

## 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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V <sub>RM</sub>	100	V
Peak Repetitive Reverse Voltage	V <sub>R(RM)</sub>	80	V
Working Peak Reverse Voltage	V <sub>R(WM)</sub>		
DC Blocking Voltage	V <sub>R</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	57	V
Forward Continuous Current	I <sub>FM</sub>	250	mA
Average Rectified Output Current	I <sub>O</sub>	125	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	2.0	A
		@ t = 1.0s	

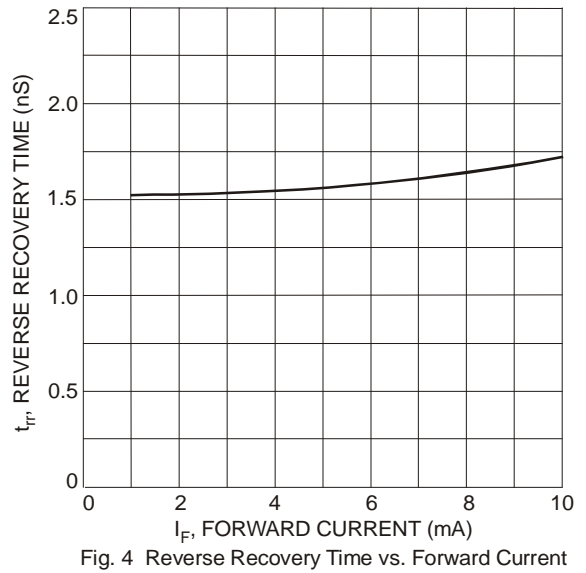
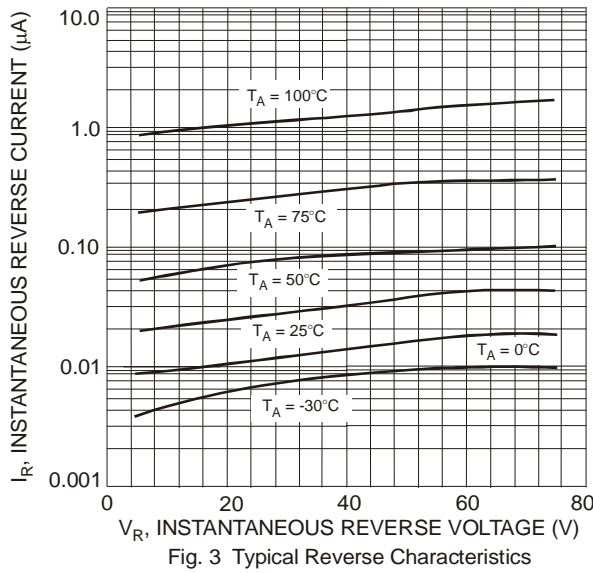
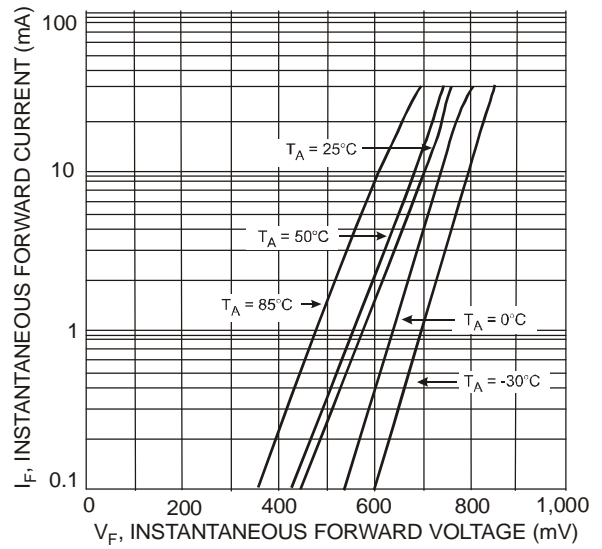
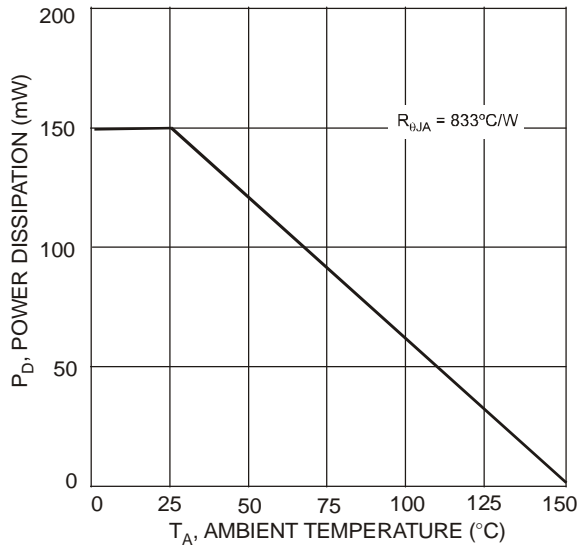
## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P <sub>D</sub>	150	mW
Thermal Resistance Junction to Ambient (Note 2)	R <sub>θJA</sub>	833	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 5)	V <sub>(BR)R</sub>	80	—	V	I <sub>R</sub> = 100μA
Forward Voltage	V <sub>F</sub>	0.62	0.72	V	I <sub>F</sub> = 5.0mA
		—	0.855		I <sub>F</sub> = 10mA
		—	1.0		I <sub>F</sub> = 100mA
		—	1.25		I <sub>F</sub> = 150mA
Peak Reverse Current (Note 5)	I <sub>R</sub>	—	100	nA	V <sub>R</sub> = 80V
		—	50	μA	V <sub>R</sub> = 75V, T <sub>J</sub> = 150°C
		—	30	μA	V <sub>R</sub> = 25V, T <sub>J</sub> = 150°C
		—	25	nA	V <sub>R</sub> = 20V
Total Capacitance	C <sub>T</sub>	—	3.0	pF	V <sub>R</sub> = 0.5V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	4.0	ns	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 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](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<sub>2</sub>O<sub>3</sub> Fire Retardants.
  5. Short duration pulse test used to minimize self-heating effect.

