



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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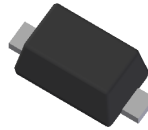
Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: SOD523
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Matte Tin Finish (Lead Free Plating) annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 0.002 grams (approximate)

SOD523



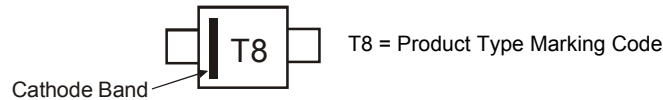
Top View

Ordering Information (Notes 4 & 5)

Part Number (Note 6)	Case	Packaging
1N4448HWT-7	SOD523	3000/Tape & Reel
1N4448HWT-13	SOD523	10000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>
 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.
 6. Dispensed in every other cavity of the tape.

Marking Information



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	V _{RRM}	80	V	
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
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	2.0	A
		@t = 1.0s	1.0	

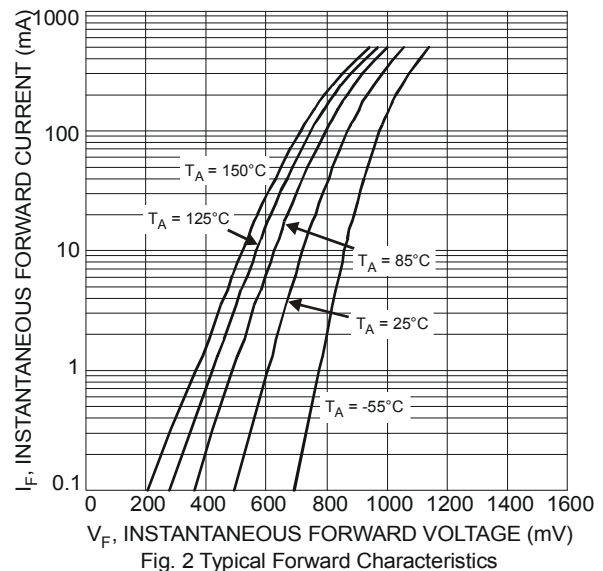
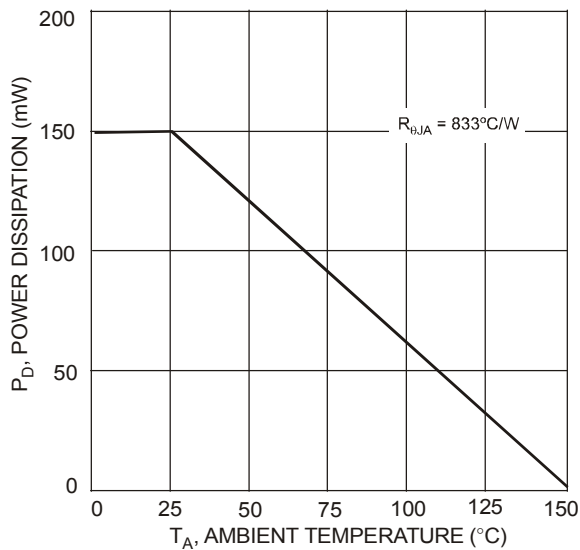
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 7)	P_D	150	mW
Thermal Resistance Junction to Ambient (Note 7)	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^{\circ}\text{C}$

Electrical Characteristics (@ $T_A = +25^{\circ}\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 8)	$V_{(BR)R}$	80	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	V_F	0.62	0.72	V	$I_F = 5.0\text{mA}$
		—	0.855		$I_F = 10\text{mA}$
		—	1.0		$I_F = 100\text{mA}$
		—	1.25		$I_F = 150\text{mA}$
Peak Reverse Current (Note 8)	I_R	—	100	nA	$V_R = 80\text{V}$
		—	50	μA	$V_R = 75\text{V}, T_J = +150^{\circ}\text{C}$
		—	30	μA	$V_R = 25\text{V}, T_J = +150^{\circ}\text{C}$
		—	25	nA	$V_R = 20\text{V}$
Total Capacitance	C_T	—	3.0	pF	$V_R = 0.5\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	4.0	ns	$I_F = I_R = 10\text{mA}$, $t_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 7. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.
8. Short duration pulse test used to minimize self-heating effect.



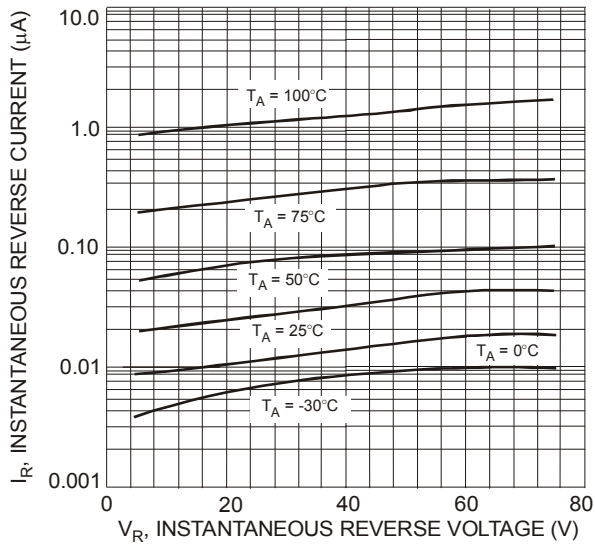


Fig. 3 Typical Reverse Characteristics

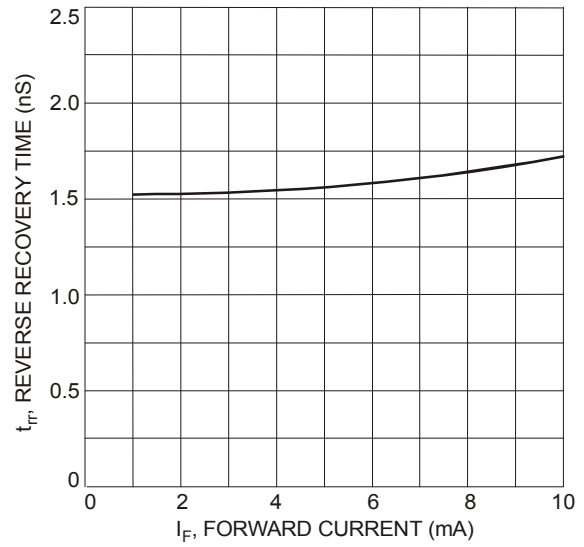
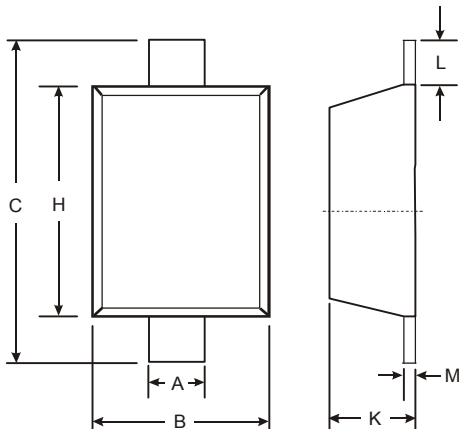


Fig. 4 Reverse Recovery Time vs. Forward Current

Package Outline Dimensions

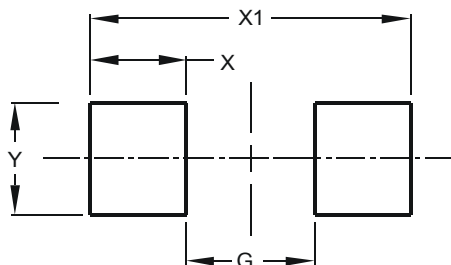
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



SOD523		
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

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
G	0.80
X	0.60
X1	2.00
Y	0.70

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