0.5 mm pad pitch (diamond)	5,000/Tape & Reel	-7
74AUP1G08FW5-7	FW5	X1-DFN1010-6	1.0mm x 1.0mm x 0.5mm 0.35 mm pad pitch	5,000/Tape & Reel	-7
74AUP1G08FW4-7	FW4	X2-DFN1010-6	1.0mm x 1.0mm x 0.4mm 0.35 mm pad pitch	5,000/Tape & Reel	-7
74AUP1G08FX4-7	FX4	X2-DFN1409-6 Chip scale alternative	1.4mm x 0.9mm x 0.4mm 0.5 mm pad pitch	5,000/Tape & Reel	-7
74AUP1G08FZ4-7	FZ4	X2-DFN1410-6	1.4mm x 1.0mm x 0.4mm 0.5 mm pad pitch	5,000/Tape & Reel	-7

Notes: 4. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at

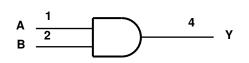
http://www.diodes.com/datasheets/ap02001.pdf.

5. The taping orientation is located on our website at http://www.diodes.com/datasheets/ap02007.pdf.

### **Pin Descriptions**

Pin Name	Function
A	Data Input
В	Data Input
GND	Ground
Y	Data Output
Vcc	Supply Voltage

### Logic Diagram



# **Function Table**

Inp	outs	Output
Α	В	Y
L	L	L
L	Н	L
Н	L	L
Н	Н	Н



### Absolute Maximum Ratings (Notes 6 & 7) (@T<sub>A</sub> = +25 °C, unless otherwise specified.)

Symbol	Parameter	Rating	Unit
ESD HBM	Human Body Model ESD Protection	2	kV
ESD CDM	Charged Device Model ESD Protection	1	kV
V <sub>CC</sub>	Supply Voltage Range	-0.5 to +4.6	V
VI	Input Voltage Range	-0.5 to +4.6	V
Vo	Voltage applied to output in High or Low State	-0.5 to V <sub>CC</sub> +0.5	V
I <sub>IK</sub>	Input Clamp Current VI < 0	50	mA
Ι <sub>ΟΚ</sub>	Output Clamp Current ( $V_O < 0$ )	50	mA
lo	Continuous Output Current (V <sub>O</sub> = 0 to V <sub>CC</sub> )	±20	mA
lcc	Continuous Current Through V <sub>CC</sub>	50	mA
I <sub>GND</sub>	Continuous Current Through GND	-50	mA
TJ	Operating Junction Temperature	-40 to +150	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C

Notes: 6. 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.

7. 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.

### Recommended Operating Conditions (Note 8) (@T<sub>A</sub> = +25 °C, unless otherwise specified.)

Symbol	Pa	rameter	Min	Max	Unit
V <sub>CC</sub>	Operating Voltage		0.8	3.6	V
VI	Input Voltage		0	3.6	V
Vo	Output Voltage		0	Vcc	V
		$V_{CC} = 0.8V$	—	-20	μA
		V <sub>CC</sub> = 1.1V	_	-1.1	
		$V_{CC} = 1.4V$	_	-1.7	
I <sub>OH</sub> I	High-Level Output Current	V <sub>CC</sub> = 1.65V	_	-1.9	mA
		V <sub>CC</sub> = 2.3V	_	-3.1	
		V <sub>CC</sub> = 3.0V	—	-4	
		V <sub>CC</sub> = 0.8V	—	20	μA
		V <sub>CC</sub> = 1.1V	_	1.1	
		$V_{CC} = 1.4V$	_	1.7	
I <sub>OL</sub>	Low-Level Output Current	V <sub>CC</sub> = 1.65V	_	1.9	mA
		V <sub>CC</sub> = 2.3V	_	3.1	
		V <sub>CC</sub> = 3.0V	—	4	1
Δt/ΔV	Input Transition Rise or Fall Rate	V <sub>CC</sub> = 0.8V to 3.6V	—	200	ns/V
T <sub>A</sub>	Operating Free-Air Temperature	•	-40	+125	°C

Note: 8. Unused inputs should be held at V<sub>CC</sub> or Ground.



