

## Features

- 350 Watts Peak Pulse Power ( $t_p = 8 \times 20 \mu s$ )
- 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**

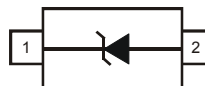
## Mechanical Data

- 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 ③
- 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](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 ( $t_p = 8 \times 20 \mu s$ ) (Note 5) $T_A = +25^\circ C$	$P_{pk}$	350	W
Thermal Resistance, Junction to Ambient (Note 5) $T_A = +25^\circ C$	$R_{\theta JA}$	625	$^\circ C/W$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ C$

## Electrical Characteristics (@ $T_A = +25^\circ C$ , unless otherwise specified.)

Reverse Standoff Voltage		Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub>		Test Current	Max. Reverse Leakage @ V <sub>RWM</sub> (Note 6)	Max. Clamping Voltage @ I <sub>PP</sub> = 5A (Note 7)	Max. Clamping Voltage V <sub>C</sub> @ I <sub>PP</sub> (Note 7)		Total Max Capacitance C <sub>T</sub> V <sub>R</sub> = 0V f = 1MHz
V <sub>RWM</sub> (V)	Min (V)	Max (V)	I <sub>T</sub> (mA)	I <sub>R</sub> (μA)	V <sub>C</sub> (V)	V <sub>C</sub> (V)	I <sub>PP</sub> (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  $8 \times 20 \mu s$  peak pulse current ( $I_{PP}$ ) waveform.

