

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P _{PP}	84	W	8/20μs, per Figure 1
Peak Pulse Current	I _{PP}	6	A	8/20μs, per Figure 1
ESD Protection – Contact Discharge	V _{ESD_Contact}	±30	kV	IEC 61000-4-2 Standard
ESD Protection – Air Discharge	V _{ESD_Air}	±30	kV	IEC 61000-4-2 Standard

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	P _D	250	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	—	—	5	V	—
Channel Leakage Current (Note 6)	I _{RM}	—	10	100	nA	V _{RWM} = 5V
Clamping Voltage, Positive Transients	V _{CL}	—	7.0	9.0	V	I _{PP} = 1A, t _p = 8/20μs
		—	8.7	10.7		I _{PP} = 3A, t _p = 8/20μs
		—	10.5	12.0		I _{PP} = 5A, t _p = 8/20μs
		—	11.5	14.0		I _{PP} = 6A, t _p = 8/20μs
Breakdown Voltage	V _{BR}	6	7	8	V	I _R = 1mA
Differential Resistance	R _{DIF}	—	0.2	—	Ω	I _R = 1A, t _p = 8/20μs
Channel Input Capacitance	C _{IN}	—	15	18	pF	V _R = 0V, f = 1MHz
		—	12.5	—		V _R = 2.5V, f = 1MHz

- Notes:
- Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com>.
 - Short duration pulse test used to minimize self-heating effect.

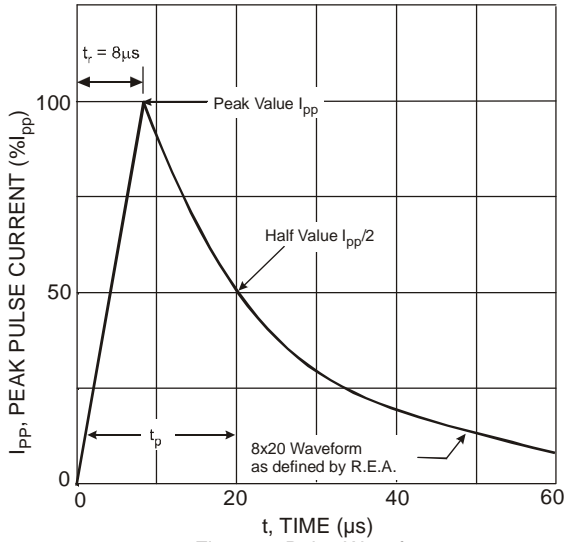


Figure 1 Pulse Waveform

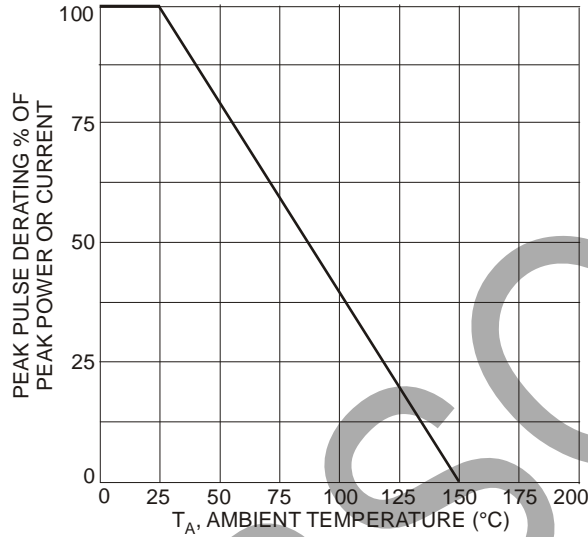


Figure 3 Pulse Derating Curve

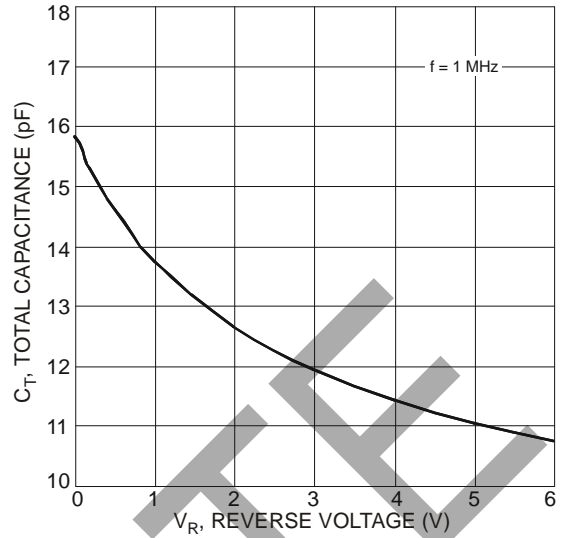


Figure 2 Typical Total Capacitance vs. Reverse Voltage

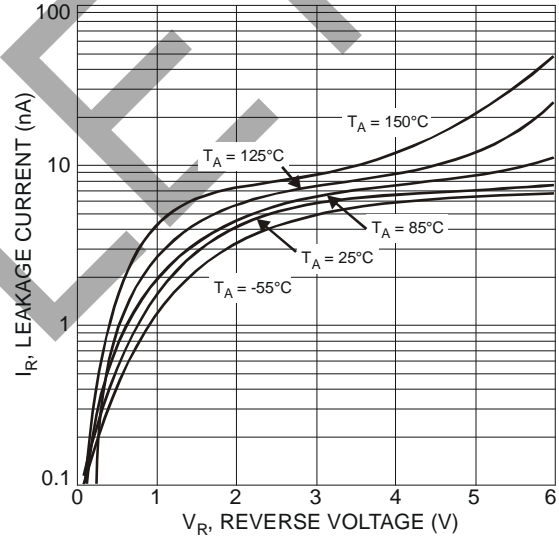
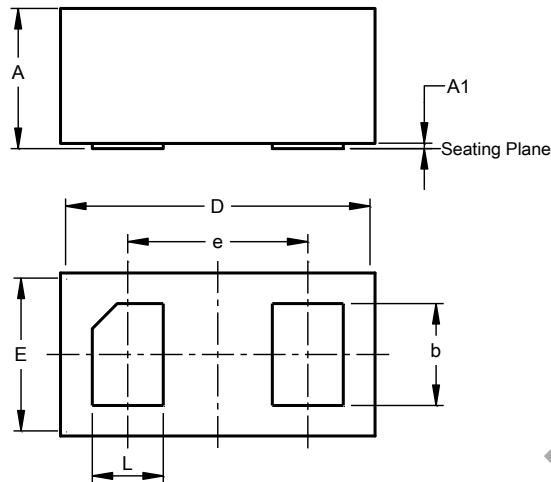


Figure 4 Typical Reverse Characteristics

Package Outline Dimensions

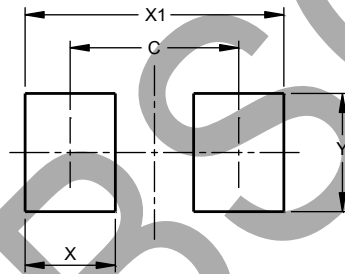
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



X3-ESN0603-2			
Dim	Min	Max	Typ
A	0.250	0.300	0.275
A1	0.00	0.02	0.01
b	0.16	0.24	0.20
D	0.595	0.645	0.620
E	0.295	0.345	0.320
e	-	-	0.355
L	0.10	0.18	0.14
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
C	0.355
X	0.190
Y	0.250
X1	0.545

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