# Electrical Characteristics (@T<sub>A</sub> = +25 °C, unless otherwise specified.)

Symphol	Dexemptor	Test Conditions	V	T <sub>A</sub> = -	+25℃	T <sub>A</sub> = -40 °C	C to +85℃	Unit
Symbol	Parameter	rest conditions	Vcc	Min	Max	Min	Max	Unit
		—	0.8V to 1.65V	0.80 x V <sub>CC</sub>	—	0.80 x V <sub>CC</sub>	—	
V	High-Level Input	—	1.65V to 1.95V	0.65 x V <sub>CC</sub>	—	0.65 x V <sub>CC</sub>		v
V <sub>IH</sub>	Voltage	_	2.3V to 2.7V	1.6		1.6		v
		—	3.0V to 3.6V	2.0	—	2.0		
		—	0.8V to 1.65 V	—	$0.30 \times V_{CC}$	—	$0.30 \times V_{CC}$	
VIL	Low-Level Input	—	1.65V to 1.95V	—	$0.35 \times V_{CC}$	—	$0.35 \times V_{CC}$	v
VIL	Voltage	—	2.3V to 2.7V	—	0.7	—	0.7	v
		—	3.0V to 3.6V	—	0.9	—	0.9	
		I <sub>OH</sub> = -20μA	0.8V to 3.6V	V <sub>CC</sub> - 0.1	—	V <sub>CC</sub> - 0.1	—	
	, High-Level Output	I <sub>OH</sub> = -1.1mA	1.1V	0.75 x V <sub>CC</sub>	—	0.7 x V <sub>CC</sub>	—	
		I <sub>OH</sub> = -1.7mA	1.4V	1.11	—	1.03	—	
		I <sub>OH</sub> = -1.9mA	1.65V	1.32	—	1.3		
V <sub>OH</sub> Voltage	I <sub>OH</sub> = -2.3mA	0.01/	2.05	—	1.97	—	V	
	I <sub>OH</sub> = -3.1mA	2.3V	1.9		1.85			
		I <sub>OH</sub> = -2.7mA	<b>a</b> ) /	2.72	_	2.67	_	
		I <sub>OH</sub> = -4mA	3V	2.6	_	2.55	_	
		I <sub>OL</sub> = 20μΑ	0.8V to 3.6 V	_	0.1	_	0.1	
		$I_{OL} = 1.1 \text{mA}$	1.1V	_	0.3 x V <sub>CC</sub>	_	0.3 x V <sub>CC</sub>	
		$I_{OL} = 1.7 \text{mA}$	1.4V	_	0.31	_	0.37	
	Low-Level Output	I <sub>OL</sub> = 1.9mA	1.65V	_	0.31	_	0.35	
V <sub>OL</sub>	Voltage	I <sub>OL</sub> = 2.3mA		_	0.31	_	0.33	V
		I <sub>OL</sub> = 3.1mA	2.3V		0.44		0.45	
		$I_{OL} = 2.7 \text{mA}$		_	0.31	_	0.33	
		$I_{OL} = 4mA$	3V	_	0.44	_	0.45	
lı	Input Current	A or B Input $V_1 = GND$ to 3.6V	0V to 3.6V	_	± 0.1	_	± 0.5	μA
I <sub>OFF</sub>	Power Down Leakage Current	$V_1$ or $V_0 = 0V$ to 3.6V	0	_	0.2	_	0.6	μA
Δl <sub>OFF</sub>	Delta Power Down Leakage Current	$V_1 \text{ or } V_0 = 0V \text{ to } 3.6V$	0V to 0.2V	—	0.2	—	0.6	μA
Icc	Supply Current	$V_I = GND \text{ or } V_{CC}, I_O = 0$	0.8V to 3.6V	—	0.5	—	0.9	μA
ΔI <sub>CC</sub>	Additional Supply Current	One input at $V_{CC}$ -0.6V Other inputs at $V_{CC}$ or GND	3.3V	—	40	—	50	μA



