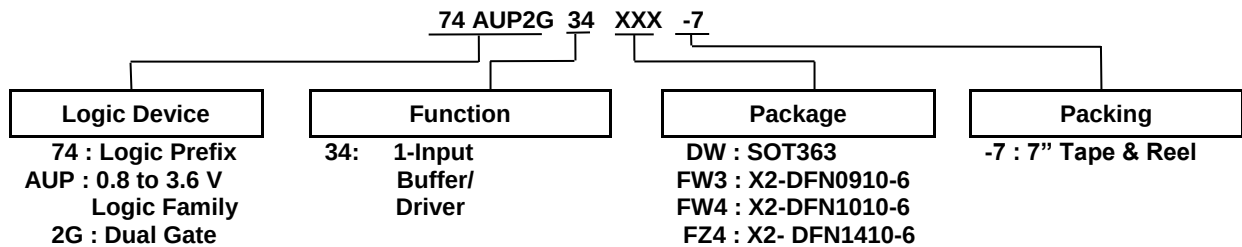


Ordering Information



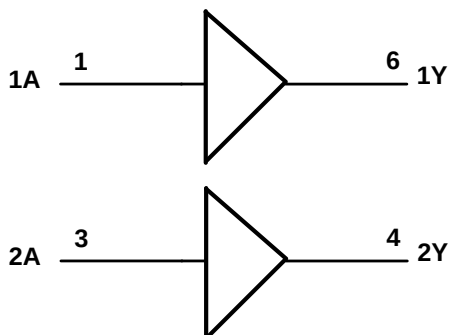
Part Number	Package Code	Package (Notes 4 & 5)	Package Size	7" Tape and Reel	
				Quantity	Part Number Suffix
74AUP2G34DW-7	DW	SOT363	2.0mm X 2.0mm X 1.1mm 0.65 mm lead pitch	3000/Tape & Reel	-7
74AUP2G34FW3-7	FW3	X2-DFN0910-6	0.9mm X 1.0mm X 0.35mm 0.35 mm pad pitch	5000/Tape & Reel	-7
74AUP2G34FW4-7	FW4	X2-DFN1010-6	1.0mm X 1.0mm X 0.4mm 0.35 mm pad pitch	5000/Tape & Reel	-7
74AUP2G34FZ4-7	FZ4	X2-DFN1410-6	1.4mm X 1.0mm X 0.4mm 0.5 mm pad pitch	5000/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	Pin No.	Function
1A	1	Data Input
GND	2	Ground
2A	3	Data Input
2Y	4	Data Output
V _{CC}	5	Supply Voltage
1Y	6	Data Output

Logic Diagram



Function Table

Inputs	Outputs
A	Y
H	H
L	L

Absolute Maximum Ratings (Notes 6,7) (@T_A = +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
ESD MM	Machine Model ESD Protection	200	V
V _{CC}	Supply Voltage Range	-0.5 to +4.6	V
V _I	Input Voltage Range	-0.5 to +4.6	V
V _O	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 (V _O < 0)	-50	mA
I _O	Continuous Output Current (V _O = 0 to V _{CC})	±20	mA
I _{CC}	Continuous Current Through V _{CC}	50	mA
I _{GND}	Continuous Current Through GND	-50	mA
T _J	Operating Junction Temperature	-40 to +150	°C
T _{STG}	Storage Temperature	-65 to +150	°C

- Notes:
- 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.
 - 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_A = +25°C, unless otherwise specified.)

Symbol	Parameter		Min	Max	Unit
V _{CC}	Operating Voltage	—	0.8	3.6	V
V _I	Input Voltage		0	3.6	V
V _O	Output Voltage		0	V _{CC}	V
I _{OH}	High-Level Output Current	V _{CC} = 0.8V	—	-20	μA
		V _{CC} = 1.1V	—	-1.1	mA
		V _{CC} = 1.4V	—	-1.7	
		V _{CC} = 1.65V	—	-1.9	
		V _{CC} = 2.3V	—	-3.1	
		V _{CC} = 3.0V	—	-4	
I _{OL}	Low-Level Output Current	V _{CC} = 0.8V	—	20	μA
		V _{CC} = 1.1V	—	1.1	mA
		V _{CC} = 1.4V	—	1.7	
		V _{CC} = 1.65V	—	1.9	
		V _{CC} = 2.3V	—	3.1	
		V _{CC} = 3.0V	—	4	
Δt/ΔV	Input Transition Rise or Fall Rate	V _{CC} = 0.8V to 3.6V	—	200	ns/V
T _A	Operating Free-Air Temperature	—	-40	+125	°C

- Note:
- Unused inputs should be held at V_{CC} or Ground.

