

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

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P <sub>PP</sub>	50	W	8/20μs (See Figure 1)
Peak Pulse Current	I <sub>PP</sub>	6.5	A	8/20μs (See Figure 1)
ESD Protection – Air Discharge	V <sub>ESD_AIR</sub>	20	kV	IEC 61000-4-2 Standard
ESD Protection – Contact Discharge	V <sub>ESD_CONTACT</sub>	20	kV	IEC 61000-4-2 Standard

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	P <sub>D</sub>	250	mW
Thermal Resistance, Junction to Ambient (Note 5)	R <sub>θJA</sub>	500	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Standoff Voltage	V <sub>RWM</sub>	—	—	5	V	—
Channel Leakage Current (Note 6)	I <sub>RM</sub>	—	—	0.5	μA	V <sub>RWM</sub> = 5V
Breakdown Voltage	V <sub>BR</sub>	6	—	10	V	I <sub>R</sub> = 10mA
Clamping Voltage, Positive Transients	V <sub>CL</sub>	—	7.0	—	V	I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs
		—	7.4	—	V	I <sub>PP</sub> = 2A, t <sub>p</sub> = 8/20μs
Differential Resistance	R <sub>DYN</sub>	—	0.2	—	Ω	ITLP = 1A to 10A, t <sub>p</sub> = 100ns, I/O to GND
Channel Input Capacitance	C <sub>IN</sub>	—	0.8	—	pF	V <sub>R</sub> = 0V, f = 1MHz

Notes: 5. Device mounted on FR-4 PCB pad layout (2oz copper) per Diodes Incorporated's recommended pad layout, refer to <http://www.diodes.com/package-outlines.html>.

6. Short duration pulse test used to minimize self-heating effect.

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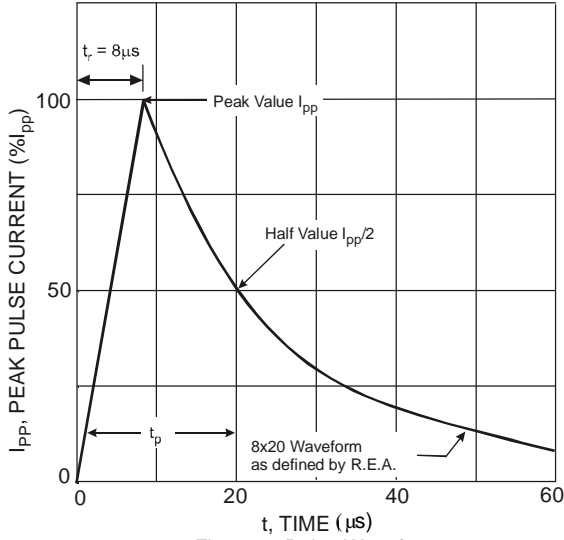