# Electrical Characteristics (continued) (@T<sub>A</sub> = +25 °C, unless otherwise specified.)

Cumhal	Devemeter	Test Conditions	V	T <sub>A</sub> = -40 °C	C to +125℃	Unit
Symbol	Parameter	lest Conditions	Vcc	Min	Max	Unit
		—	0.8V to 1.65V	0.80 x V <sub>CC</sub>	—	
V <sub>IH</sub>	High-Level Input	—	1.65V to 1.95V	0.70 x V <sub>CC</sub>	—	v
VIH	Voltage	—	2.3V to 2.7V	1.6	_	
		—	3.0V to 3.6V	2.0	—	
		—	0.8V to 1.65 V	_	$0.25 \times V_{CC}$	
VIL	Low-Level input	—	1.65V to 1.95V	—	$0.30 \times V_{CC}$	v
۷IL	voltage	—	2.3V to 2.7V	_	0.7	·
		—	3.0V to 3.6V	—	0.9	
		I <sub>OH</sub> = -20 μA	0.8V to 3.6V	V <sub>CC</sub> – 0.11	—	
	V <sub>OH</sub> High-Level Output Voltage	I <sub>OH</sub> = -1.1 mA	1.1V	$0.6 \times V_{CC}$	—	
		I <sub>OH</sub> = -1.7 mA	1.4V	0.93	—	
Maria		I <sub>OH</sub> = -1.9 mA	1.65V	1.17	_	- v
VOH		I <sub>OH</sub> = -2.3 mA	2.3V	1.77	_	v
		I <sub>OH</sub> = -3.1 mA	2.3V	1.67	—	
		I <sub>OH</sub> = -2.7 mA	3V	2.40	—	
		I <sub>OH</sub> = -4 mA	37	2.30	—	
		I <sub>OL</sub> = 20 μA	0.8 V to 3.6V	—	0.11	
		I <sub>OL</sub> = 1.1 mA	1.1V	—	0.33 x V <sub>CC</sub>	7
		I <sub>OL</sub> = 1.7 mA	1.4V	—	0.41	7
.,	Low-Level Output	I <sub>OL</sub> = 1.9 mA	1.65V	—	0.39	
V <sub>OL</sub>	Voltage	I <sub>OL</sub> = 2.3 mA	0.01/	—	0.36	V
		I <sub>OL</sub> = 3.1 mA	2.3V	_	0.50	7
		I <sub>OL</sub> = 2.7 mA	0)/	—	0.36	7
		I <sub>OL</sub> = 4 mA	3V	—	0.50	7
I <sub>I</sub>	Input Current	A or B Input V <sub>I</sub> = GND to 3.6V	0V to 3.6V	_	± 0.75	μA
IOFF	Power Down Leakage Current	$V_{I}$ or $V_{O} = 0V$ to 3.6V	0	_	± 3.5	μA
$\Delta I_{OFF}$	Delta Power Down Leakage Current	$V_1$ or $V_0 = 0V$ to 3.6V	0V to 0.2V	_	± 2.5	μA
Icc	Supply Current	$V_I = GND \text{ or } V_{CC}, I_O = 0$	0.8V to 3.6V	_	3.0	μA
ΔI <sub>CC</sub>	Additional Supply Current	Input at $V_{CC}$ -0.6V Other inputs at $V_{CC}$ or GND	3.3V	_	75	μΑ



