

## Features

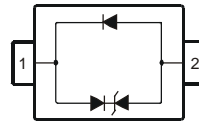
- 350 Watts Peak Pulse Power ( $t_p = 8 \times 20 \mu\text{s}$ )
- IEC 61000-4-2 (ESD): Air – 15kV, Contact – 8kV
- IEC 61000-4-4 (EFT): 40A – 5/50ns
- IEC 61000-4-5 (Surge): 24A, 8/20 $\mu\text{s}$  – Level 2(Line-Gnd) & Level 3(Line-Line)
- Low Capacitance, typ. = 3 pF
- Unidirectional Configuration
- **Lead Free/RoHS Compliant (Note 4)**
- **“Green” Device (Note 5)**

## Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic, “Green” Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: Cathode Band, See Page 2
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.004 grams (approximate)



Top View



TOP VIEW

Device Schematic

## Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8 \times 20 \mu\text{s}$ ) (Note 7) $T_A = 25^\circ\text{C}$	$P_{pk}$	350	W

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient (Note 7) $T_A = 25^\circ\text{C}$	$R_{\theta JA}$	425	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

## Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified (Note 8)

Reverse Standoff Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$		Test Current $I_T$ (mA)	Max. Reverse Leakage @ $V_{RWM}$ (Note 6) $I_R$ ( $\mu\text{A}$ )	Max. Clamping Voltage @ $I_{PP} = 1\text{A}$ (Note 3) $V_C$ (V)	Max. Clamping Voltage $V_C$ @ $I_{PP}$ (Note 3)		Typical Total Capacitance $C_T$ (Note 1) (pF)
	$V_{RWM}$ (V)	Min (V)				Max (V)	$V_C$ (V)	
3.3	4.0	—	1.0	5	7	19	20	3

- Notes:
1.  $V_R = 0\text{V}$ ,  $f = 1\text{MHz}$ .
  2.  $t_p = 8 \times 20 \mu\text{s}$ .
  3. Clamping voltage value is based on an  $8 \times 20 \mu\text{s}$  peak pulse current ( $I_{pp}$ ) waveform (see figure 1).
  4. No purposefully added lead.
  5. Diodes Inc.'s “Green” policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  6. Short duration pulse test used to minimize self-heating effect.
  7. Device mounted on FR-4 PC board with suggested pad layout, which can be found on page 3 or on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  8. Positive potential is applied from pin 2 to pin 1.

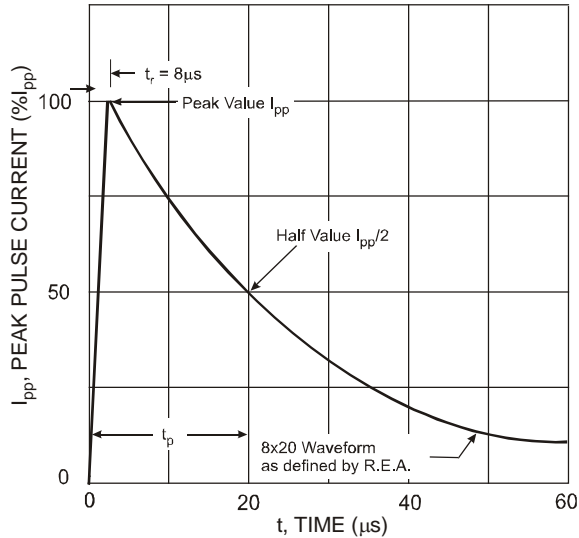


Fig. 1 Pulse Waveform

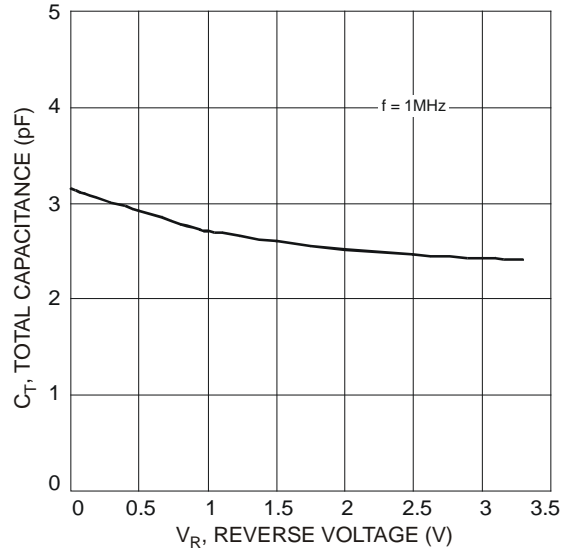


Fig. 2 Typical Total Capacitance vs. Reverse Voltage

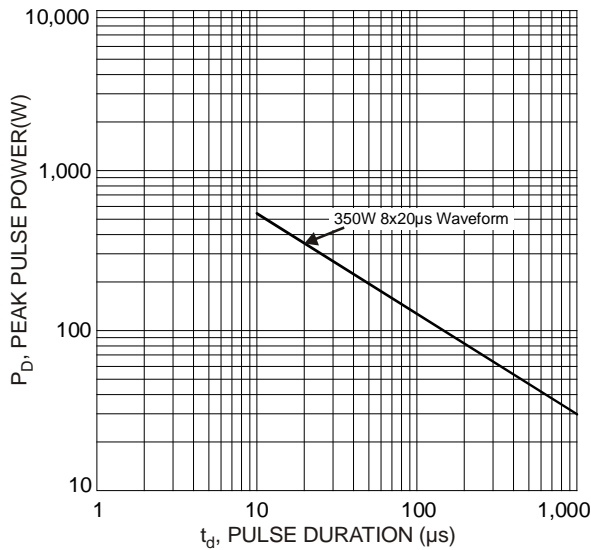


Fig. 3 Max. Peak Pulse Power vs. Power Duration

**Ordering Information** (Note 9)

Part Number	Case	Packaging
T3V3LCS3-7	SOD-323	3000/Tape & Reel

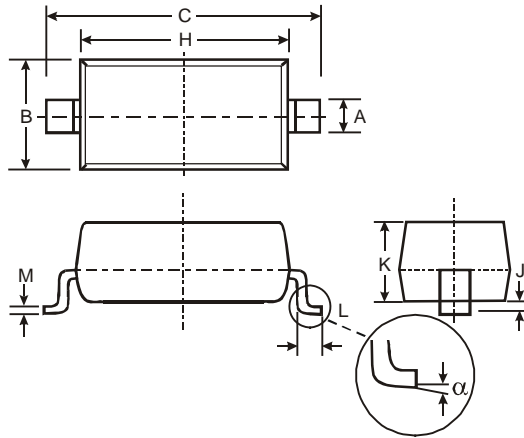
Notes: 9. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



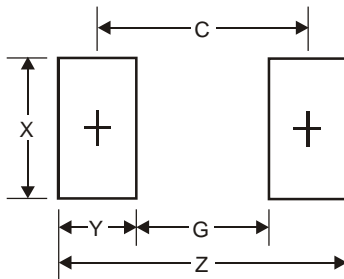
DE = Product Type Marking Code

## Package Outline Dimensions



SOD-323		
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



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

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