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	V _{CC}	T _A = +25°C		T _A = -40 to +85°C		Unit
				Min	Max	Min	Max	
V _{IH}	High-Level Input Voltage	—	0.8V to 1.65V	0.80 X V _{CC}	—	0.80 X V _{CC}	—	V
		—	1.65V to 1.95V	0.65 X V _{CC}	—	0.65 X V _{CC}	—	
		—	2.3V to 2.7V	1.6	—	1.6	—	
		—	3.0V to 3.6V	2.0	—	2.0	—	
V _{IL}	Low-Level Input Voltage	—	0.8V to 1.65V	—	0.30 X V _{CC}	—	0.30 X V _{CC}	V
		—	1.65V to 1.95V	—	0.35 X V _{CC}	—	0.35 X V _{CC}	
		—	2.3V to 2.7V	—	0.7	—	0.7	
		—	3.0V to 3.6V	—	0.9	—	0.9	
V _{OH}	High-Level Output Voltage	I _{OH} = -20μA	0.8V to 3.6V	V _{CC} - 0.1	—	V _{CC} - 0.1	—	V
		I _{OH} = -1.1mA	1.1V	0.75 X V _{CC}	—	0.7 X V _{CC}	—	
		I _{OH} = -1.7mA	1.4V	1.11	—	1.03	—	
		I _{OH} = -1.9mA	1.65V	1.32	—	1.3	—	
		I _{OH} = -2.3mA	2.3V	2.05	—	1.97	—	
		I _{OH} = -3.1mA		1.9	—	1.85	—	
		I _{OH} = -2.7mA	3V	2.72	—	2.67	—	
		I _{OH} = -4mA		2.6	—	2.55	—	
V _{OL}	Low-Level Input Voltage	I _{OL} = 20μA	0.8V to 3.6V	—	0.1	—	0.1	V
		I _{OL} = 1.1mA	1.1V	—	0.3 X V _{CC}	—	0.3 X V _{CC}	
		I _{OL} = 1.7mA	1.4V	—	0.31	—	0.37	
		I _{OL} = 1.9mA	1.65V	—	0.31	—	0.35	
		I _{OL} = 2.3mA	2.3V	—	0.31	—	0.33	
		I _{OL} = 3.1mA		—	0.44	—	0.45	
		I _{OL} = 2.7mA	3V	—	0.31	—	0.33	
		I _{OL} = 4mA		—	0.44	—	0.45	
I _I	Input Current	A or B Input V _I = GND to 3.6V	0V to 3.6V	—	± 0.1	—	± 0.5	μA
I _{OFF}	Power Down Leakage Current	V _I or V _O = 0V to 3.6V	0V	—	± 0.2	—	± 0.6	μA
ΔI _{OFF}	Delta Power Down Leakage Current	V _I or V _O = 0V to 3.6V	0V to 0.2V	—	± 0.2	—	± 0.6	μA
I _{CC}	Supply Current	V _I = GND or V _{CC} , I _O = 0	0.8V to 3.6V	—	0.5	—	0.9	μA
ΔI _{CC}	Additional Supply Current	One input at V _{CC} -0.6V Other input at V _{CC} or GND	3.3V	—	40	—	50	μA

