



1N4448HWS

#### SURFACE-MOUNT FAST SWITCHING DIODE

#### **Features**

- Fast Switching Speed
- 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)
- The 1N4448HWSQ is suitable for automotive applications requiring specific change control; this part is AEC-Q101 qualified, PPAP capable, and manufactured in IATF16949 certified facilities.

https://www.diodes.com/quality/product-definitions/

#### **Mechanical Data**

- Package: SOD323
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Alloy 42 Leadframe (Lead-Free Plating). Solderable per MIL-STD-202, Method 208 (3)
- Polarity: Cathode Band
- Weight: 0.004 grams (Approximate)



Ordering Information (Note 4)

Orderable Part Number	Package	Pa	Packing		
		Qty.	Carrier		
1N4448HWS-7-F	SOD323	3,000	Tape & Reel		
1N4448HWSQ-7-F	SOD323	3,000	Tape & Reel		
1N4448HWS-13-F	SOD323	10,000	Tape & Reel		

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/.

#### **Marking Information**

Notes:



Cathode Band-

T5 = Product Type Marking Code A Bar on Top of the Letter 'T' Denotes AT Site.



# Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage		Vrm	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		Vrrm Vrwm Vr	80	V
RMS Reverse Voltage		VR(RMS)	57	V
Forward Continuous Current		lгм	500	mA
Average Rectified Output Current		lo	250	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0µs @ t = 1.0ms	IFSM	4.0 1.0	А

### **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	PD	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	Reja	625	°C/W
Operating and Storage Temperature Range	TJ, TSTG	-55 to +150	°C

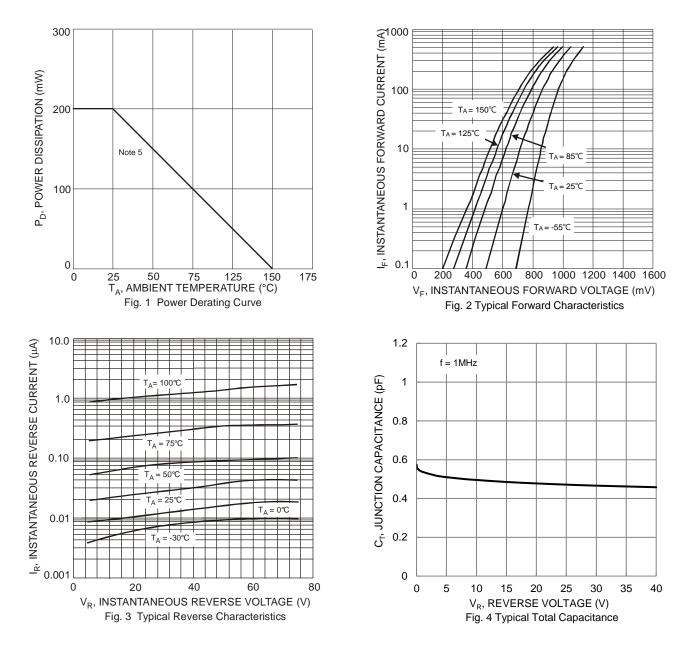
## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V <sub>BR(R)</sub>	80		V	I <sub>R</sub> = 100μA
Forward Voltage	Vfm	0.62 — — —	0.72 0.855 1.0 1.25	V	IF = 5.0mA IF = 10mA IF = 100mA IF = 150mA
Peak Reverse Current (Note 6)	I <sub>RM</sub>		100 50 30 25	nΑ μΑ μΑ nΑ	V <sub>R</sub> = 80V V <sub>R</sub> = 75V, T <sub>J</sub> = +150°C V <sub>R</sub> = 25V, T <sub>J</sub> = +150°C V <sub>R</sub> = 20V
Total Capacitance	Ст	_	3.5	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse-Recovery Time	trr	—	4.0	ns	$I_{F} = I_{R} = 10mA$ $I_{rr} = 0.1 \text{ x } I_{R}, R_{L} = 100\Omega$

Notes: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/package-outlines.html. 6. Short duration pulse test used to minimize self-heating effect.



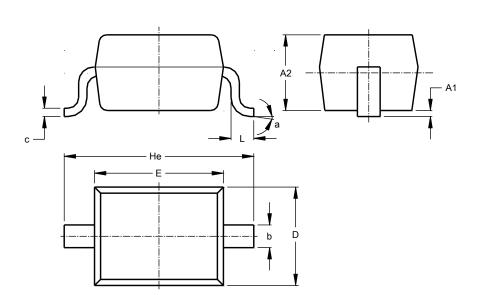
## 1N4448HWS





## **Package Outline Dimensions**

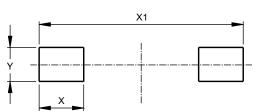
Please see http://www.diodes.com/package-outlines.html for the latest version.



SOD323					
Dim	Min	Max	Тур		
A1		0.10	0.05		
A2	1.00	1.10	1.05		
b	0.25	0.35	0.30		
c	0.10	0.15	0.11		
D	1.20	1.40	1.30		
Е	1.60	1.80	1.70		
He	2.30	2.70	2.50		
L	0.20	0.40	0.30		
а	0°	8º			
All Dimensions in mm					

#### **Suggested Pad Layout**

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



Dimensions	Value (in mm)
Х	0.590
X1	2.700
v	0.450

# SOD323

SOD323



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