

## Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Ideal for Low Logic Level Applications
- Low Capacitance
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **"Green" Device, Notes 4 and 5**

## Mechanical Data

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.002 grams (approximate)



Top View

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

Characteristic	Symbol	Value	Unit
Maximum Peak Reverse Voltage	$V_{RM}$	45	V
Reverse Voltage	$V_R$	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Forward Current	$I_O$	100	mA
Maximum (Peak) Forward Current	$I_{FM}$	300	mA
Non-Repetitive Peak Forward Surge Current @ $t \leq 10\text{ms}$	$I_{FSM}$	1	A

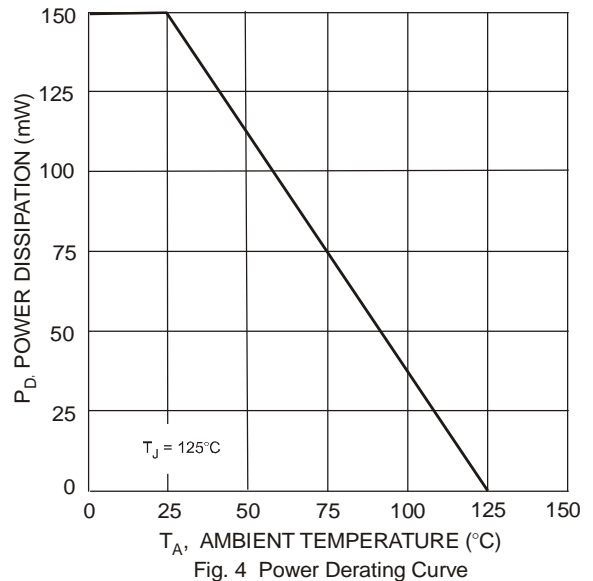
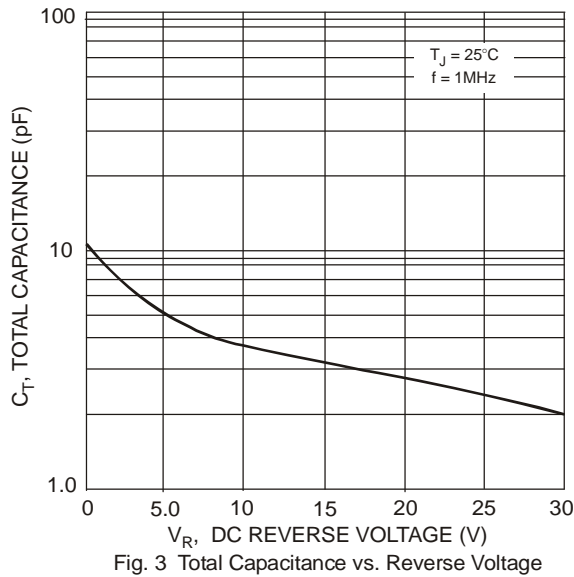
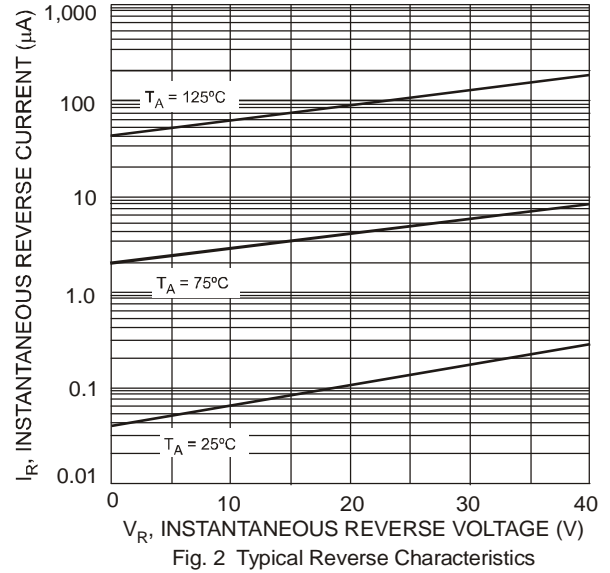
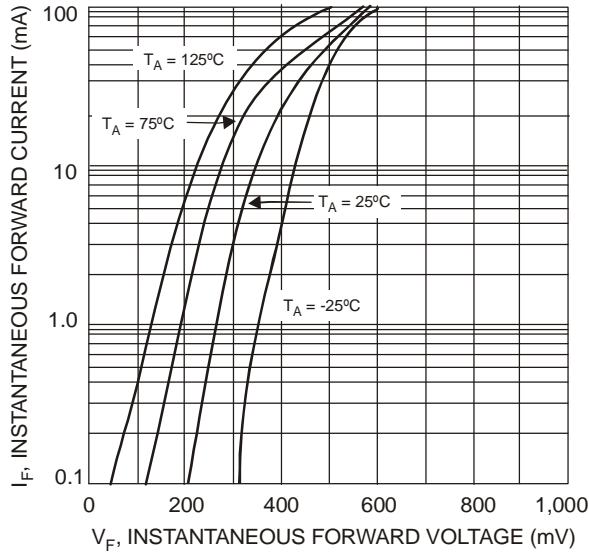
## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	$P_D$	150	mW
Thermal Resistance, Ambient Air (Note 2)	$R_{\theta JA}$	667	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-40 to +125	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	30	—	—	V	$I_R = 100\mu\text{A}$
Forward Voltage Drop	$V_F$	—	280 360 470 580	— — 550 800	mV	$I_F = 1.0\text{mA}$ $I_F = 15\text{mA}$ $I_F = 50\text{mA}$ $I_F = 100\text{mA}$
Reverse Current (Note 3)	$I_R$	—	—	1.0	$\mu\text{A}$	$V_R = 25\text{V}$
Total Capacitance	$C_T$	—	4	15	pF	$V_R = 10\text{V}, f = 1.0\text{MHz}$