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	V _{CC}	T _A = -40 to +125°C		Unit
				Min	Max	
V _{IH}	High-Level Input Voltage	—	0.8V to 1.65V	0.80 X V _{CC}	—	V
		—	1.65V to 1.95V	0.70 X V _{CC}	—	
		—	2.3V to 2.7V	1.6	—	
		—	3.0V to 3.6V	2.0	—	
V _{IL}	Low-Level Input Voltage	—	0.8V to 1.65V	—	0.25 X V _{CC}	V
		—	1.65V to 1.95V	—	0.30 X V _{CC}	
		—	2.3V to 2.7V	—	0.7	
		—	3.0V to 3.6V	—	0.9	
V _{OH}	High Level Output Voltage	I _{OH} = -20μA	0.8V to 3.6V	V _{CC} - 0.11	—	V
		I _{OH} = -1.1mA	1.1V	0.6 X V _{CC}	—	
		I _{OH} = -1.7mA	1.4V	0.93	—	
		I _{OH} = -1.9mA	1.65V	1.17	—	
		I _{OH} = -2.3mA	2.3V	1.77	—	
		I _{OH} = -3.1mA		1.67	—	
		I _{OH} = -2.7mA	3V	2.40	—	
		I _{OH} = -4mA		2.30	—	
V _{OL}	Low-Level Input Voltage	I _{OL} = 20μA	0.8V to 3.6V	—	0.11	V
		I _{OL} = 1.1mA	1.1V	—	0.33 X V _{CC}	
		I _{OL} = 1.7mA	1.4V	—	0.41	
		I _{OL} = 1.9mA	1.65V	—	0.39	
		I _{OL} = 2.3mA	2.3V	—	0.36	
		I _{OL} = 3.1mA		—	0.50	
		I _{OL} = 2.7mA	3V	—	0.36	
		I _{OL} = 4mA		—	0.50	
I _I	Input Current	A or B Input V _I = GND to 3.6V	0V to 3.6V	—	± 0.75	μA
I _{OFF}	Power Down Leakage Current	V _I or V _O = 0V to 3.6V	0V	—	± 1.0	μA
ΔI _{OFF}	Delta Power Down Leakage Current	V _I or V _O = 0V to 3.6V	0V to 0.2V	—	± 2.5	μA
I _{CC}	Supply Current	V _I = GND or V _{CC} , I _O = 0	0.8V to 3.6V	—	1.4	μA
ΔI _{CC}	Additional Supply Current	Input at V _{CC} -0.6V Other input at V _{CC} or GND	3.3V	—	75	μA

Operating and Package Characteristics

T_A = +25°C

Parameter		Test Conditions	V _{CC}	Typ	Unit
C _{pd}	Power dissipation capacitance	f = 1MHz No Load	0.8V	5.1	pF
			1.2V ± 0.1V	5.2	
			1.5V ± 0.1V	5.2	
			1.8V ± 0.15V	5.5	
			2.5V ± 0.2V	5.7	
			3.3V ± 0.3V	6.0	
C _I	Input Capacitance	V _I = V _{CC} or GND	0V or 3.3V	2.0	pF
C _O	Output Capacitance	V _O = V _{CC} or GND	0V	2.0	pF

Switching Characteristics

 $C_L = 5\text{pF}$ see Figure 1

Parameter	From Input	TO OUTPUT	V _{CC}	T _A = +25°C			T _A = -40 to +85°C		T _A = -40 to +125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t _{pd}	A	Y	0.8V	—	14.9	—	—	—	—	—	ns
			1.2V ± 0.1V	2.6	4.7	10.1	2.0	11.1	2.0	12.2	
			1.5V ± 0.1V	2.1	3.4	5.7	1.6	6.5	1.6	7.2	
			1.8V ± 0.15V	1.8	2.9	4.5	1.4	5.2	1.4	5.8	
			2.5V ± 0.2V	1.5	2.3	3.5	1.2	4.2	1.2	4.6	
			3.3V ± 0.3V	1.4	2.1	3.2	1.0	3.8	1.0	4.2	

 $C_L = 10\text{pF}$ see Figure 1

Parameter	From Input	TO OUTPUT	V _{CC}	T _A = +25°C			T _A = -40 to +85°C		T _A = -40 to +125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t _{pd}	A	Y	0.8V	—	18.4	—	—	—	—	—	ns
			1.2V ± 0.1V	3.2	5.6	11.8	2.3	12.8	2.3	13.5	
			1.5V ± 0.1V	2.6	4.1	6.7	1.9	7.7	1.9	8.5	
			1.8V ± 0.15V	2.3	3.4	5.3	1.7	6.2	1.7	6.9	
			2.5V ± 0.2V	2.0	2.9	4.2	1.5	5.0	1.5	5.5	
			3.3V ± 0.3V	1.7	2.6	3.8	1.4	4.6	1.4	5.1	