# **Switching Characteristics**

Parameter From Input	From	То	V	Т	T <sub>A</sub> = +25 ℃			T <sub>A</sub> = -40 ℃ to +85 ℃		to +125℃	Unit
	Output	V <sub>cc</sub>	Min	Тур	Max	Min	Max	Min	Max	Unit	
			0.8V	—	17.0	—	—	_	_	_	
		v	1.2V ± 0.1V	2.4	5.1	10.8	2.1	11.7	2.1	12.9	
	A or D		1.5V ± 0.1V	1.6	3.7	6.5	1.5	7.5	1.5	8.3	
t <sub>pd</sub> A or B	Y	1.8V ± 0.15V	1.3	3.0	5.2	1.3	6.1	1.3	6.7	ns	
			2.5V ± 0.2V	1.1	2.4	4.0	1.0	4.8	1.0	5.3	
			3.3V ± 0.3V	1.0	2.2	3.5	0.9	4.3	0.9	4.8	

#### CL=10pF, See Figure 1

Parameter	From Input	To Output	Vee	T <sub>A</sub> = +25 ℃			T <sub>A</sub> = -40 ℃ to +85 ℃		T <sub>A</sub> = -40 ℃ to +125 ℃		Unit
			Vcc	Min	Тур	Max	Min	Max	Min	Max	onit
			0.8V		20.6	—	—	_		_	
			1.2V ± 0.1V	2.4	6.0	12.5	2.2	13.6	2.2	15.0	ns
	A or B	V	1.5V ± 0.1V	2.0	4.3	7.6	1.8	8.9	1.8	9.8	
t <sub>pd</sub>	AUD		1.8V ± 0.15V	1.7	3.6	6.1	1.6	7.2	1.6	7.9	
			2.5V ± 0.2V	1.4	2.9	4.7	1.3	5.7	1.3	6.3	
			3.3V ± 0.3V	1.3	2.7	4.2	1.2	4.7	1.2	5.2	

#### CL=15pF, See Figure 1

Parameter	From Input	To Output	V <sub>cc</sub>	T <sub>A</sub> = +25 ℃			T <sub>A</sub> = -40 ℃ to +85 ℃		T <sub>A</sub> = -40 ℃ to +125 ℃		Unit
			VCC	Min	Тур	Max	Min	Max	Min	Max	Unit
			0.8V	—	24.1	—	_	—	_	—	
			1.2V ± 0.1V	3.4	6.8	14.2	3.1	15.7	3.1	17.3	
+	A or B	V	1.5V ± 0.1V	2.3	4.9	8.6	2.1	10.1	2.1	11.2	20
t <sub>pd</sub>	AUD	T	1.8V ± 0.15V	1.9	4.0	6.9	1.8	8.2	1.8	9.0	ns
		-	2.5V ± 0.2V	1.7	3.4	5.5	1.6	6.5	1.6	7.2	
			3.3V ± 0.3V	1.5	3.1	4.8	1.5	5.9	1.5	6.5	

#### CL=30pF, See Figure 1

Parameter	From Input	To Output	Vee	T <sub>A</sub> = +25 ℃			T <sub>A</sub> = -40 ℃ to +85 ℃		T <sub>A</sub> = -40 ℃ to +125 ℃		Unit
			Vcc	Min	TYP	Max	Min	Max	Min	Max	Onit
			0.8V	_	34.4	_	_	_	_	_	
	1 D	Y	1.2V ± 0.1V	4.0	9.1	19.4	4.0	21.8	4.0	24.0	ns
			1.5V ± 0.1V	3.2	6.4	11.5	2.9	13.6	2.9	15.0	
t <sub>pd</sub>	A or B		1.8V ± 0.15V	2.6	5.3	9.1	2.4	10.9	2.4	12.1	
			2.5V ± 0.2V	2.3	4.5	7.2	2.2	8.6	2.2	9.5	
			3.3V ± 0.3V	2.1	4.2	6.2	2.1	7.5	2.1	8.3	



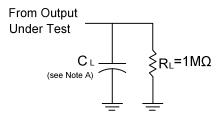
# Operating and Package Characteristics (@T<sub>A</sub> = +25 °C, unless otherwise specified.)