Figure 1 Pulse Waveform

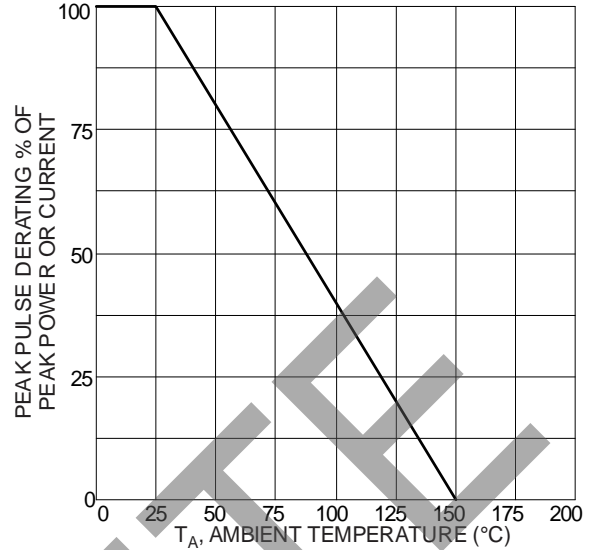


Figure 2 Pulse Deration Curve

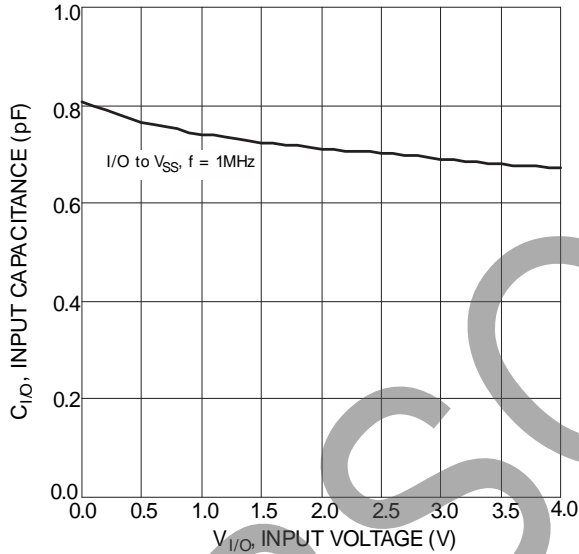


Figure 3 Input Capacitance vs. Input Voltage

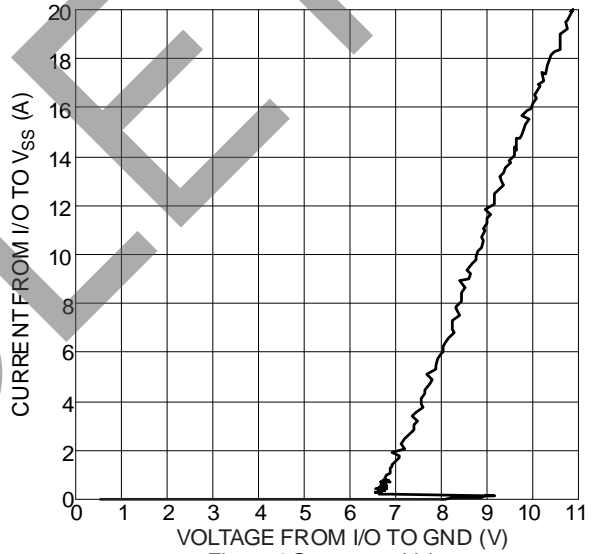


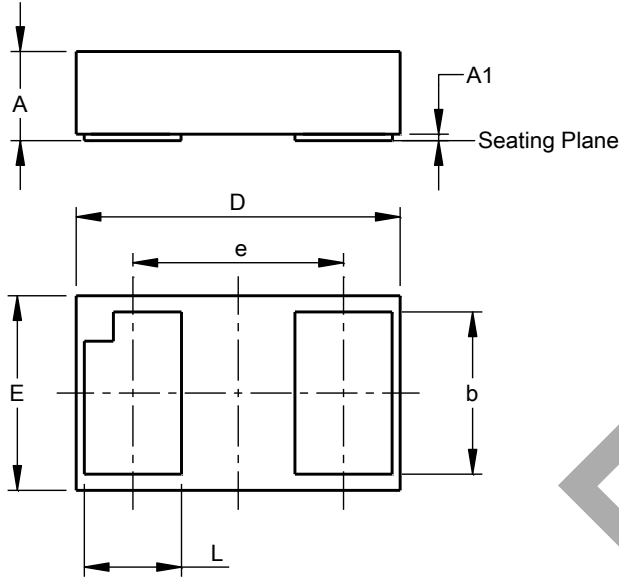
Figure 4 Current vs. Voltage

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**Package Outline Dimensions**

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

**X3-DSN1006-2 (Type B)**

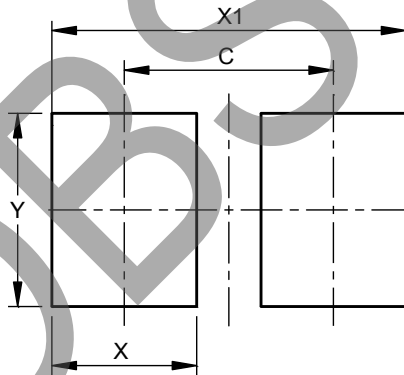


X3-DSN1006-2 (Type B)			
Dim	Min	Max	Typ
A	0.250	0.300	0.275
A1	0.00	0.02	0.01
b	0.490	0.510	0.500
D	0.975	1.025	1.00
E	0.575	0.625	0.600
e	--	--	0.650
L	0.290	0.310	0.300
All Dimensions in mm			

**Suggested Pad Layout**

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

**X3-DSN1006-2 (Type B)**



Dimensions	Value (in mm)
C	0.65
X	0.45
X1	1.10
Y	0.60

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.

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