



January 2023

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 DIODES™ 1N4448WSQ is suitable for automotive applications requiring specific change control; this part is AEC-Q101 qualified, PPAP capable, and manufactured in IATF 16949 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
- Leads: 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)

SOD323







Device Schematic

Ordering Information (Note 4)

Part Number	Package	Packing		
Fait Number		Qty.	Carrier	
1N4448WS-7-F	SOD323	3,000	Tape & Reel	
1N4448WSQ-7-F	SOD323	3,000	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/

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 Working Peak Reverse Voltage DC Blocking Voltage		Vrrm V _{RWM} Vr	75	V
RMS Reverse Voltage		VR(RMS)	53	V
Forward Continuous Current		lғм	500	mA
Non-Repetitive Peak Forward Surge Current	@t = 1.0µs @t = 1.0s	IFSM	4 0.5	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	PD	200	mW
Thermal Resistance Junction to Ambient Air (Note 6)	Reja	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

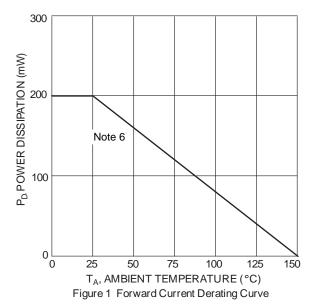
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	V _{(BR)R}	75	_	V	I _R = 2.5µA
Forward Voltage	V _{FM}	0.62 — — —	0.72 0.855 1.0 1.25	V	IF = 5.0mA IF = 10mA IF = 100mA IF = 150mA
Peak Reverse Current (Note 5)	IRM	_	2.5 50 30 25	μΑ μΑ μΑ nA	V _R = 75V V _R = 75V, T _J = +150°C V _R = 25V, T _J = +150°C V _R = 20V
Total Capacitance	Ст	_	4.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{RR}	_	4.0	ns	$I_F = I_R = 10 \text{mA},$ $I_{RR} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

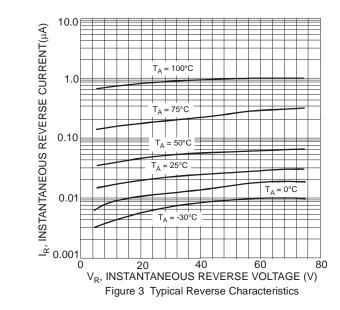
Notes:

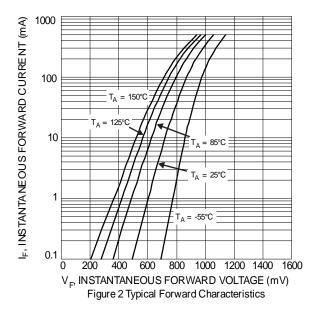
^{5.} Short duration pulse test used to minimize self-heating.

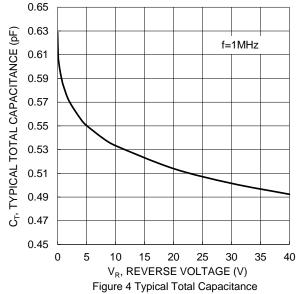
Part mounted on FR-4 PC board with minimum recommended pad layouts, which can be found on our website http://www.diodes.com/package-outlines.html.









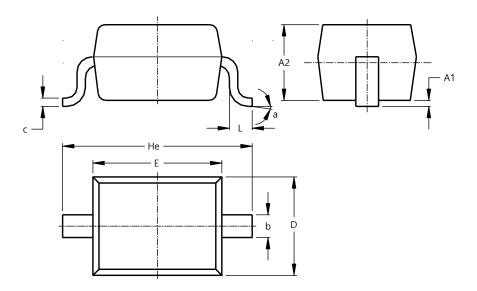




Package Outline Dimensions

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

SOD323

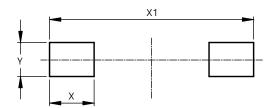


SOD323					
Dim	Min	Max	Тур		
A 1		0.10	0.05		
A2	1.00	1.10	1.05		
b	0.25	0.35	0.30		
С	0.10	0.15	0.11		
D	1.20	1.40	1.30		
Е	1.60	1.80	1.70		
He	2.30	2.70	2.50		
L	0.20	0.40	0.30		
а	00	8°			
All Dimensions in mm					

Suggested Pad Layout

 $\label{prop:lease} Please see \ http://www.diodes.com/package-outlines.html \ for \ the \ latest \ version.$

SOD323



Dimensions	Value (in mm)
X	0.590
X1	2.700
Υ	0.450



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