	Parameter	Test Conditio		Vcc	Тур	Unit
				0.8V	6.7	
				1.2V ± 0.1V	6.6	
~	Power Dissipation	f = 1MH	lz	1.5V ± 0.1V	6.5	~
C <sub>pd</sub>	Capacitance	No Loa	d	1.8V ± 0.15V	6.5	рF
				2.5V ± 0.2V	6.4	
				3.3V ± 0.3V	6.3	
Ci	Input Capacitance	V <sub>i</sub> = V <sub>CC</sub> or	GND	0V or 3.3V	1.5	pF
		SOT353		_	371	
		X2-DFN0808-4		_	430	
0	Thermal Resistance	X1-DFN1010-6		_	435	~~~~
θ <sub>JA</sub>	Junction-to-Ambient	X2-DFN1010-6	(Note 9)		445	°C/W
		X2-DFN1409-6			470	
		X2-DFN1410-6			460	
		SOT353			143	
		X2-DFN0808-4			240	
0	Thermal Resistance	X1-DFN1010-6			250	
$\theta_{\rm JC}$	Junction-to-Case	X2-DFN1010-6	(Note 9)	_	250	°C/W
		X2-DFN1409-6	1	_	275	
		X2-DFN1410-6	1	_	265	

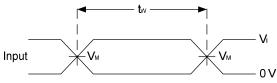
Note: 9. Test condition for each of the six package types: Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



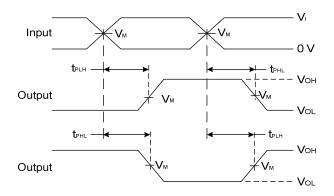
# **Parameter Measurement Information**



Vcc	Inputs		N N	0
VCC	VI	t <sub>r</sub> /t <sub>f</sub>	V <sub>M</sub>	CL
0.8V	Vcc	≤3ns	V <sub>CC</sub> /2	5, 10, 15, 30pF
1.2V±0.1V	Vcc	≤3ns	V <sub>CC</sub> /2	5, 10, 15, 30pF
1.5V±0.1V	V <sub>CC</sub>	≤3ns	V <sub>CC</sub> /2	5, 10, 15, 30pF
1.8V ±0.15V	V <sub>CC</sub>	≤3ns	V <sub>CC</sub> /2	5, 10, 15, 30pF
2.5V±0.2V	Vcc	≤3ns	V <sub>CC</sub> /2	5, 10, 15, 30pF
3.3V±0.3V	V <sub>CC</sub>	≤3ns	V <sub>CC</sub> /2	5, 10, 15, 30pF



Voltage Waveform Pulse Duration



**Voltage Waveform Propagation Delay Times** Inverting and Non Inverting Outputs

Figure 1 Load Circuit and Voltage Waveforms

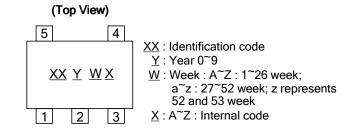
- Notes: A. Includes test lead and test apparatus capacitance. B. All pulses are supplied at pulse repetition rate ≤ 10MHz.

  - C. Inputs are measured separately one transition per measurement.
  - D.  $t_{PLH}$  and  $t_{PHL}$  are the same as  $t_{PD.}$



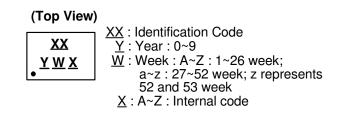
### **Marking Information**

#### (1) SOT353



Part Number	Package	Identification Code
74AUP1G08SE	SOT353	XP

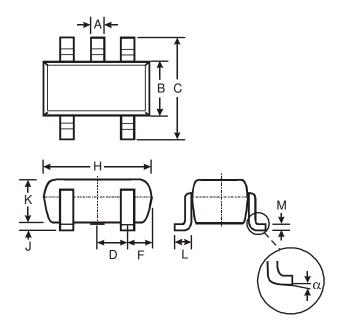
#### (2) X2-DFN0808-4, X1-DFN1010-6, X2-DFN1010-6, X2-DFN1409-6 and X2-DFN1410-6