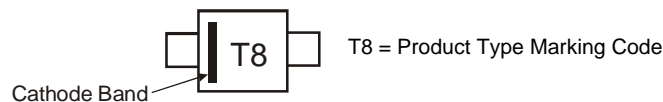


**Ordering Information** (Notes 4 & 6)

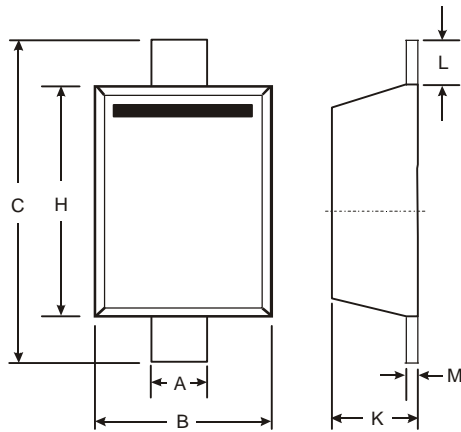
Part Number	Case	Packaging
1N4448HWT-7 (Note 7)	SOD-523	3000/Tape & Reel

- 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**

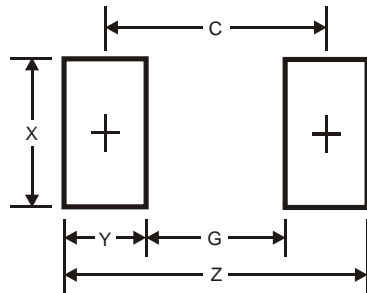


**Package Outline Dimensions**



SOD-523		
Dim	Min	Max
<b>A</b>	0.25	0.35
<b>B</b>	0.70	0.90
<b>C</b>	1.50	1.70
<b>H</b>	1.10	1.30
<b>K</b>	0.55	0.65
<b>L</b>	0.10	0.30
<b>M</b>	0.10	0.12
All Dimensions in mm		

**Suggested Pad Layout**



Dimensions	Value (in mm)
<b>Z</b>	2.3
<b>G</b>	1.1
<b>X</b>	0.8
<b>Y</b>	0.6
<b>C</b>	1.7

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