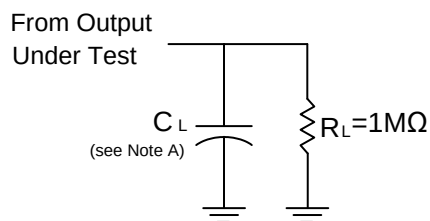
 $C_L = 15\text{pF}$ see Figure 1

Parameter	From Input	TO OUTPUT	V _{CC}	T _A = +25°C			T _A = -40 to +85°C		T _A = -40 to +125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t _{pd}	A	Y	0.8V	—	21.9	—	—	—	—	—	ns
			1.2V ± 0.1V	3.6	6.4	13.8	2.6	15.7	2.6	15.9	
			1.5V ± 0.1V	3.0	4.6	7.6	2.2	8.9	2.2	9.8	
			1.8V ± 0.15V	2.6	3.9	6.0	2.0	7.2	2.0	7.9	
			2.5V ± 0.2V	2.3	3.3	4.8	1.8	5.7	1.8	6.3	
			3.3V ± 0.3V	1.8	3.1	4.2	1.6	5.0	1.6	5.5	

 $C_L = 30\text{pF}$ see Figure 1

Parameter	From Input	TO OUTPUT	V _{CC}	T _A = +25°C			T _A = -40 to +85°C		T _A = -40 to +125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t _{pd}	A	Y	0.8V	—	32.1	—	—	—	—	—	ns
			1.2V ± 0.1V	4.8	8.7	16.3	3.6	18.9	3.6	20.8	
			1.5V ± 0.1V	4.0	6.2	10.3	3.4	12.2	3.4	13.4	
			1.8V ± 0.15V	3.6	5.2	8.1	3.2	9.8	3.2	10.8	
			2.5V ± 0.2V	2.4	4.4	6.4	2.3	7.7	2.3	8.5	
			3.3V ± 0.3V	2.2	4.2	5.6	2.1	6.5	2.1	7.2	

Parameter Measurement Information



V_{CC}	Inputs		V_M	C_L
	V_I	t_r/t_f		
0.8V	V_{CC}	$\leq 3ns$	$V_{CC}/2$	5, 10, 15, 30pF
1.2V $\pm$ 0.1V	V_{CC}	$\leq 3ns$	$V_{CC}/2$	5, 10, 15, 30pF
1.5V $\pm$ 0.1V	V_{CC}	$\leq 3ns$	$V_{CC}/2$	5, 10, 15, 30pF
1.8V $\pm$ 0.15V	V_{CC}	$\leq 3ns$	$V_{CC}/2$	5, 10, 15, 30pF
2.5V $\pm$ 0.2V	V_{CC}	$\leq 3ns$	$V_{CC}/2$	5, 10, 15, 30pF
3.3V $\pm$ 0.3V	V_{CC}	$\leq 3ns$	$V_{CC}/2$	5, 10, 15, 30pF

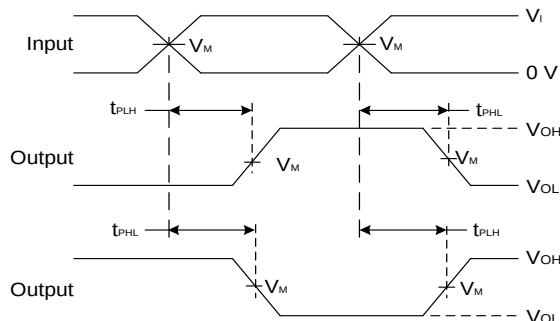
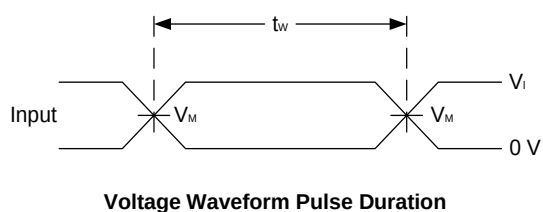
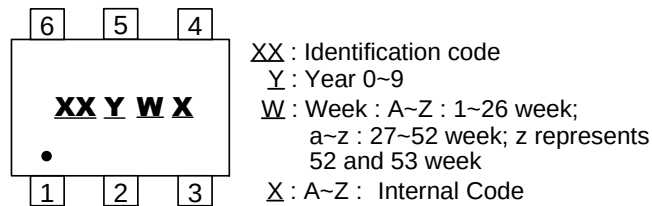


