1N4448HWT

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 by Design/RoHS Compliant (Note 1)**
- **"Green" Device (Notes 3 and 4)**

Mechanical Data

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound, Note 4. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: Cathode Band
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish) annealed over Alloy 42 leadframe.
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.002 grams (approximate)

SOD-523

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}	250	mA
Average Rectified Output Current	I_O	125	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	I_{FSM}	2.0 1.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P_D	150	mW
Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	833	°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 Conditions
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	80	—	V	I_R = 100μA
Forward Voltage	V_F	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 5)	I_R	—	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	—	3.0	pF	V_R = 0.5V, 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. 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. Diode's Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
4. 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 Sb_2O_3 Fire Retardants.
5. Short duration pulse test used to minimize self-heating effect.

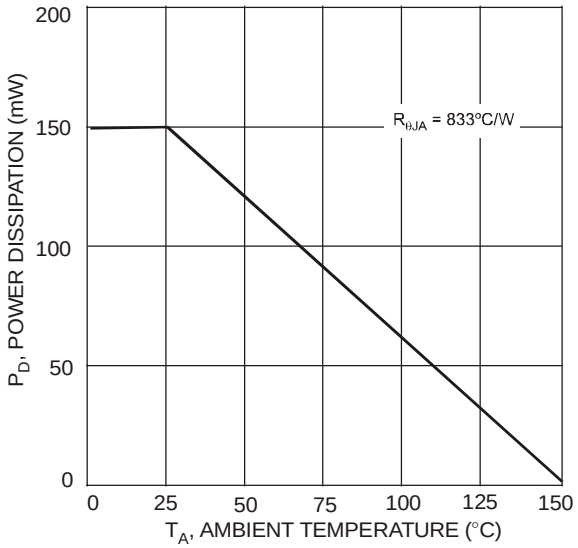


Fig. 1 Power Derating Curve

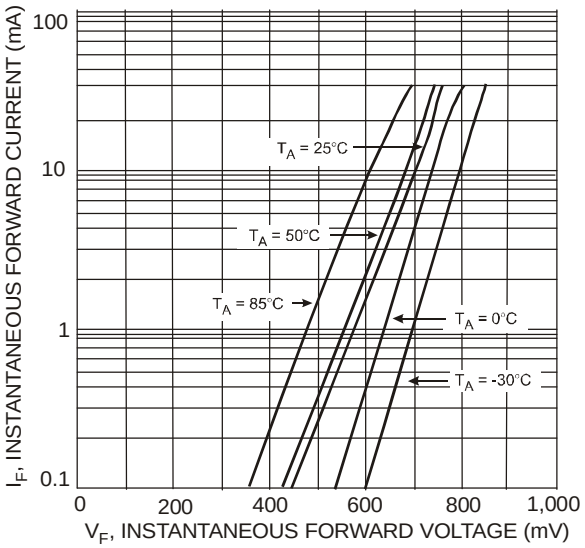


Fig. 2 Typical Forward Characteristics

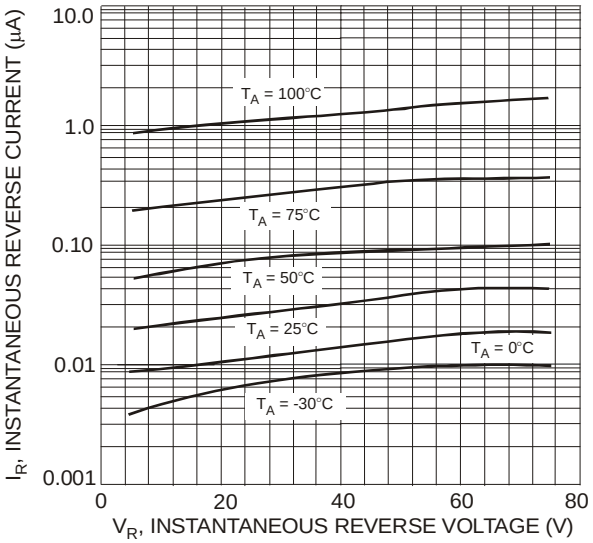


Fig. 3 Typical Reverse Characteristics

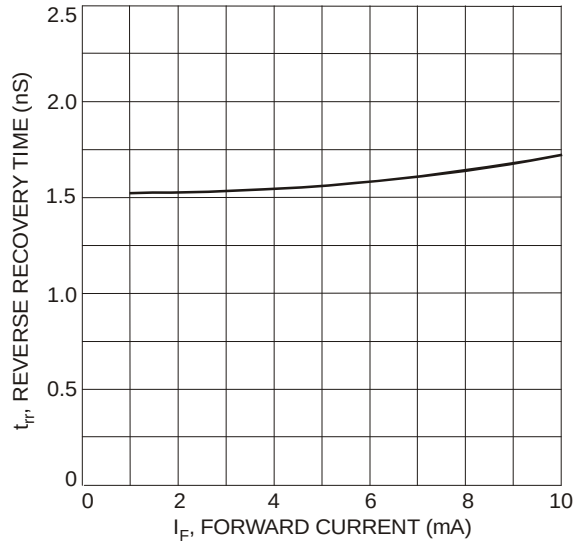


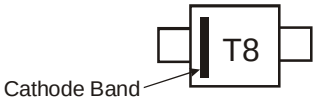
Fig. 4 Reverse Recovery Time vs. Forward Current

Ordering Information (Notes 4 & 6)

Part Number	Case	Packaging
1N4448HWT-7 (Note 7)	SOD-523	3000/Tape & Reel

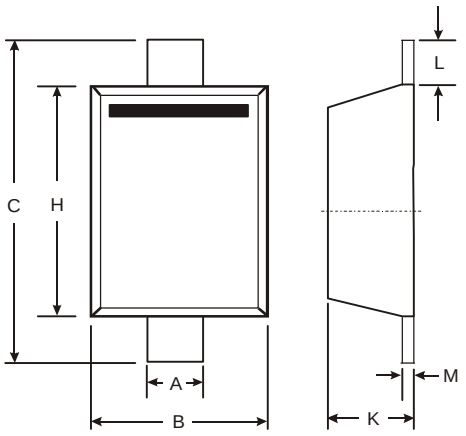
Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
7. Dispensed in every other cavity of the tape.

Marking Information



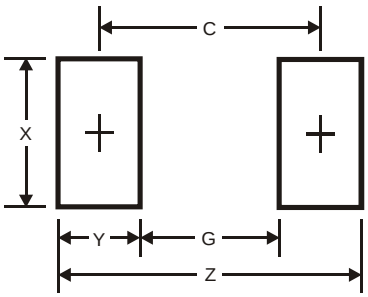
T8 = Product Type Marking Code

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	0.65
L	0.10	0.30
M	0.10	0.12
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

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