

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)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

Mechanical Data

- Package: SOD523
- Package 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



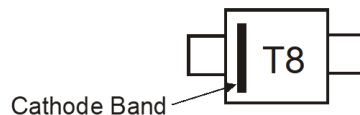
Top View

Ordering Information (Notes 4 & 5)

Part Number (Note 6)	Package	Packing	
		Qty.	Carrier
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) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> 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 <https://www.diodes.com/design/support/packaging/diodes-packaging/>.
 5. Products manufactured with date code 0627 (week 27, 2006) and newer are built with green molding compound. Products 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



T8 = Product Type Marking Code
A Bar on Top of the Letter 'T' Denotes AT Site

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 _{R(RM)}	80	V
Working Peak Reverse Voltage	V _{R(WM)}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	57	V
Forward Continuous Current	I _{FM}	250	mA
Non-Repetitive Peak Forward Surge Current	I _{FSM}	@t = 1.0μs	2.0
		@t = 1.0s	1.0

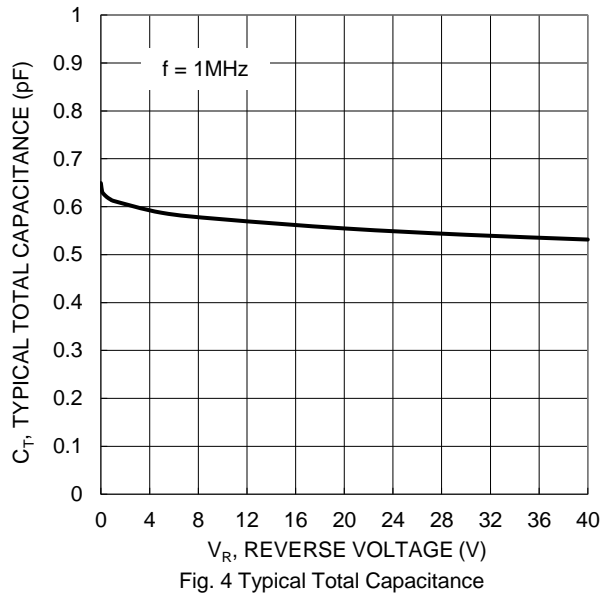
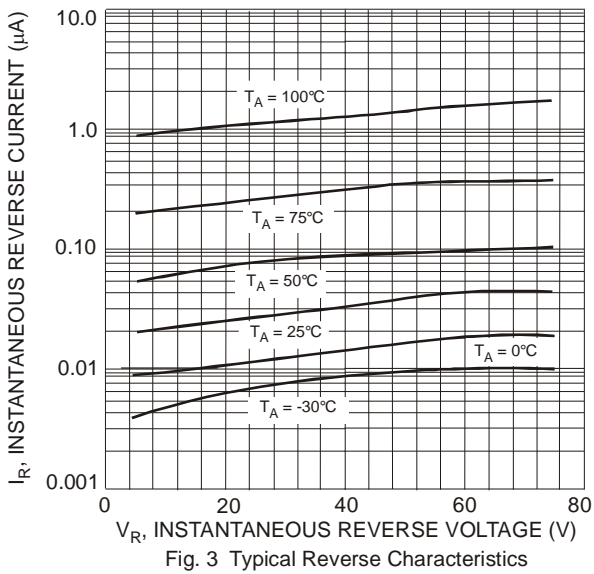
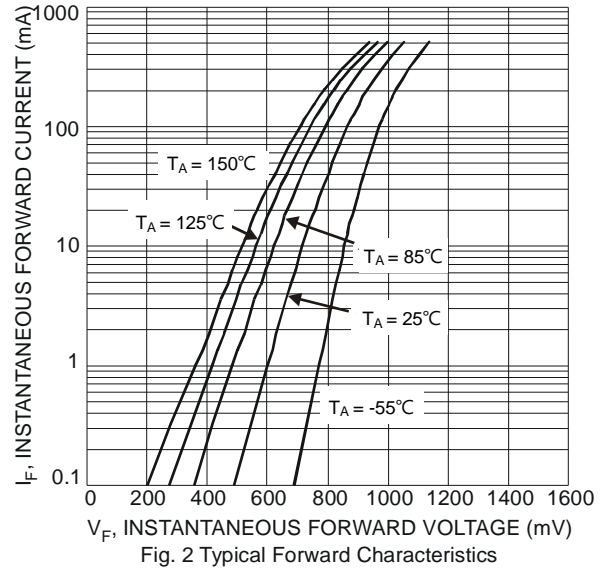
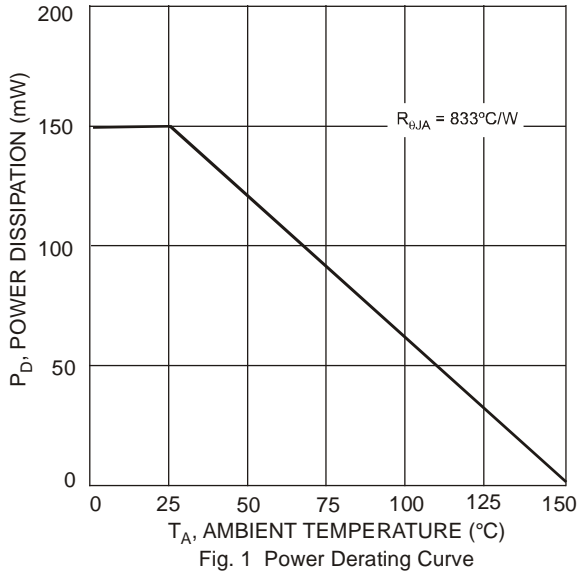
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 7)	P _D	150	mW
Thermal Resistance Junction to Ambient (Note 7)	R _{θJA}	833	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 8)	V _{(BR)R}	80	—	V	I _R = 100μA
Forward Voltage	V _F	0.62	0.72	V	I _F = 5.0mA
		—	0.855		I _F = 10mA
		—	1.0		I _F = 100mA
		—	1.25		I _F = 150mA
Peak Reverse Current (Note 8)	I _R	—	100	nA	V _R = 80V
		—	50	μA	V _R = 75V, T _J = +150°C
		—	30	μA	V _R = 25V, T _J = +150°C
		—	25	nA	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

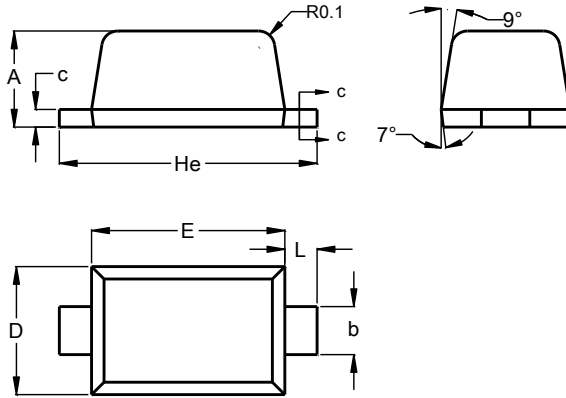
Notes: 7. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
8. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOD523

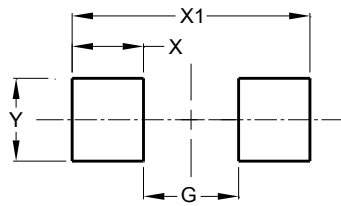


SOD523		
Dim	Min	Max
A	0.55	0.65
b	0.26	0.34
c	0.11	0.17
D	0.75	0.85
E	1.15	1.25
He	1.55	1.65
L	0.10	0.30
All Dimensions in mm		

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOD523



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

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