

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current, per IEC 61000-4-5	I <sub>PP</sub>	5.5	A	I/O to V <sub>SS</sub> , 8/20μs
Peak Pulse Power, per IEC 61000-4-5	P <sub>PP</sub>	55	W	I/O to V <sub>SS</sub> , 8/20μs
ESD Protection – Contact Discharge, per IEC 61000-4-2	V <sub>ESD_CONTACT</sub>	±16	kV	I/O to V <sub>SS</sub>
ESD Protection – Air Discharge, per IEC 61000-4-2	V <sub>ESD_AIR</sub>	±16	kV	I/O to V <sub>SS</sub>
Operating Temperature	T <sub>OP</sub>	-55 to +85	°C	—
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C	—

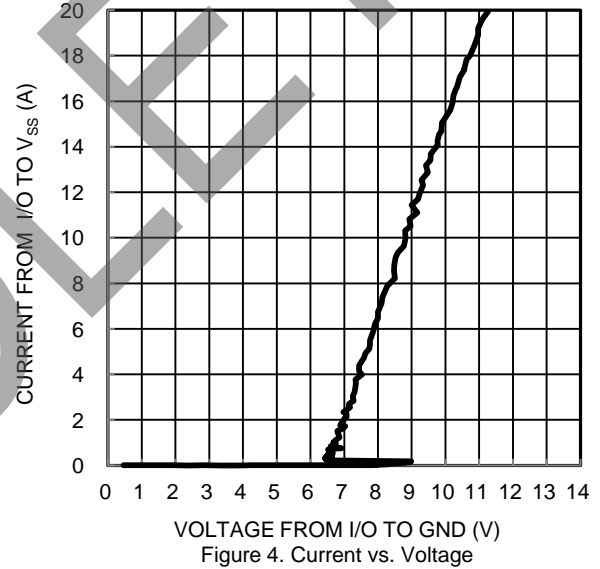
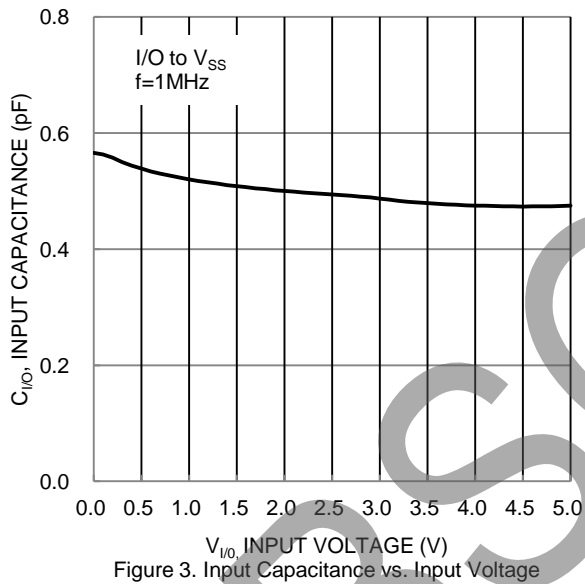
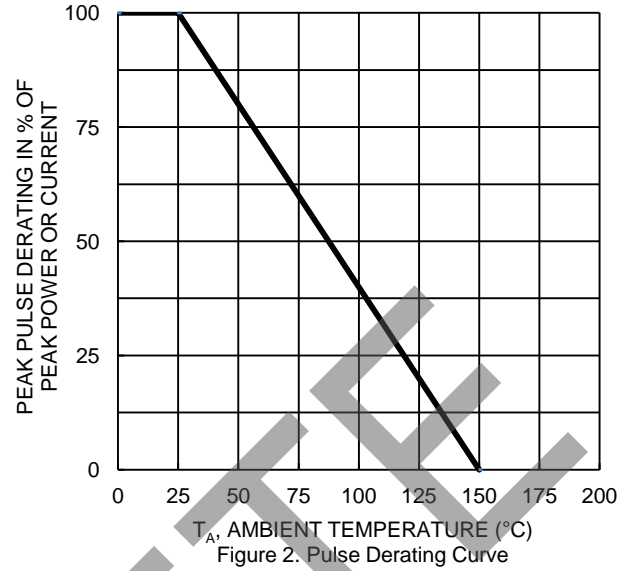
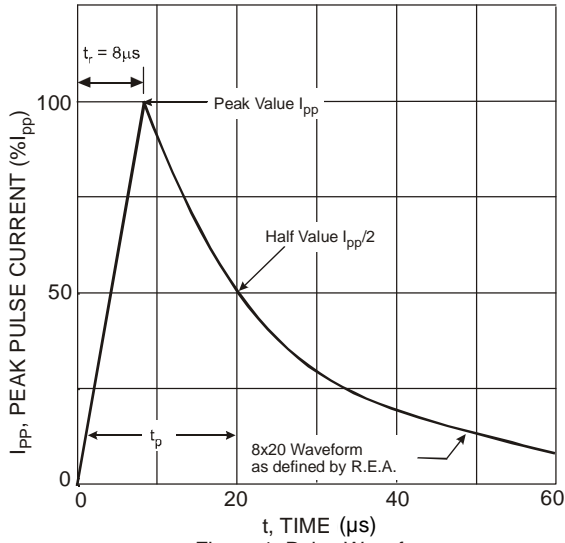
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation Typical (Note 5)	P <sub>D</sub>	500	mW
Thermal Resistance, Junction to Ambient Typical (Note 5)	R <sub>θJA</sub>	250	°C/W

