

## Features

- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideal for low logic level applications
- Low Capacitance
- **Lead Free by Design/RoHS Compliant (Note 1)**
- **"Green" Device, Note 4 and 5**
- **Qualified to AEC-Q101 Standards for High Reliability**

## 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 3
- Ordering Information: See Page 3
- Weight: 0.002 grams (approximate)



Top View

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

Characteristic	Symbol	Value	Unit
Peak Reverse Voltage	$V_{RM}$	40	V
DC Reverse Voltage	$V_R$	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Rectified Current	$I_O$	30	mA
Non-Repetitive Peak Forward Surge Current @8.3ms Single half sine-wave superimposed on rated load	$I_{FSM}$	200	mA

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	$P_D$	150	mW
Thermal Resistance, Junction to Ambient (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)	$V_{(BR)R}$	40	—	—	V	$I_R = 10\mu\text{A}$
Forward Voltage	$V_F$	—	290	370	mV	$I_F = 1\text{mA}$
Peak Reverse Current (Note 3)	$I_R$	—	—	0.5	$\mu\text{A}$	$V_R = 30\text{V}$
Total Capacitance	$C_T$	—	2	—	pF	$V_R = 1\text{V}, f = 1.0\text{MHz}$

- 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>.
  3. Short duration pulse test used 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.

