

## 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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Maximum Peak Reverse Voltage	V <sub>RM</sub>	45	V
Reverse Voltage	V <sub>R</sub>	40	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	28	V
Average Forward Current	I <sub>O</sub>	100	mA
Maximum (Peak) Forward Current	I <sub>FM</sub>	300	mA
Non-Repetitive Peak Forward Surge Current @ t ≤ 10ms	I <sub>FSM</sub>	1	A

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P <sub>D</sub>	150	mW
Thermal Resistance, Ambient Air (Note 2)	R <sub>θJA</sub>	667	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-40 to +125	°C

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 3)	V <sub>(BR)R</sub>	30	—	—	V	I <sub>R</sub> = 100μA
Forward Voltage Drop	V <sub>F</sub>	—	280 360 470 580	— — 550 800	mV	I <sub>F</sub> = 1.0mA I <sub>F</sub> = 15mA I <sub>F</sub> = 50mA I <sub>F</sub> = 100mA
Reverse Current (Note 3)	I <sub>R</sub>	—	—	1.0	μA	V <sub>R</sub> = 25V
Total Capacitance	C <sub>T</sub>	—	4	15	pF	V <sub>R</sub> = 10V, f = 1.0 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<sub>A</sub> = 25°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.

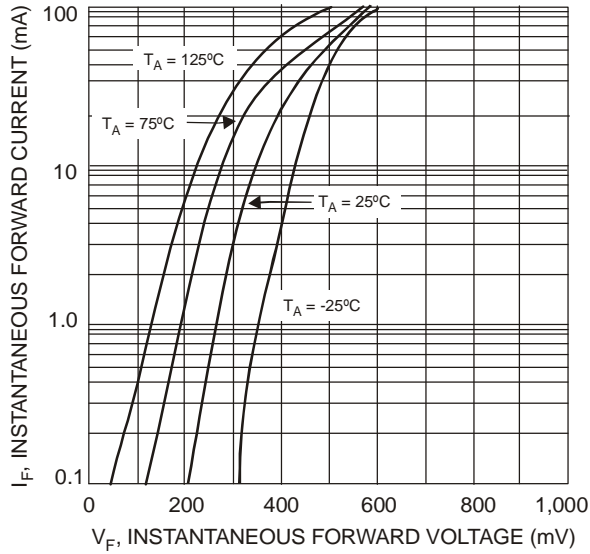


Fig. 1 Typical Forward Characteristics

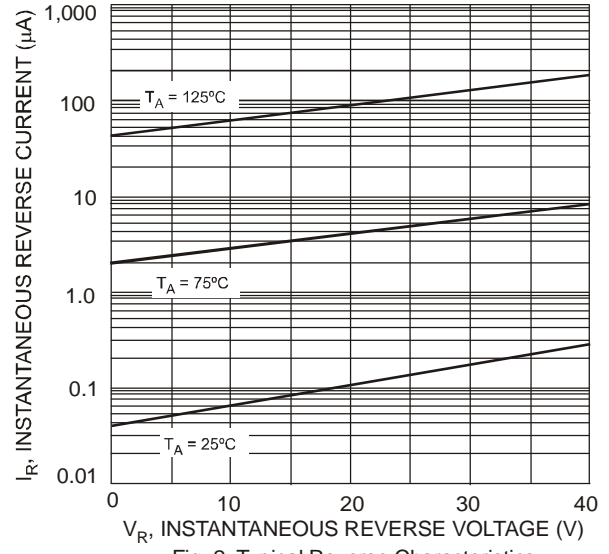


Fig. 2 Typical Reverse Characteristics

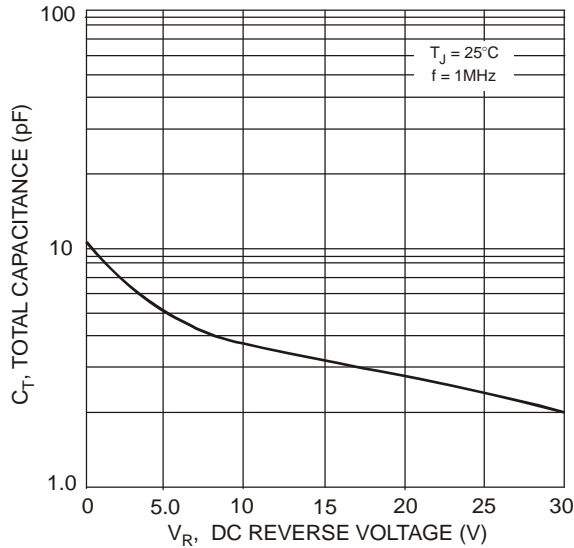


Fig. 3 Total Capacitance vs. Reverse Voltage

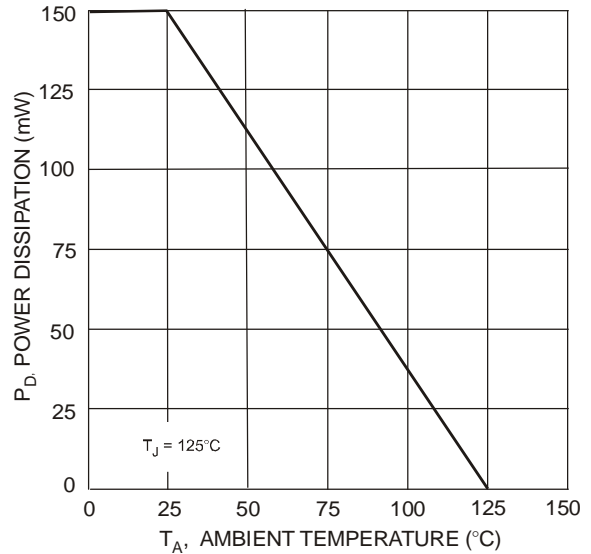


Fig. 4 Power Derating Curve

## Ordering Information (Note 5 & 6)

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

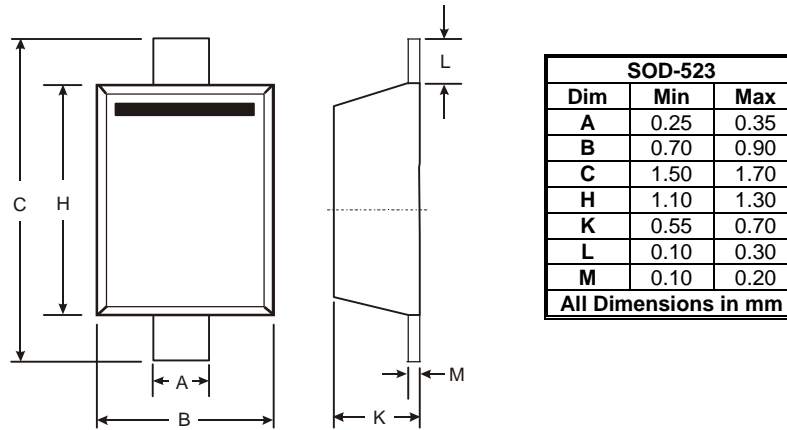
Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
 7. Dispensed in every other cavity of the tape.

## Marking Information

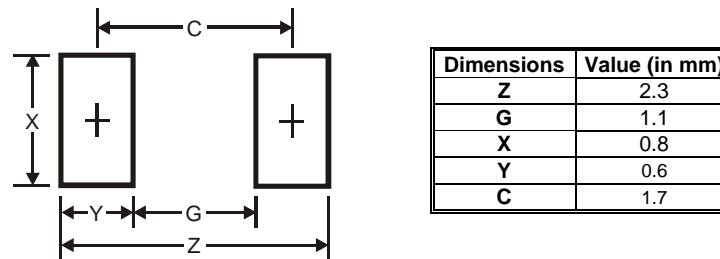


LJ = Product Type Marking Code

## Package Outline Dimensions



## Suggested Pad Layout



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