1N4448HWT

Lead-free Green

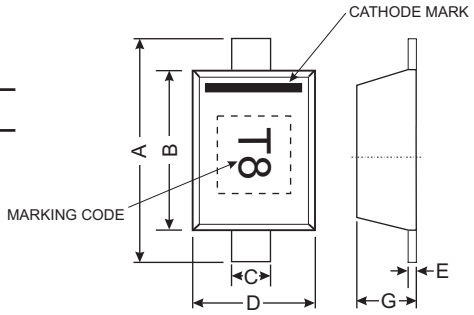
SURFACE MOUNT FAST SWITCHING DIODE

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, Note 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-020C
- Terminal Connections: Cathode Band
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish) annealed over Alloy 42 leadframe.
- Marking Code: T8
- Ordering Information: See Last Page
- Weight: 0.002 grams (approximate)



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		

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
Operating and Storage Temperature Range	T_j , T_{STG}	-65 to +150	°C

Thermal Characteristics @ T_A = 25°C unless otherwise specified

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

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.
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 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.

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	$I_R = 100\mu A$
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	$I_F = I_R = 10mA$, $I_{rr} = 0.1 \times I_R$, $R_L = 100\Omega$

Note: 5. Short duration pulse test used to minimize self-heating effect.

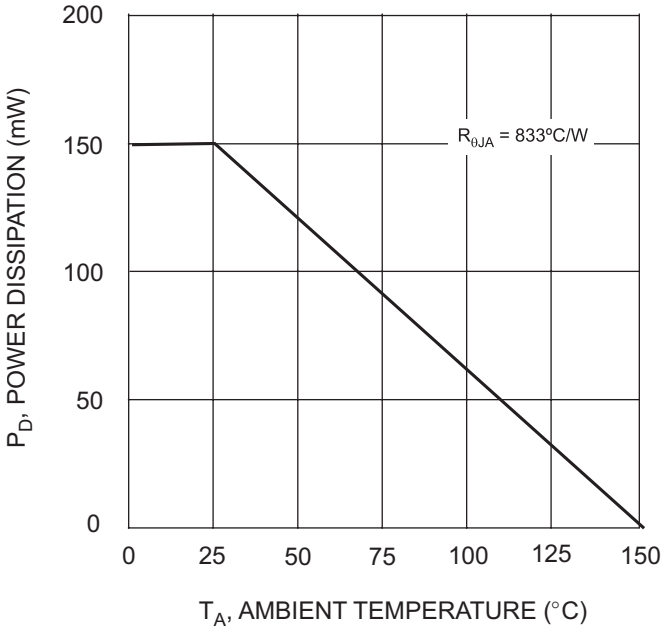


Fig. 1 Derating Curve

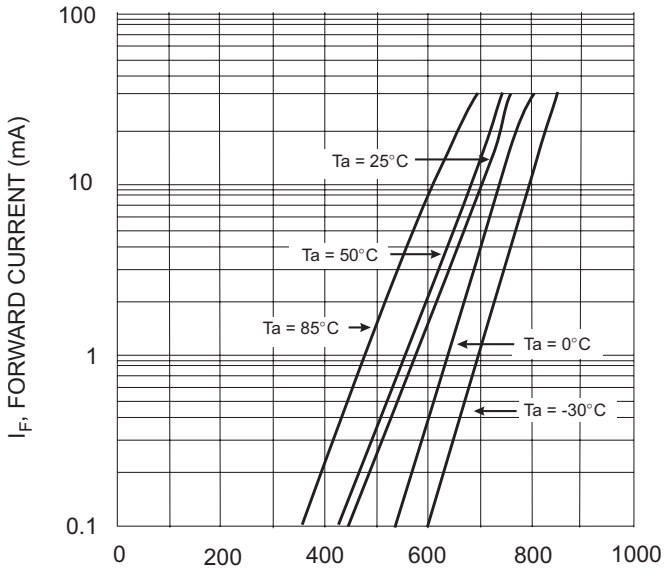


Fig. 2 Typical Forward Characteristics

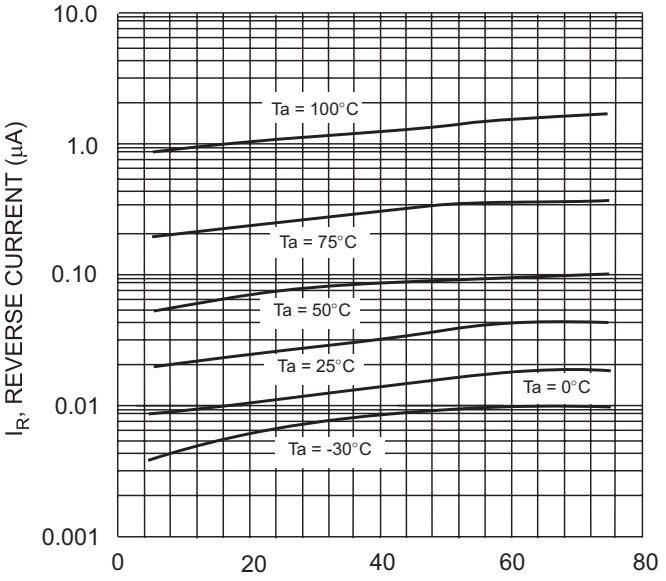


Fig. 3 Typical Reverse Characteristics

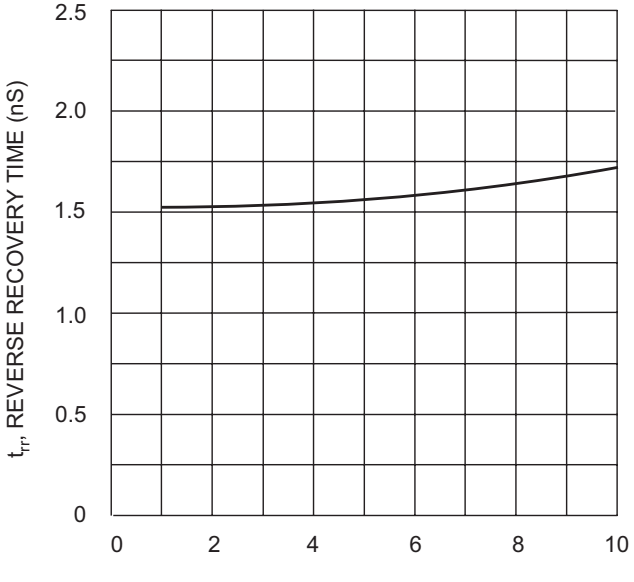


Fig. 4 Reverse Recovery Time vs. Forward Current

Ordering Information (Note 6 & 7)

Device	Packaging	Shipping
1N4448HWT-7	SOD-523	3000/Tape & Reel

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