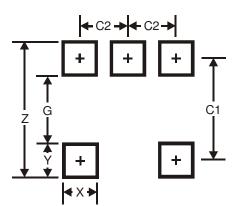
Part Number	Package	Identification Code
74AUP1G08FS3	X2-DFN0808-4	YR
74AUP1G08FW5	X1-DFN1010-6	Q7
74AUP1G08FW4	X2-DFN1010-6	XP
74AUP1G08FX4	X2-DFN1409-6	HF
74AUP1G08FZ4	X2-DFN1410-6	XP



## SOT353 Package Outline Dimensions and Suggested Pad Layout



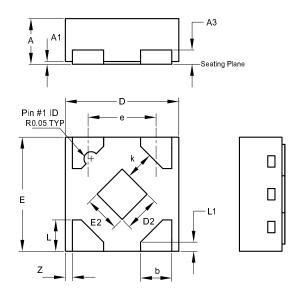
	SOT353					
Dim	Min	Max	Тур			
Α	0.10	0.30	0.25			
В	1.15	1.35	1.30			
С	2.00	2.20	2.10			
D		0.65 Typ	)			
F	0.40	0.45	0.425			
н	1.80	2.20	2.15			
J	0	0.10	0.05			
К	0.90	1.00	1.00			
L	0.25	0.40	0.30			
Μ	0.10	0.22	0.11			
α	0°	8°	-			
A	All Dimensions in mm					



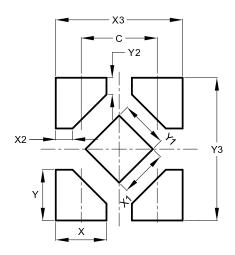
Dimensions	Value (in mm)	
Z	2.5	
G	1.3	
Х	0.42	
Y	0.6	
C1	1.9	
C2	0.65	



### X2-DFN0808-4 Package Outline Dimensions and Suggested Pad Layout



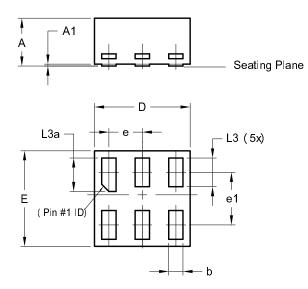
X2-DFN0808-4				
Dim	Min	Max	Тур	
Α	0.25	0.35	0.30	
A1	0	0.04	0.02	
A3	-	-	0.13	
b	0.17	0.27	0.22	
D	0.75	0.85	0.80	
D2	0.15	0.35	0.25	
E	0.75	0.85	0.80	
E2	0.15	0.35	0.25	
е	-	-	0.48	
k	0.20	-	-	
L	0.17	0.27	0.22	
L1	0.02	0.12	0.07	
z	-	-	0.05	
A	All Dimensions in mm			



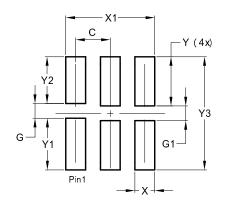
Dimensions	Value
С	0.480
Х	0.320
X1	0.300
X2	0.106
X3	0.800
Y	0.320
¥1	0.300
Y2	0.106
¥3	0.900



# X1-DFN1010-6 (Type B) Package Outline Dimensions and Suggested Pad Layout



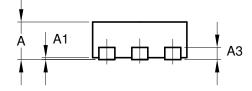
	X1-DFN1010-6					
	(Ту	vpe B)				
Dim	Min	Max	Тур			
Α	-	0.50	0.39			
A1	-	0.04	-			
b	0.12	0.20	0.15			
D	0.95	1.050	1.00			
E	0.95	1.050	1.00			
е	e 0.35 BSC					
e1		0.55 B	SC			
L3	0.27	0.30	0.30			
L3a	0.32	0.40	0.35			
All	All Dimensions in mm					