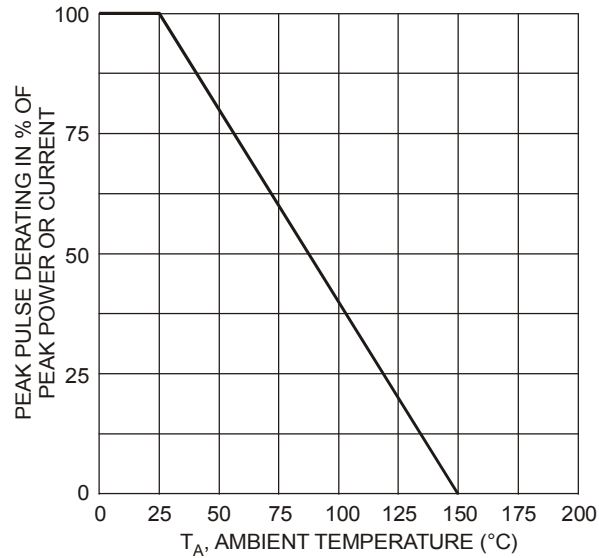


Fig. 1 Pulse Derating Curve

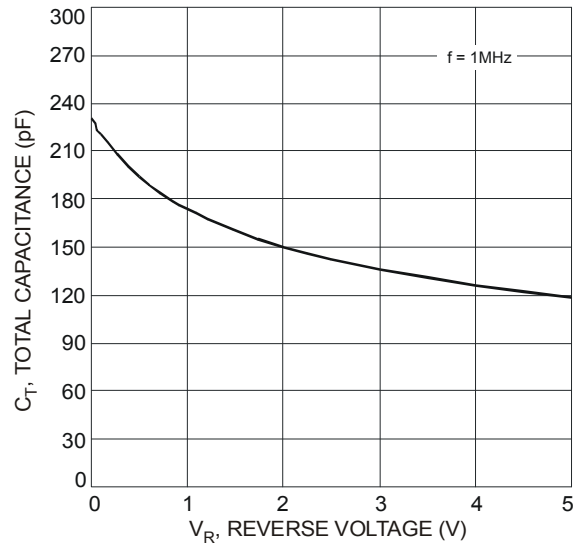


Fig. 2 Typical Total Capacitance vs. Reverse Voltage

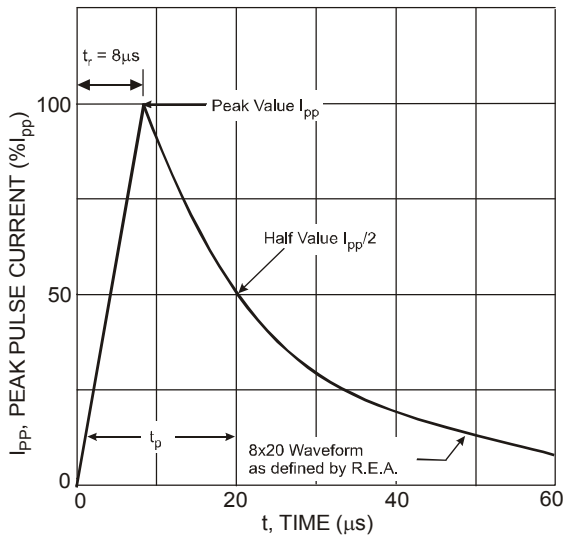


Fig. 3 Pulse Waveform

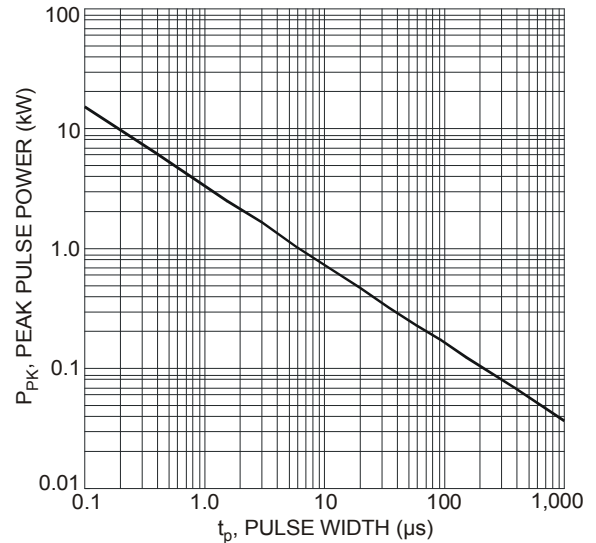


Fig. 4 Pulse Rating Curve

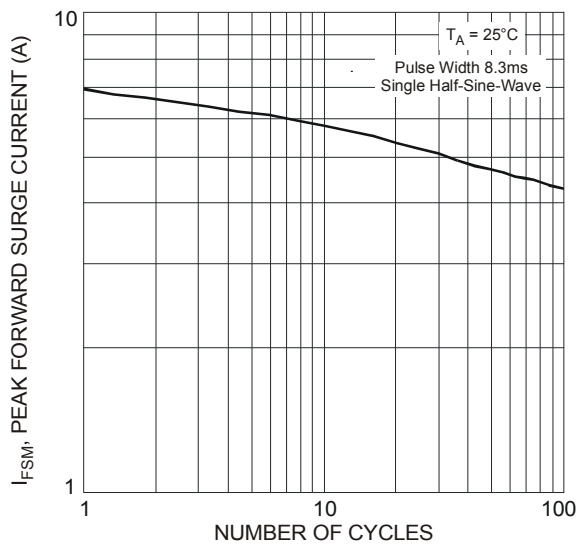
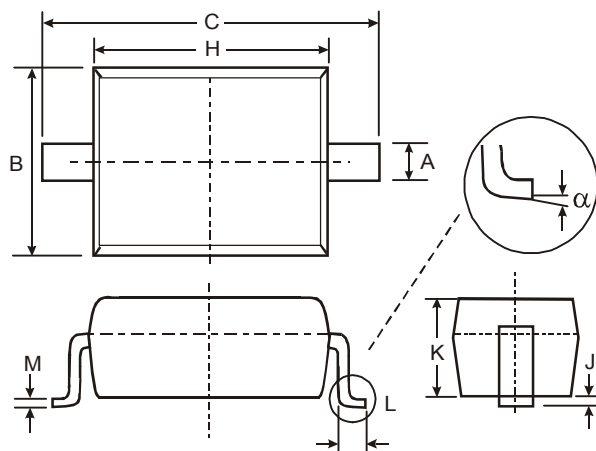


Fig. 5 Maximum Non-Repetitive Surge Current

## Package Outline Dimensions

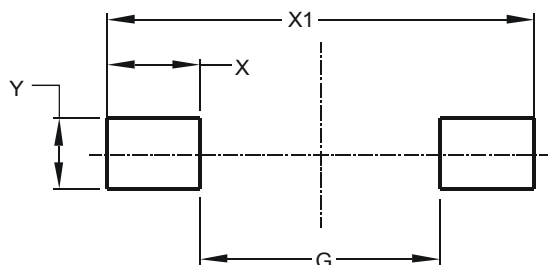
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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
$\alpha$	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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