Figure 1 Load Circuit and Voltage Waveforms

- Notes:
- A. Includes test lead and test apparatus capacitance.
 - B. All pulses are supplied at pulse repetition rate ≤ 10 MHz.
 - C. Inputs are measured separately one transition per measurement.
 - D. t_{PLH} and t_{PHL} are the same as t_{PD} .

Marking Information

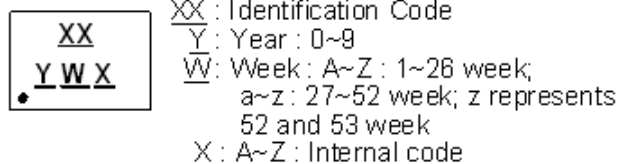
(1) SOT363



Part Number	Package	Identification Code
74AUP2G34DW-7	SOT363	ST

(2) X2-DFN1410-6, X2-DFN1010-6, X2-DFN0910-6

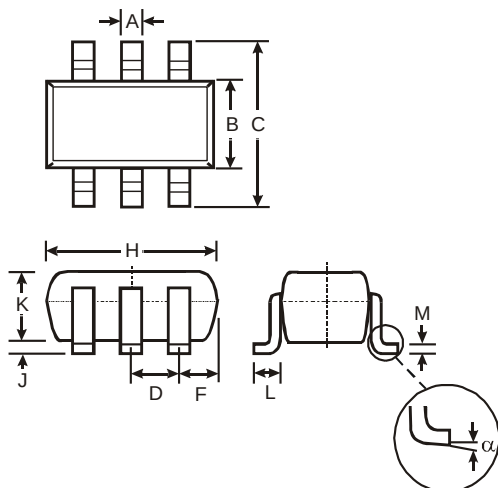
(Top View)



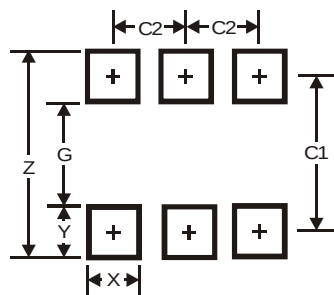
Part Number	Package	Identification Code
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74AUP2G34FW4-7	X2-DFN1010-6	ST
74AUP2G34FW3-7	X2-DFN0910-6	MT

SOT363 Package Outline Dimensions and Suggested Pad Layout

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



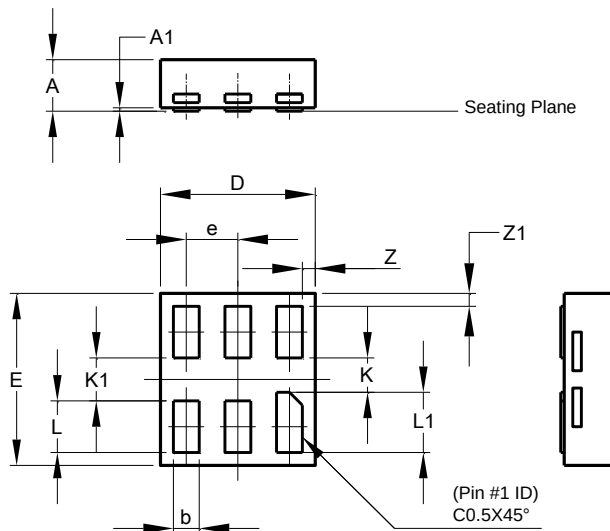
SOT363			
Dim	Min	Max	Typ
A	0.10	0.30	0.25
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	0.65 Typ		
F	0.40	0.45	0.425
H	1.80	2.20	2.15
J	0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.22	0.11
α	0°	8°	-
All Dimensions in mm			