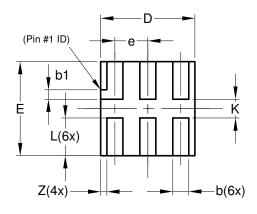


Dimensions	Value
Dimensions	(in mm)
С	0.350
G	0.150
G1	0.150
Х	0.200
X1	0.900
Y	0.500
Y1	0.525
Y2	0.475
Y3	1.150

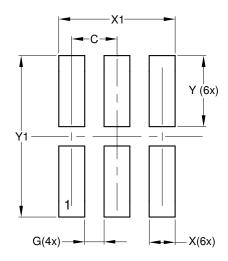


### X2-DFN1010-6 Package Outline Dimensions and Suggested Pad Layout





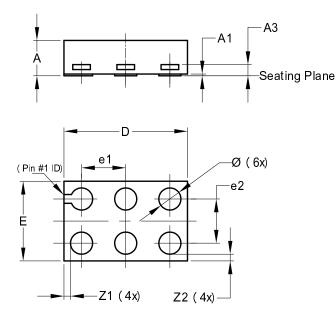
X2-DFN1010-6				
Dim	Min	Max	Тур	
Α	_	0.40	0.39	
A1	0.00	0.05	0.02	
A3	_	—	0.13	
b	0.14	0.20	0.17	
b1	0.05	0.15	0.10	
D	0.95	1.05	1.00	
E	0.95	1.05	1.00	
е	_	_	0.35	
L	0.35	0.45	0.40	
ĸ	0.15	_	_	
Z	—	—	0.065	
All Dimensions in mm				



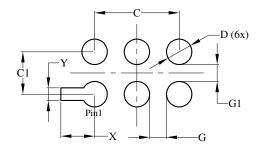
Dimensions	Value	
Dimensions	(in mm)	
С	0.350	
G	0.150	
Х	0.200	
X1	0.900	
Y	0.550	
Y1	1.250	



### X2-DFN1409-6 Package Outline Dimensions and Suggested Pad Layout



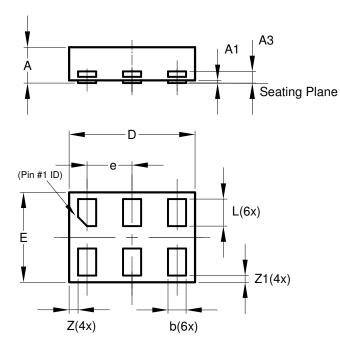
	X2-DFN1409-6					
Dim	Dim Min Max Typ					
Α	-	0.40	0.39			
A1	0	0.05	0.02			
A3	-	-	0.13			
Ø	0.20	0.30	0.25			
D	1.35	1.45	1.40			
Е	0.85	0.95	0.90			
e1	-	-	0.50			
e2	-	-	0.50			
Z1	-	-	0.075			
Z2	-	-	0.075			
All Dimensions in mm						



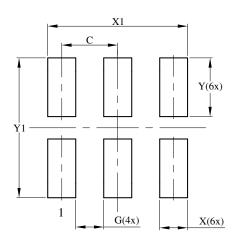
Dimensions	Value (in mm)
С	1.000
C1	0.500
D	0.300
G	0.200
G1	0.200
Х	0.400
Y	0.150



### X2-DFN1410-6 Package Outline Dimensions and Suggested Pad Layout



X2-DFN1410-6				
Dim	Min	Max	Тур	
Α	_	0.40	0.39	
A1	0.00	0.05	0.02	
A3			0.13	
b	0.15	0.25	0.20	
D	1.35	1.45	1.40	
E	0.95	1.05	1.00	
е			0.50	
L	0.25	0.35	0.30	
Z			0.10	
Z1	0.045	0.105	0.075	
All Dimensions in mm				



Dimensions	Value (in mm)
С	0.500
G	0.250
Х	0.250
X1	1.250
Y	0.525
¥1	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 © 2015, Diodes Incorporated

#### www.diodes.com



单击下面可查看定价,库存,交付和生命周期等信息

>>Diodes Incorporated(达尔科技)