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Working Voltage	V <sub>RWM</sub>	—	—	5.5	V	I <sub>R</sub> =1mA, , I/O to V <sub>SS</sub>
Reverse Current	I <sub>R</sub>	—	—	0.5	μA	V <sub>R</sub> = 5.5V, I/O to V <sub>SS</sub>
Reverse Breakdown Voltage	V <sub>BR</sub>	6	—	—	V	I <sub>R</sub> = 1mA, I/O to V <sub>SS</sub>
Forward Clamping Voltage	V <sub>F</sub>	-1.0	-0.85	—	V	I <sub>F</sub> = -15mA, I/O to V <sub>SS</sub>
Reverse Clamping Voltage (Note 6)	V <sub>C</sub>	—	9.4	11	V	I <sub>PP</sub> = 5.5A, I/O to V <sub>SS</sub> , 8/20μs
ESD Clamping Voltage	V <sub>ESD</sub>	—	9	—	V	TLP, 10A, tp = 100ns, I/O to V <sub>SS</sub>
Dynamic Reverse Resistance	R <sub>DIF-R</sub>	—	0.25	—	Ω	TLP, 10A, tp = 100ns, I/O to V <sub>SS</sub>
Dynamic Forward Resistance	R <sub>DIF-F</sub>	—	0.25	—	Ω	TLP, 10A, tp = 100ns, V <sub>SS</sub> to I/O
Channel Input Capacitance	C <sub>I/O</sub>	—	—	0.75	pF	V <sub>I/O</sub> = 2.5V, V <sub>SS</sub> = 0V, f = 1MHz
Delta C <sub>I/O</sub>	C <sub>I/OMAX</sub> -C <sub>I/OMIN</sub>	—	0.04	—	pF	C <sub>I/OMAX</sub> -C <sub>I/OMIN</sub>

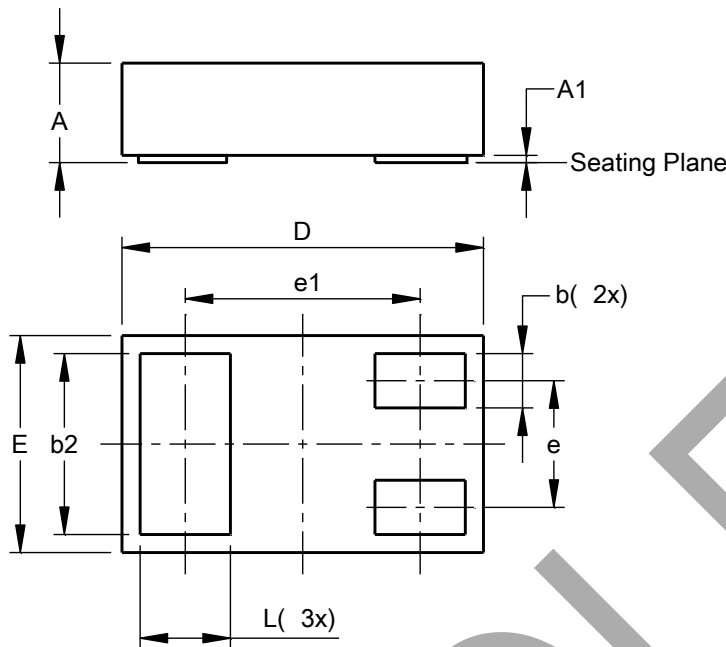
- Notes:
- Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes Incorporated's suggested pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
  - Clamping voltage value is based on an 8x20μs peak pulse current (I<sub>PP</sub>) waveform.



## Package Outline Dimensions

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

X3-DSN1006-3 (Type B)



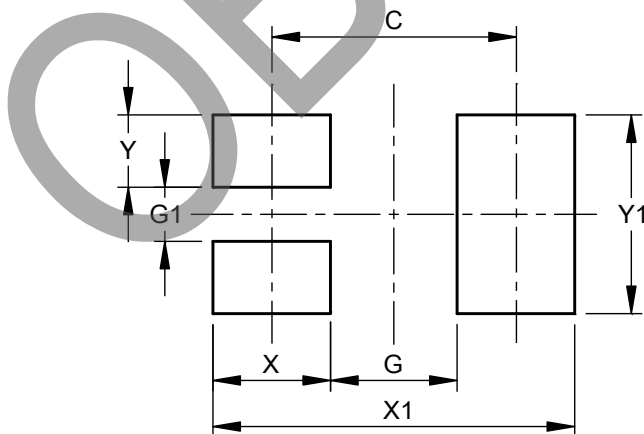
X3-DSN1006-3 (Type B)			
Dim	Min	Max	Typ
A	0.250	0.300	0.275
A1	0.00	0.02	0.01
b	0.130	0.170	0.150
b2	0.480	0.520	0.500
D	0.975	1.025	1.00
E	0.575	0.625	0.600
e	--	--	0.350
e1	--	--	0.650
L	0.230	0.270	0.250
All Dimensions in mm			

Note 7: Device side walls are electrically active bare silicon. Avoid contact of solder or flux on the side walls during the PCB assembly process.

## Suggested Pad Layout

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

X3-DSN1006-3 (Type B)



Dimensions	Value (in mm)
C	0.70
G	0.30
G1	0.20
X	0.40
X1	1.10
Y	0.25
Y1	0.70

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