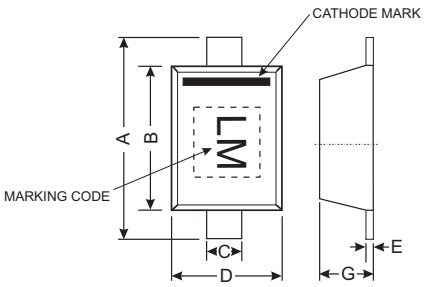
Lead-free Green

SDM20U30

SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Capacitance
- Ultra-Small Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device, Note 4 and 5**
- **Qualified to AEC-Q101 Standards for High Reliability**



SOD-523		
Dim	**Min**	**Max**
A	1.50	1.70
B	1.10	1.30
C	0.25	0.35
D	0.70	0.90
E	0.10	0.20
G	0.55	0.65
All Dimensions in mm		

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-020C
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Code: LM
- Ordering Information: See Last Page
- Weight: 0.002 grams (approximate)

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Mean Rectifying Current (Note 2)	I_O	200	mA
Peak Forward Surge Current @ 8.3ms Half Sine	I_{FSM}	1.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P_d	150	mW
Thermal Resistance, Junction to Ambient Air (Note 2)	$R_{\theta JA}$	667	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 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)	$V_{(BR)R}$	30	—	—	V	I_R = 150μA
Forward Voltage Drop	V_F	—	—	0.35 0.50	V	I_F = 20mA I_F = 200mA
Peak Reverse Current (Note 3)	I_R	—	—	150 30	μA μA	V_R = 30V V_R = 10V
Total Capacitance	C_T	—	20	—	pF	V_R = 0V, f = 1.0MHz

Note:
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°C.
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 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

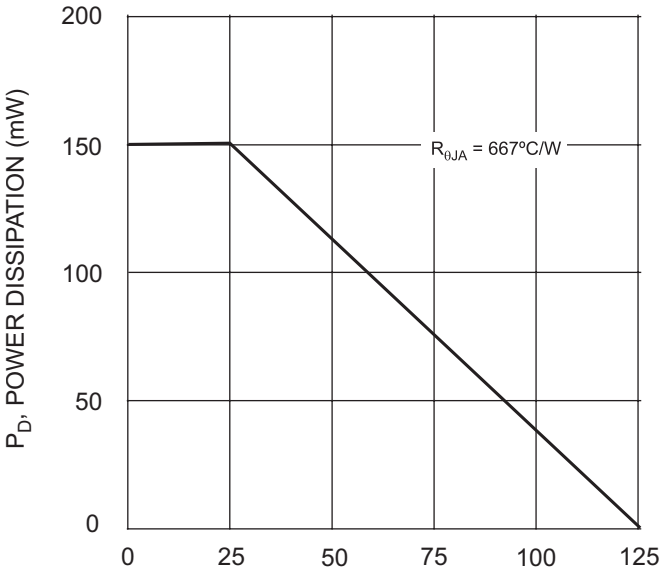


Fig. 1 Derating Curve

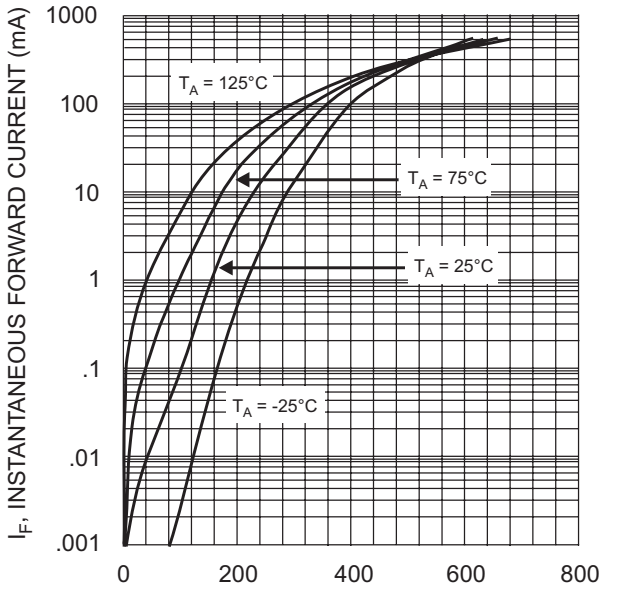


Fig. 2 Typical Forward Characteristics

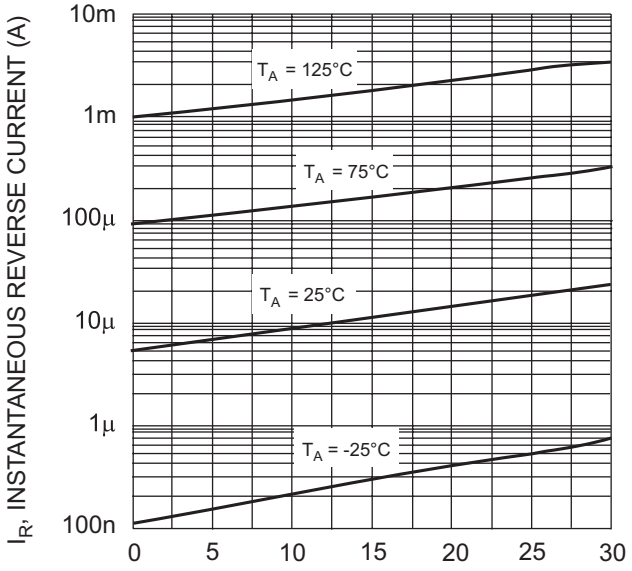


Fig. 3 Typical Reverse Characteristics

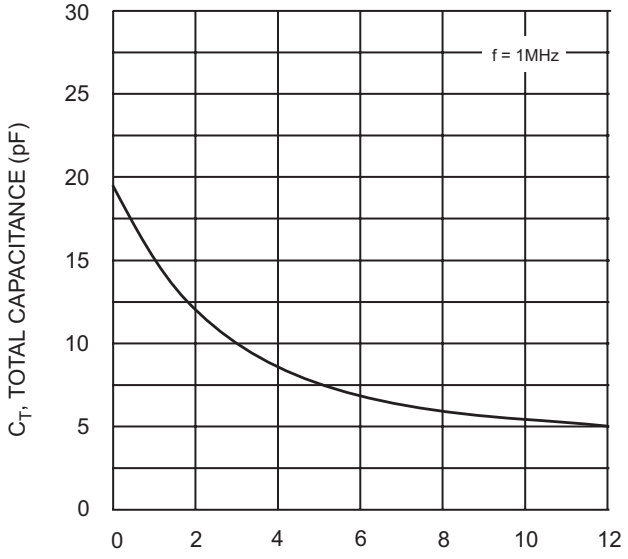


Fig. 4 Typical Total Capacitance vs. Reverse Voltage

Ordering Information (Note 4 & 6)

Device	Packaging	Shipping
SDM20U30-7	SOD-523	3000/Tape & Reel
SDM20U30-76K	SOD-523	6000/Tape & Reel

Note: 4. Product manufactured with Date Code 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

6. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

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