

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 5)	I _{RM}	—	10	100	nA	V _{RWM} = 5V
Clamping Voltage, Positive Transients	V _{CL}	—	7.0 9.0 10.5 11.5	9.0 11.0 12.0 14.0	V	I _{PP} = 1A, t _p = 8/20μs I _{PP} = 3.5A, t _p = 8/20μs I _{PP} = 5A, t _p = 8/20μs 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 _T	—	15	20	pF	V _R = 0V, f = 1MHz

Notes: 5. 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>.
 6. Short duration pulse test used to minimize self-heating effect.

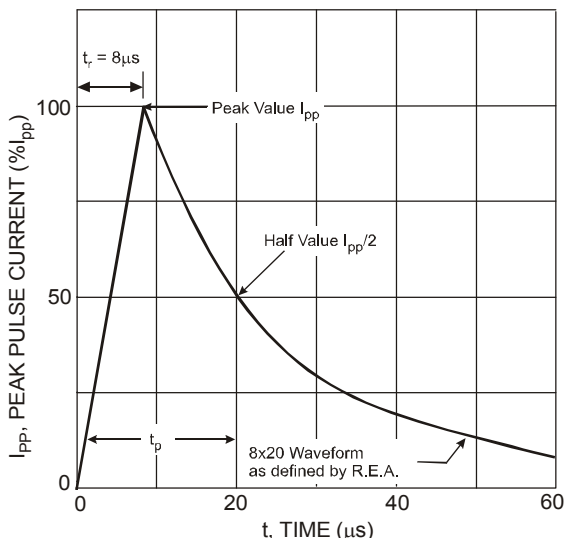


