SURFACE MOUNT FAST SWITCHING DIODE

Please click here to visit our online spice models database.

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- **Lead Free/RoHS Compliant (Note 3)**
- **"Green" Device (Note 4)**

Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Leads: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.004 grams (approximate)

SOD-323

TOP VIEW

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	80	V
RMS Reverse Voltage	$V_{R(RMS)}$	57	V
Forward Continuous Current	I_{FM}	500	mA
Average Rectified Output Current	I_O	250	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	I_{FSM}	4.0 2.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P_D	200	mW
Thermal Resistance Junction to Ambient Air (Note 2)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_J , T_{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{BR(R)}$	80	—	V	I_R = 100μA
Forward Voltage	V_{FM}	0.62 — — —	0.72 0.855 1.0 1.25	V	I_F = 5.0mA I_F = 10mA I_F = 100mA I_F = 150mA
Peak Reverse Current (Note 1)	I_{RM}	—	100 50 30 25	nA μA μA nA	V_R = 80V V_R = 75V, T_J = 150°C V_R = 25V, T_J = 150°C V_R = 20V
Total Capacitance	C_T	—	3.5	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	4.0	ns	I_F = I_R = 10mA, I_{rr} = 0.1 x I_R, R_L = 100Ω

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

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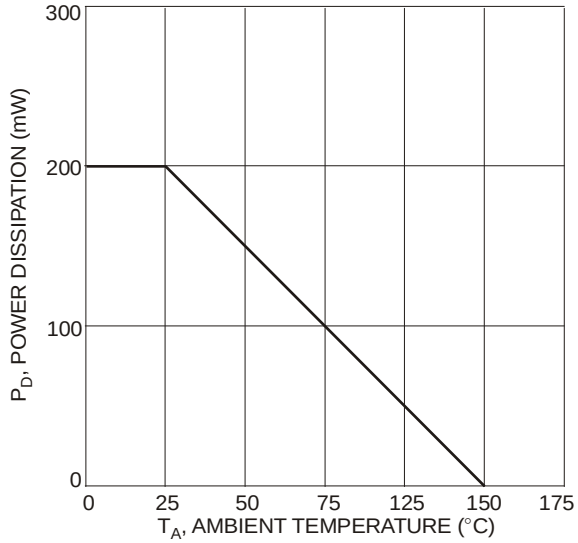