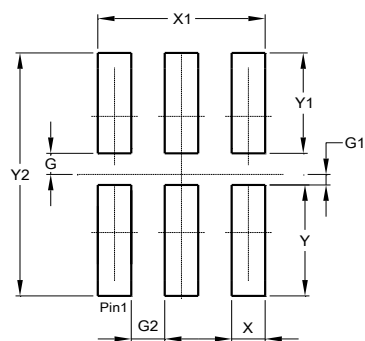
Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C1	1.9
C2	0.65

X2-DFN0910-6 Package Outline Dimensions and Suggested Pad Layout

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.

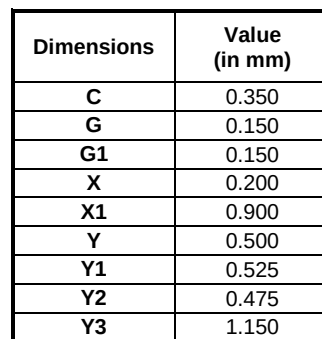
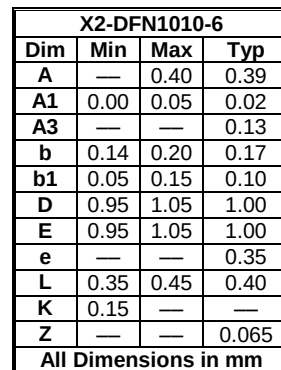


X2-DFN0910-6			
Dim	Min	Max	Typ
A	-	0.35	0.30
A1	0	0.03	0.02
b	0.10	0.20	0.15
D	0.85	0.95	0.90
E	0.95	1.05	1.00
e	-	-	0.30
K	0.20	-	-
K1	0.25	-	-
L	0.25	0.35	0.30
L1	0.30	0.40	0.35
Z	-	-	0.075
Z1	-	-	0.075
All Dimensions in mm			



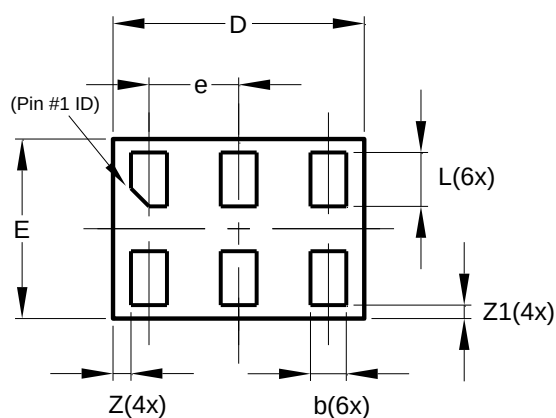
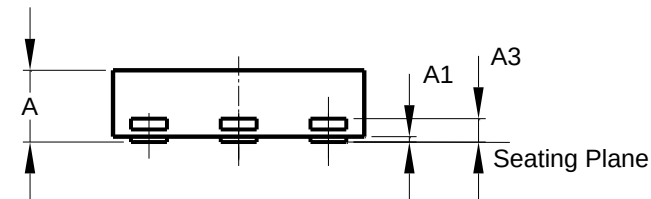
Dimensions	Value (in mm)
G	0.100
G1	0.050
G2	0.150
X	0.150
X1	0.750
Y	0.525
Y1	0.475
Y2	1.150

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.

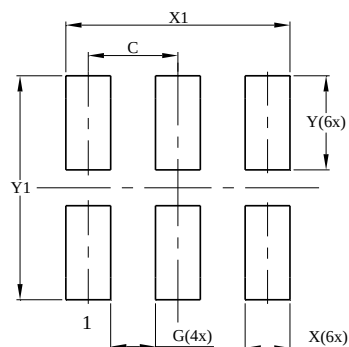


X2-DFN1410-6 Package Outline Dimensions and Suggested Pad Layout

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



X2-DFN1410-6			
Dim	Min	Max	Typ
A	—	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
e	—	—	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)
C	0.500
G	0.250
X	0.250
X1	1.250
Y	0.525
Y1	1.250

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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.

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