



#### SURFACE MOUNT SCHOTTKY BARRIER DIODE

### **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** @ $T_A = 25$ °C unless otherwise specified

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

### Thermal Characteristics

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

### Electrical Characteristics @TA = 25°C unless otherwise specified

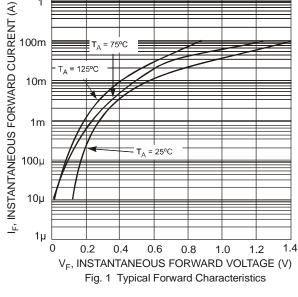
Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	40	_	_	V	$I_{R=10}uA$
Forward Voltage	V <sub>F</sub>	_	290	370	mV	$I_F = 1 \text{mA}$
Peak Reverse Current (Note 3)	I <sub>R</sub>	_	_	0.5	μΑ	$V_R = 30V$
Total Capacitance	C <sub>T</sub>	_	2	_	pF	$V_R = 1V, f = 1.0 \text{ MHz}$

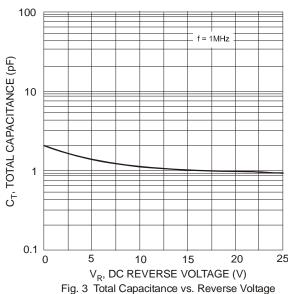
Notes:

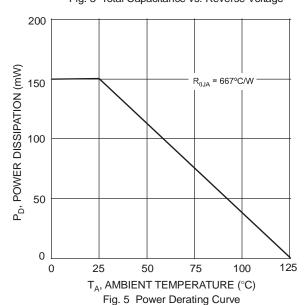
- 1. No purposefully added lead.
- Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- Short duration pulse test used to minimize self-heating effect.
- Diodes Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php.

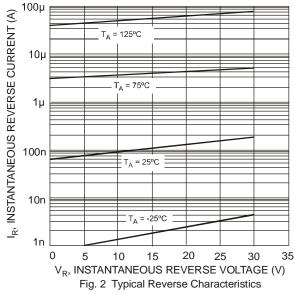
  Product manufactured with date code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.











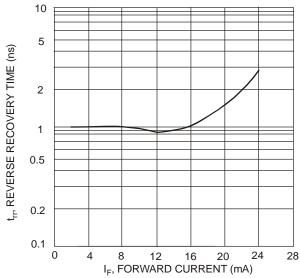


Fig. 4 Typical Reverse Recovery Time Characteristics



### 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:

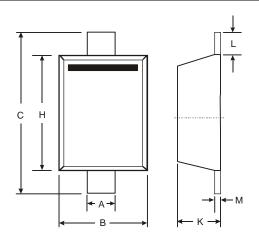
- 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
- 7. Dispensed in every other cavity of the tape.

### **Marking Information**



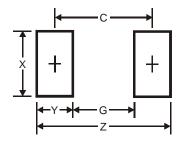
LK = Product Type Marking Code

# **Package Outline Dimensions**



SOD-523				
Dim	Min	Max		
Α	0.25	0.35		
В	0.70	0.90		
С	1.50	1.70		
Н	1.10	1.30		
K	0.55	0.70		
L	0.10	0.30		
М	0.10	0.20		
All Dimensions in mm				

# Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.3
G	1.1
X	0.8
Υ	0.6
С	1.7

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