SDM03U40

SURFACE MOUNT SCHOTTKY BARRIER DIODE

Please click here to visit our online spice models database.

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_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	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-40 to +125	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	40	—	—	V	$I_{R = 10}$uA
Forward Voltage	V_F	—	290	370	mV	I_F = 1mA
Peak Reverse Current (Note 3)	I_R	—	—	0.5	μA	V_R = 30V
Total Capacitance	C_T	—	2	—	pF	V_R = 1V, 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.
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.
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.

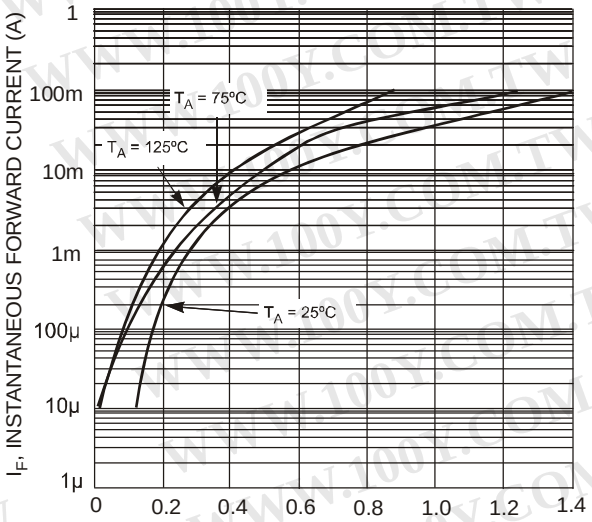


Fig. 1 Typical Forward Characteristics

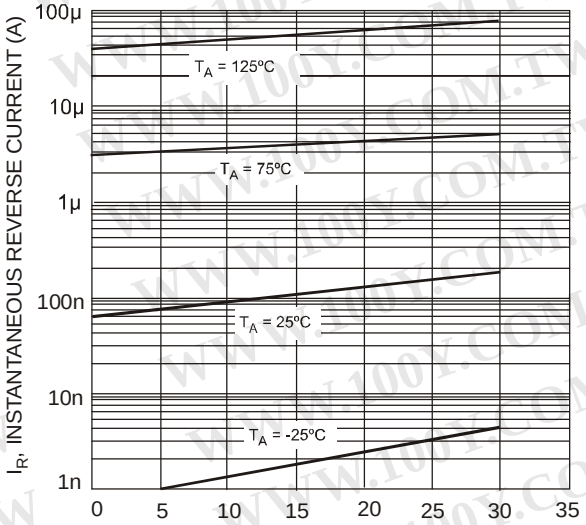


Fig. 2 Typical Reverse Characteristics

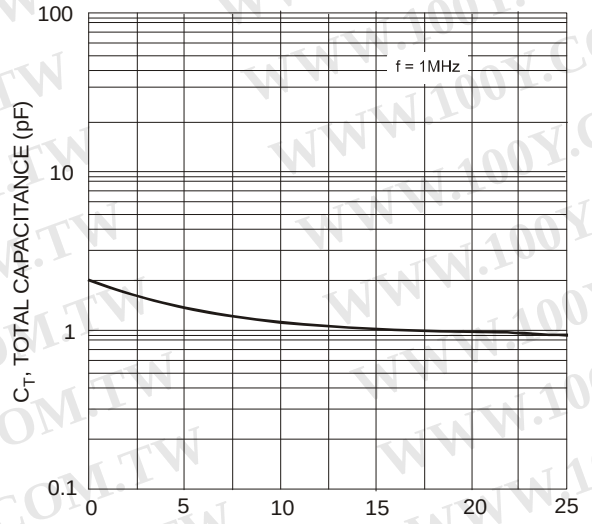


Fig. 3 Total Capacitance vs. Reverse Voltage

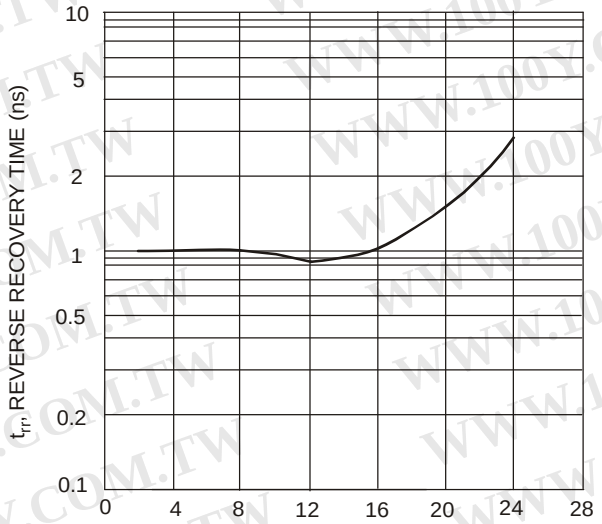


Fig. 4 Typical Reverse Recovery Time Characteristics

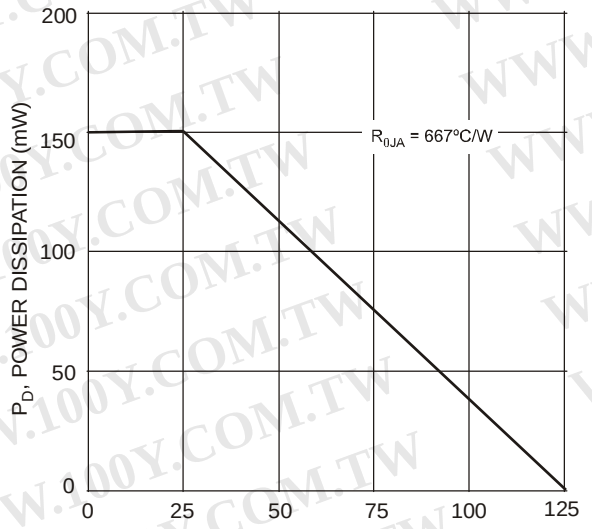


Fig. 5 Power Derating Curve

Ordering Information (Notes 5 & 6)

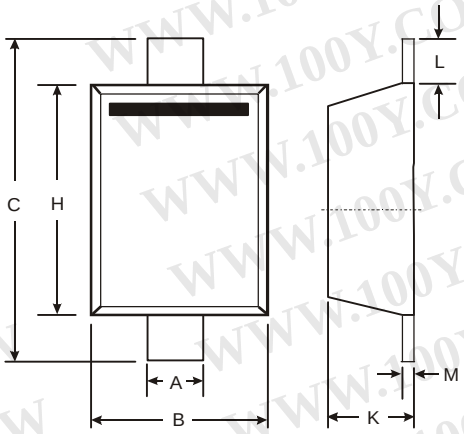
Part Number	Case	Packaging
SDM03U40-7 (Note 7)	SOD-523	3000/Tape & Reel
SDM03U40-76K	SOD-523	6000/Tape & Reel

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

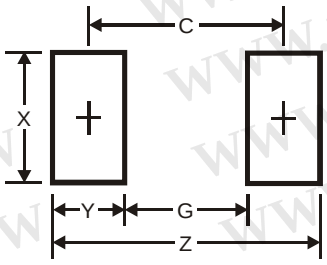
LK = Product Type Marking Code

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
All Dimensions in mm		

Suggested Pad Layout



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