UNI-DIRECTIONAL SURFACE MOUNT TVS

Features

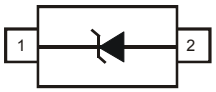
- 350 Watts Peak Pulse Power (tp = 8x20µs)
- IEC 61000-4-2 (ESD): Air – 15kV, Contact – 8kV
- IEC 61000-4-2 (ESD), HBM – 16kV
- IEC61000-4-4 (EFT): Level 4, 40A
- IEC61000-4-5 (Lightning): 24A
- Unidirectional Configuration
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOD323
- Case Material: Molded Plastic, "Green" Molding Compound, Note 3. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating) Solderable per MIL-STD-202, Method 208 e3
- Polarity: Cathode Band
- Weight: 0.005 grams (approximate)

SOD323

Top View



1 = Cathode
2 = Anode

Device Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
SD05-7	SOD323	3000/Tape & Reel

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at http://www.diodes.com/products/packages.html

Marking Information

ZA = Product type marking code

Thermal Characteristics

Characteristic		Symbol	Value	Unit
Peak Pulse Power (tp = 8x20µs)	(Note 5) T_A = +25°C	P_{pk}	350	W
Thermal Resistance, Junction to Ambient	(Note 5) T_A = +25°C	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

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

Reverse Standoff Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Reverse Leakage @ V_{RWM} (Note 6)	Max. Clamping Voltage @ I_{PP} = 5A (Note 7)	Max. Clamping Voltage V_C @ I_{PP} (Note 7)		Total Max Capacitance C_T V_R = 0V f = 1MHz
V_{RWM} (V)	Min (V)	Max (V)	I_T (mA)	I_R (µA)	V_C (V)	V_C (V)	I_{PP} (A)	(pF)
5	6.2	7.3	1.0	10	9.8	14.5	24	350

Notes:
5. Device mounted on FR-4 PC board with suggested pad layout, which can be found on our website at http://www.diodes.com Measured across pin 1 and pin 2.
6. Short duration pulse test used to minimize self-heating effect.
7. Clamping voltage value is based on an 8x20µs peak pulse current (I_{pp}) waveform.

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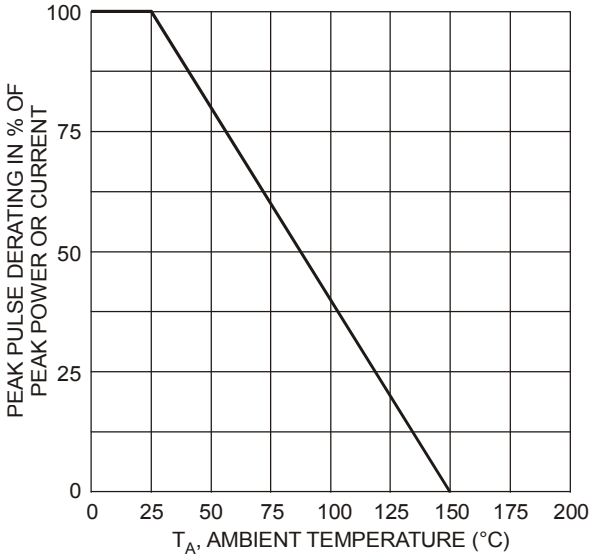