- Notes:
1. No purposefully added lead.
  2. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>. @  $T_A = 25^\circ\text{C}$ .
  3. Short duration pulse test used so as to minimize self-heating effect.
  4. 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).
  5. Product manufactured with date code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.



**Ordering Information** (Note 5 & 6)

Part Number	Case	Packaging
SDM10U45-7 (Note 7)	SOD-523	3000/Tape & Reel

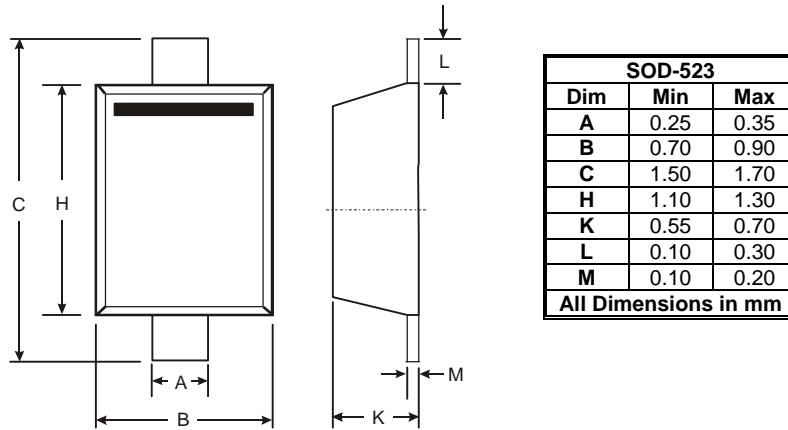
- Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
7. Dispensed in every other cavity of the tape.

**Marking Information**

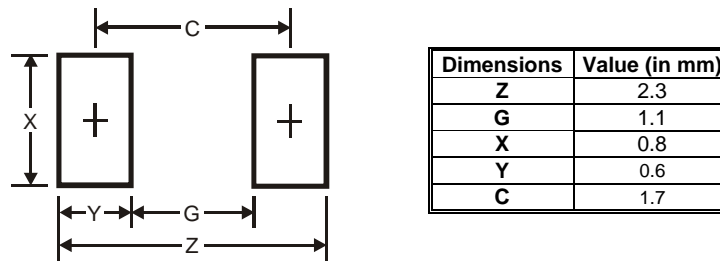


LJ = Product Type Marking Code

**Package Outline Dimensions**



**Suggested Pad Layout**



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