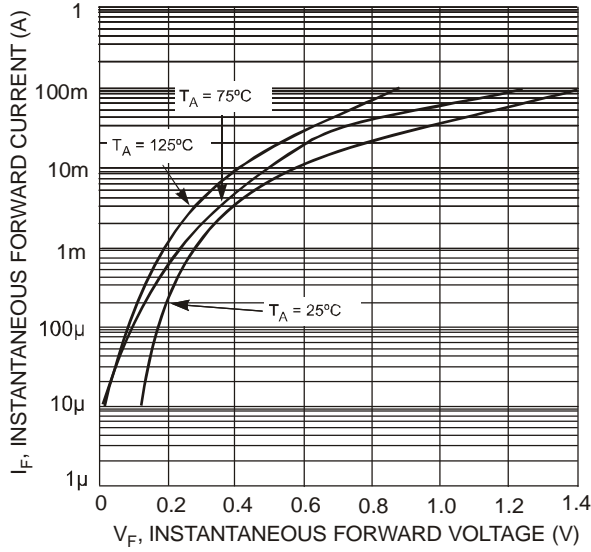


Fig. 1 Typical Forward Characteristics

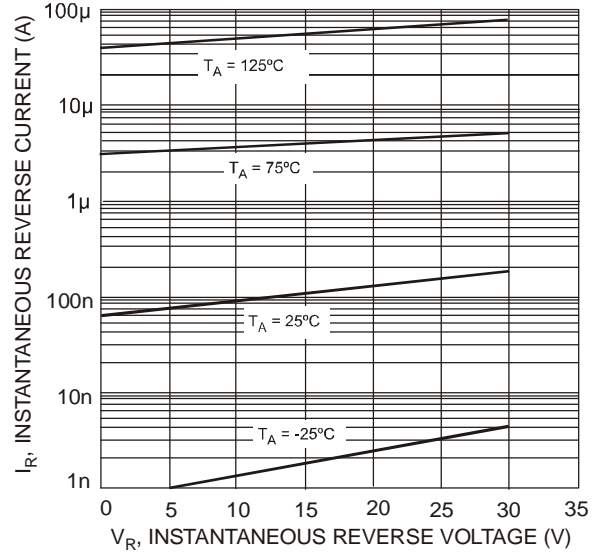


Fig. 2 Typical Reverse Characteristics

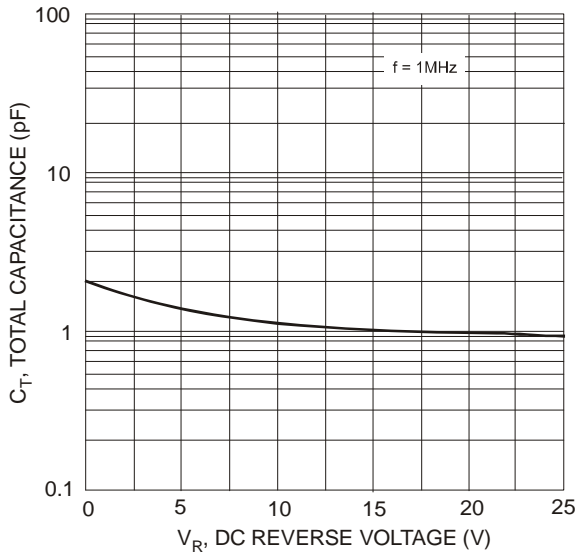


Fig. 3 Total Capacitance vs. Reverse Voltage

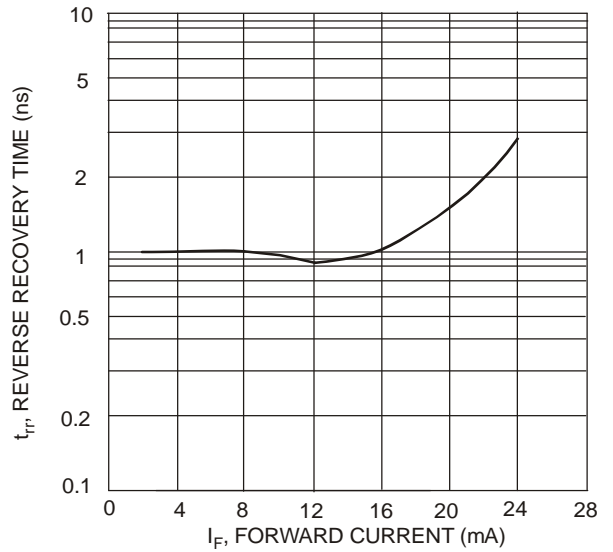


Fig. 4 Typical Reverse Recovery Time Characteristics

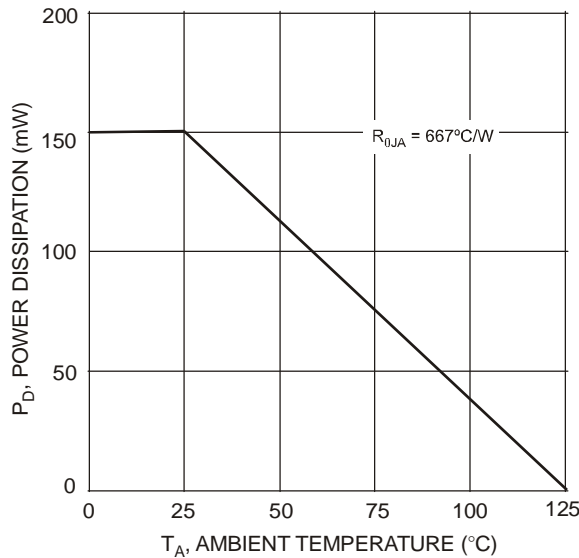


Fig. 5 Power Derating Curve

### Ordering Information (Notes 5 & 6)

Part Number	Case	Packaging
SDM03U40-7 (Note 7)	SOD-523	3000/Tape & Reel
SDM03U40-76K	SOD-523	6000/Tape & Reel

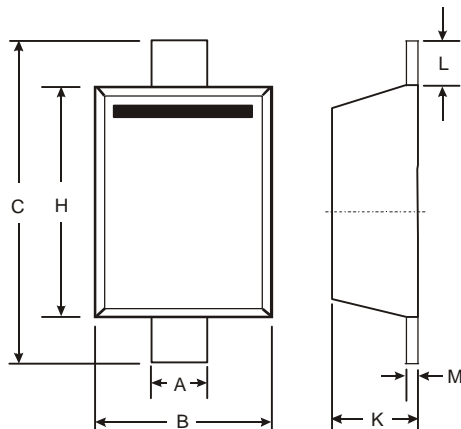
Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
 7. Dispensed in every other cavity of the tape.

### Marking Information



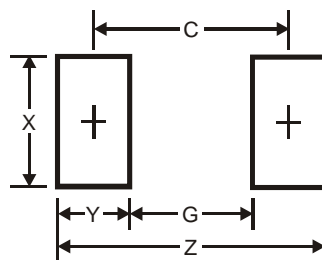
LK = Product Type Marking Code

### Package Outline Dimensions



SOD-523		
Dim	Min	Max
A	0.25	0.35
B	0.70	0.90
C	1.50	1.70
H	1.10	1.30
K	0.55	0.70
L	0.10	0.30
M	0.10	0.20
<b>All Dimensions in mm</b>		

### Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.3
G	1.1
X	0.8
Y	0.6
C	1.7

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