Fig. 1 Pulse Derating Curve

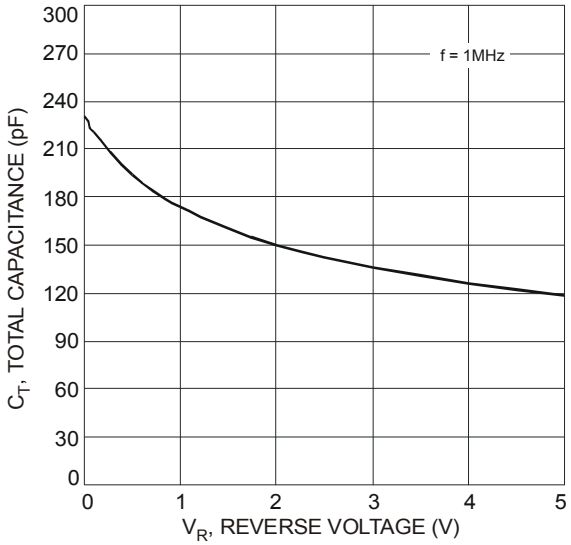

Fig. 2 Typical Total Capacitance vs. Reverse Voltage

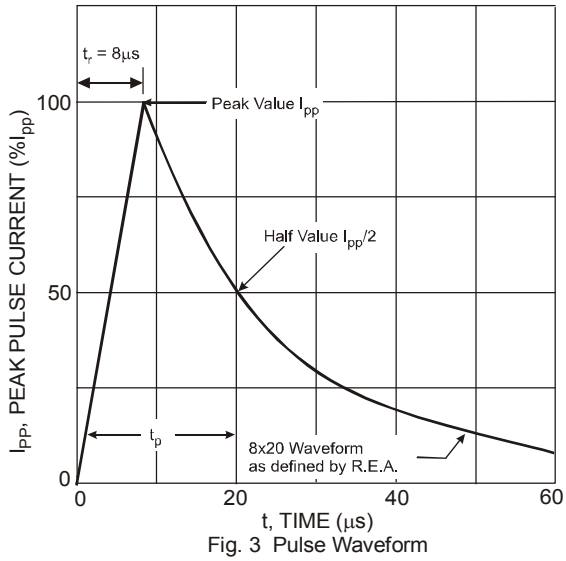

Fig. 3 Pulse Waveform

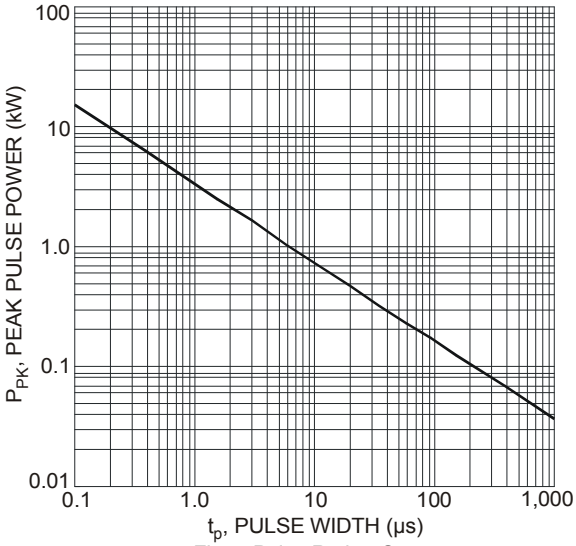

Fig. 4 Pulse Rating Curve

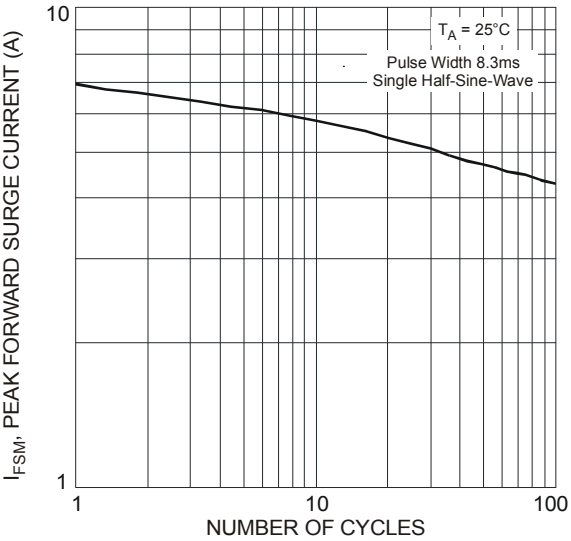

Fig. 5 Maximum Non-Repetitive Surge Current

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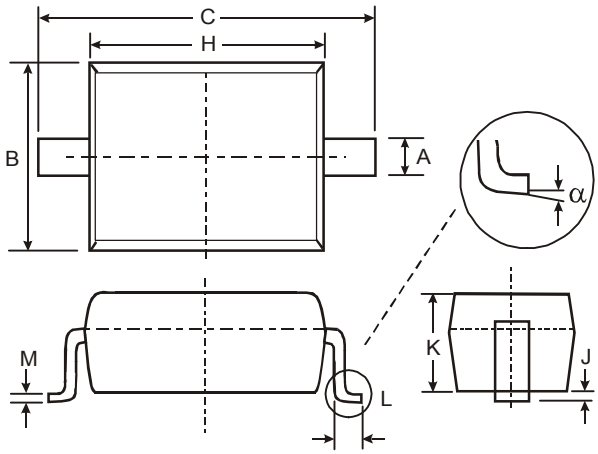
Package Outline Dimensions

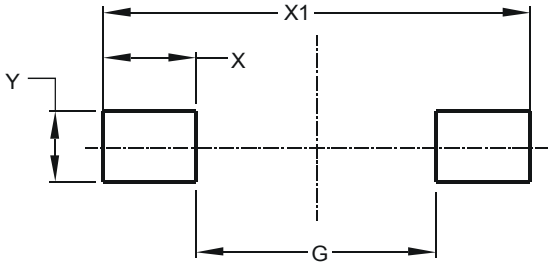
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



SOD323		
Dim	**Min**	**Max**
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
α	0°	8°
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	1.520
X	0.590
X1	2.700
Y	0.450

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