Fig. 1 Pulse Waveform

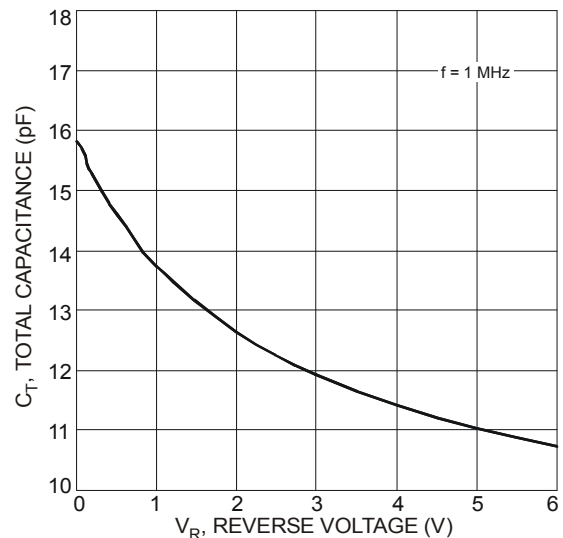


Fig. 2 Typical Total Capacitance vs. Reverse Voltage

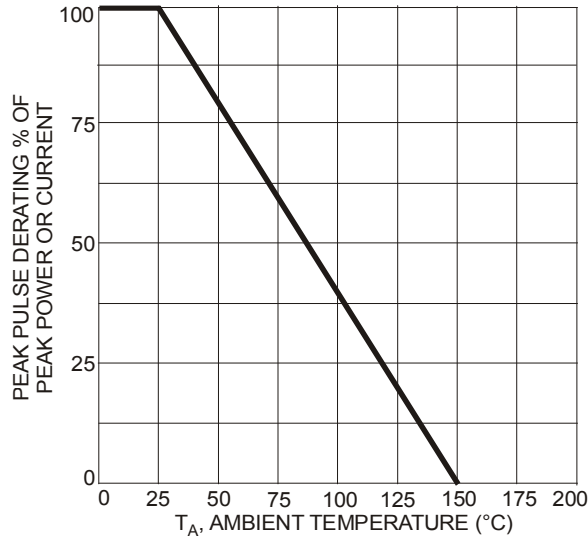


Fig. 3 Pulse Derating Curve

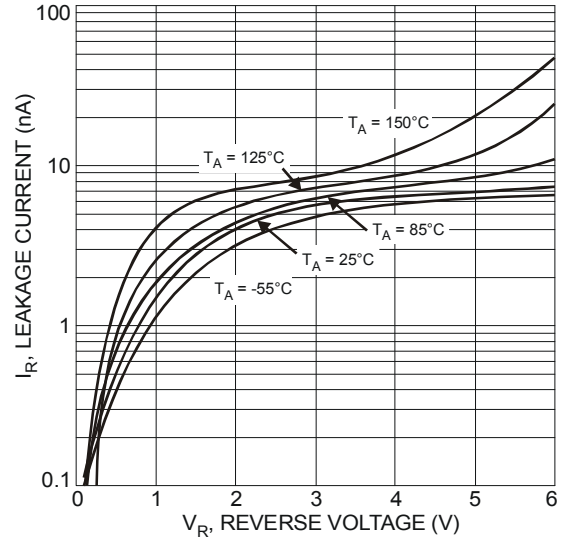


Fig. 4 Typical Reverse Characteristics

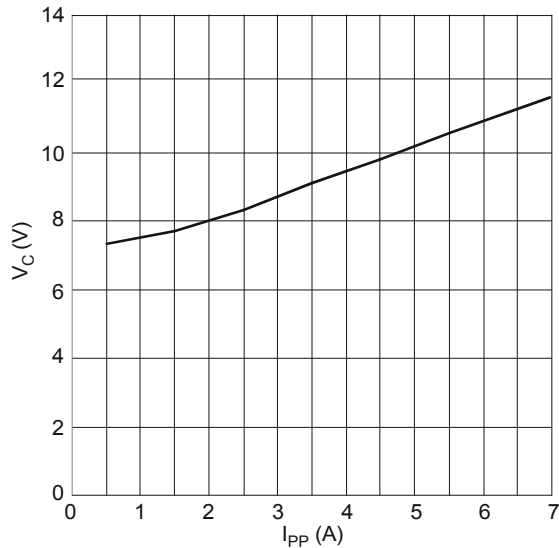


Figure 5 Typical Peak Clamping Voltage V_C vs.
Peak Pulse Current I_{PP}

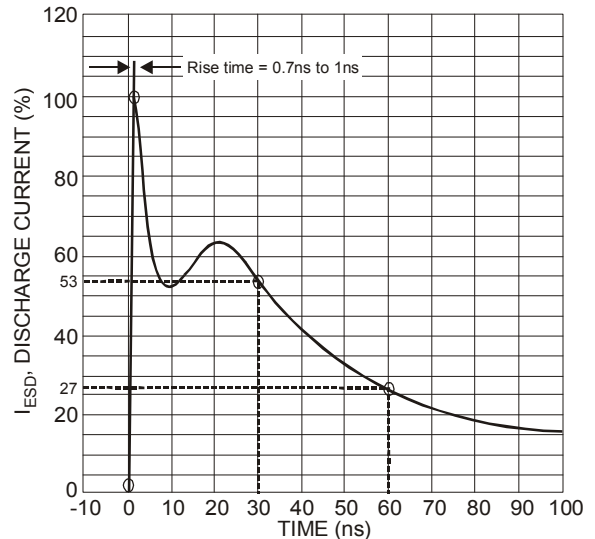


Figure 6 ESD Discharge Current Wave Form
IEC 6100-4-2 (330 Ω /150pF)