Fig. 1 Power Derating Curve

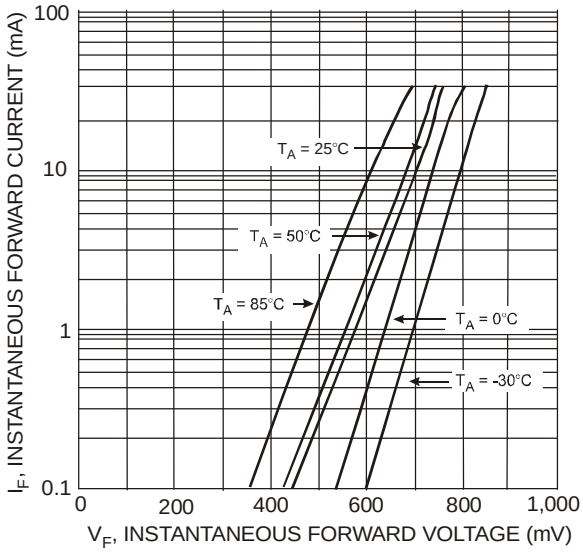

Fig. 2 Typical Forward Characteristics

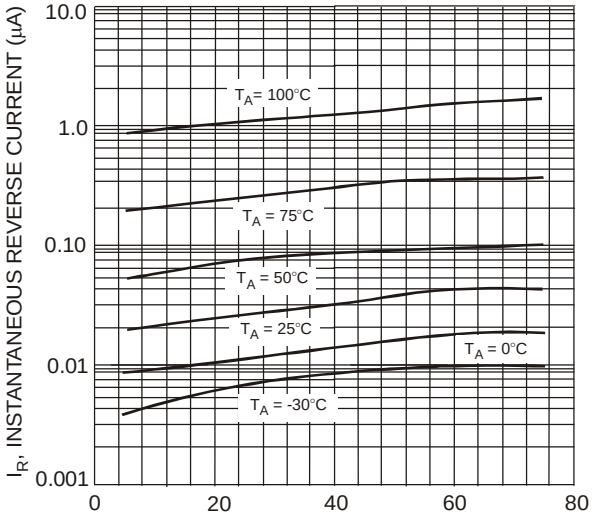

Fig. 3 Typical Reverse Characteristics

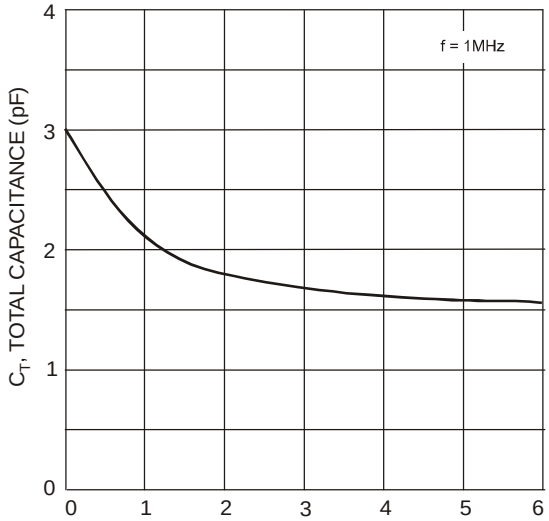

Fig. 4 Total Capacitance vs. Reverse Voltage

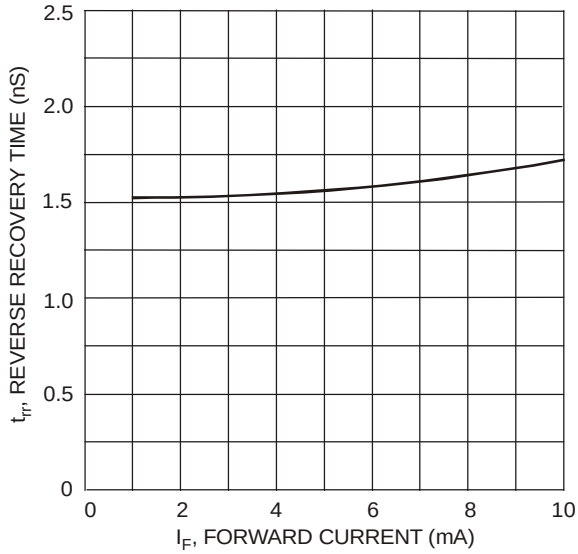

Fig. 5 Reverse Recovery Time vs. Forward Current

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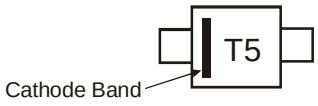
Ordering Information (Note 5)

Part Number	Case	Packaging
1N4448HWS-7-F	SOD-323	3,000/Tape & Reel
1N4448HWS-13-F	SOD-323	10,000/Tape & Reel

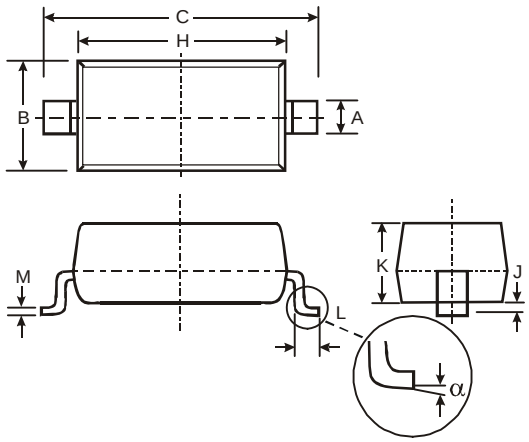
Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



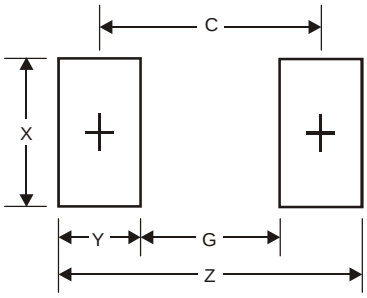
T5 = Product Type Marking Code

Package Outline Dimensions



SOD-323		
Dim	**Min**	**Max**
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

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