

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 2
Peak Pulse Current	I _{PP}	6	A	8/20μs, per Figure 2
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 6)	P _D	275	mW
Thermal Resistance, Junction to Ambient (Note 6)	R _{θJA}	454	°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 7)	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	20	pF	V _R = 0V, f = 1MHz

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

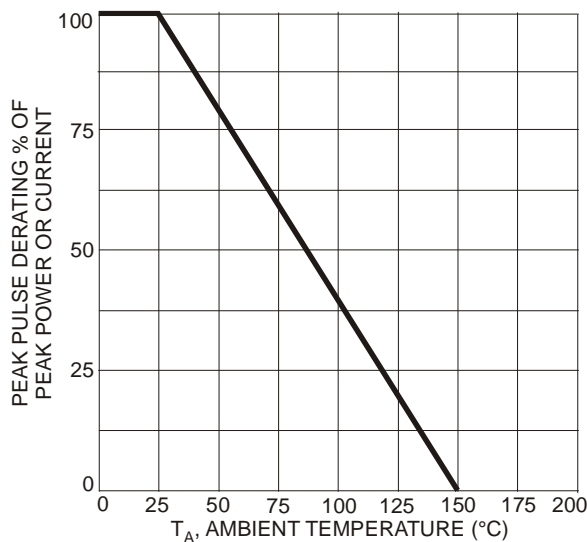


Fig. 1 Power Dissipation vs. Ambient Temperature

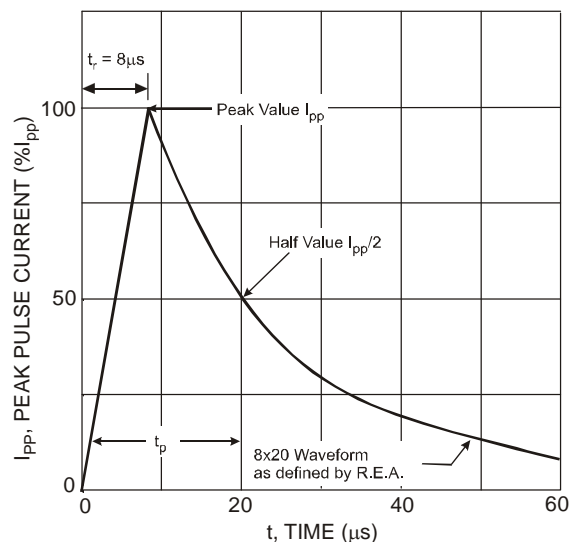


Fig. 2 Pulse Waveform

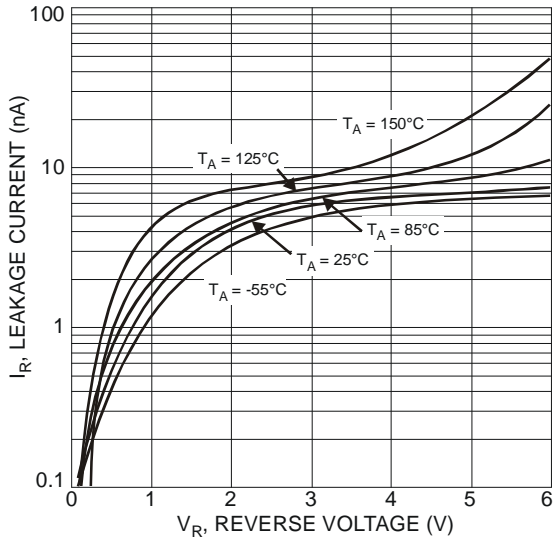


Fig. 3 Typical Reverse Characteristics

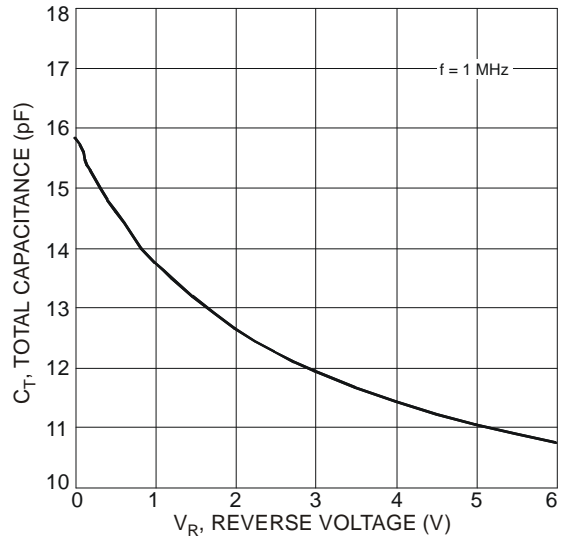


Fig. 4 Typical Total Capacitance vs. Reverse Voltage

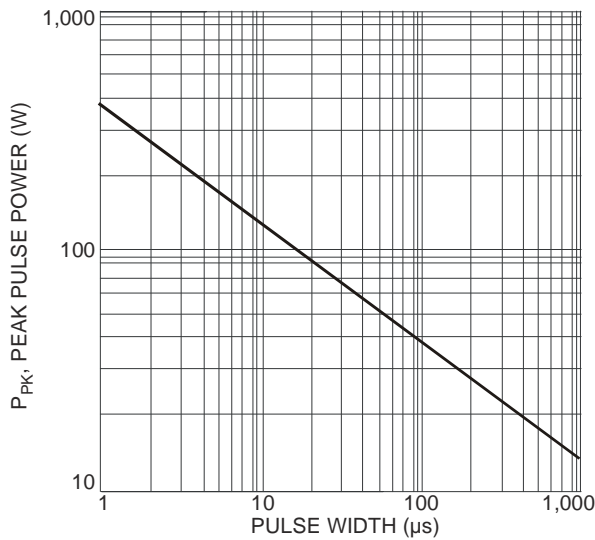
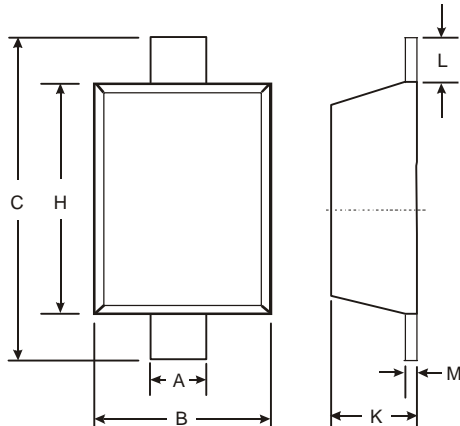


Fig. 5 Pulse Rating Curve vs. Pulse Width
Power is defined as $P_{PK} = V_C \times I_{PP}$

Package Outline Dimensions

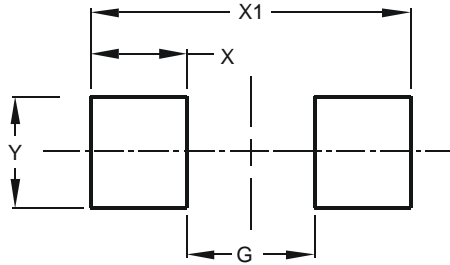
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



SOD523		
Dim	Min	Max
A	0.25	0.35
B	0.70	0.90
C	1.50	1.70
H	1.10	1.30
K	0.55	0.65
L	0.10	0.30
M	0.10	0.12
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)
G	0.80
X	0.60
X1	2.00
Y	0.70

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