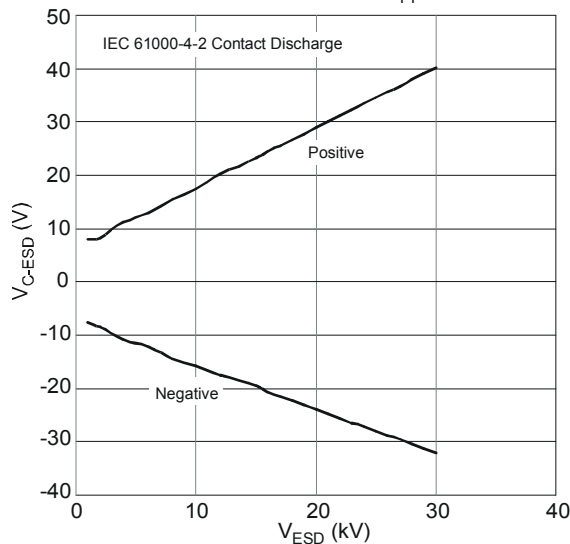


Figure 7 Typical Clamping Voltage vs.
Contact Discharge Voltage

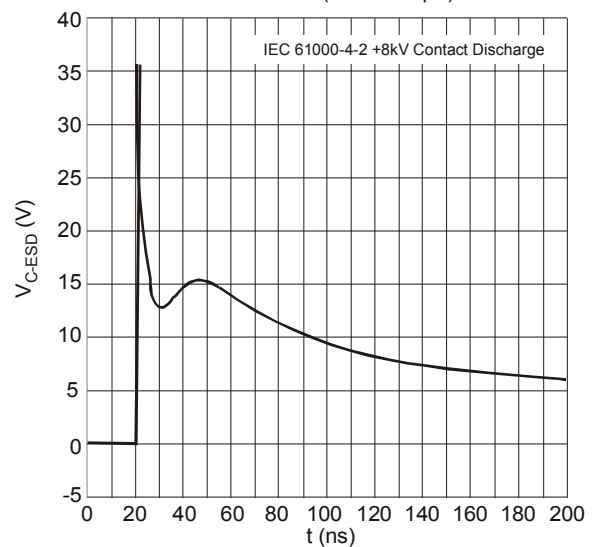


Figure 8 Typical Clamping Performance
@ 8kV Contact Discharge

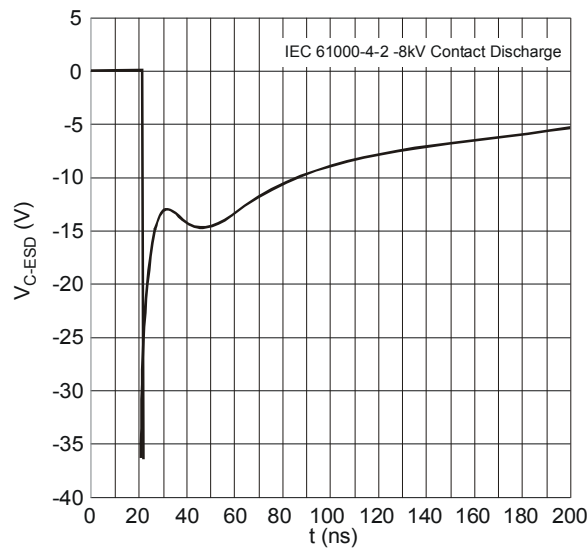
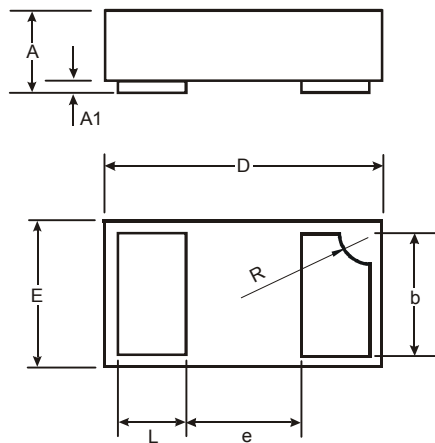


Figure 9 Typical Clamping Performance
@ -8kV Contact Discharge

Package Outline Dimensions

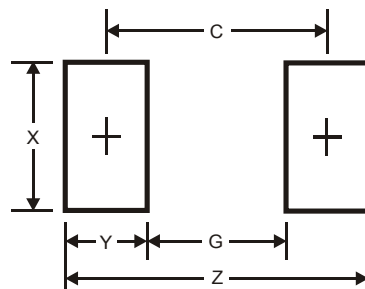
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



X2-DFN1006-2			
Dim	Min	Max	Typ
A	0.34	0.4	0.37
A1	0	0.05	0.03
b	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	—	—	0.40
L	0.20	0.30	0.25
R	0.05	0.15	0.10
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)
Z	1.1
G	0.3
X	0.7
Y	0.4
C	0.7

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