

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)

Mechanical Data

- Case: SOD323
- Case 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
- Polarity: Cathode Band
- Weight: 0.004 grams (approximate)

SOD323



Top View

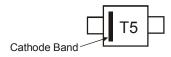
Ordering Information (Note 4)

Part Number	Qualification	Case	Packaging
1N4448HWS-7-F	Commercial	SOD323	3,000/Tape & Reel
1N4448HWSQ-7-F	Automotive	SOD323	3,000/Tape & Reel
1N4448HWS-13-F	Commercial	SOD323	10,000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 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

Marking Information



T5 = Product Type Marking Code

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	V _{RRM} V _{RWM} V _R	80	V
RMS Reverse Voltage	V _{R(RMS)}	57	V
Forward Continuous Current	I _{FM}	500	mA
Average Rectified Output Current	Io	250	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0µ: @ t = 1.0p:	I COM	4.0 1.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_{D}	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{ heta JA}$	625	°C/W
Operating and Storage Temperature Range	T_J , T_{STG}	-65 to +150	°C

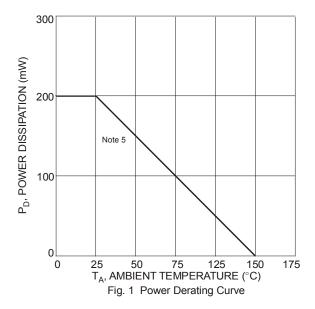


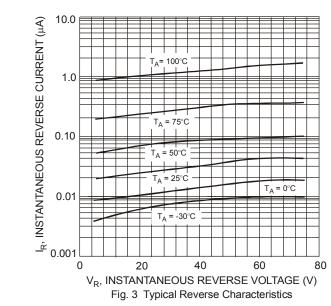
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

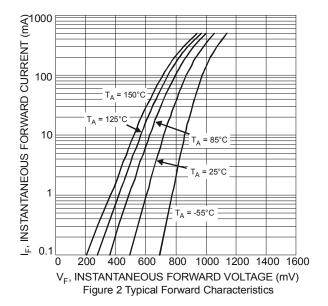
Characteristic	Symbol	Min	Max	Unit	Test Condition		
Reverse Breakdown Voltage (Note 6)	V _{BR(R)}	80	_	V	$I_R = 100 \mu A$		
		0.62	0.72	V	I _F = 5.0mA		
Forward Voltage	V	_	0.855		I _F = 10mA		
Forward voilage	V _{FM}	_	1.0		I _F = 100mA		
			1.25		I _F = 150mA		
	I _{RM}		100	nA	V _R = 80V		
Peak Reverse Current (Note 6)		I _{RM} —		50	μΑ	$V_R = 75V, T_J = +150^{\circ}C$	
reak Reverse Current (Note 0)			IRM	_	30	μΑ	$V_R = 25V, T_J = +150^{\circ}C$
			25	nA	V _R = 20V		
Total Capacitance	C _T		3.5	pF	$V_R = 0$, $f = 1.0MHz$		
Reverse Recovery Time	+		4.0	ns	$I_F = I_R = 10 \text{mA},$		
Neverse Necovery Time	t _{rr}				$I_{rr} = 0.1 \text{ x } I_{R}, R_{L} = 100\Omega$		

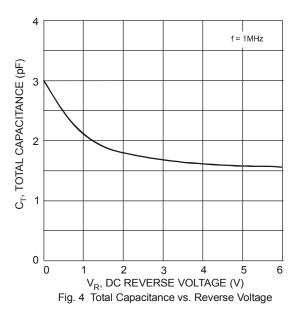
Notes:

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











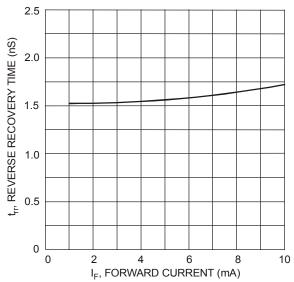
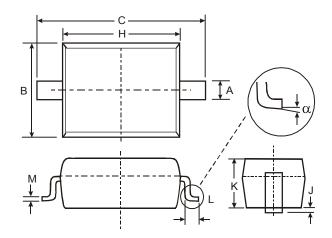


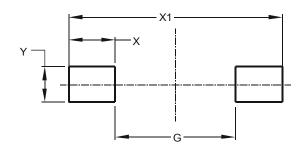
Fig. 5 Reverse Recovery Time vs. Forward Current

Package Outline Dimensions



SOD323			
Dim	Min	Max	
Α	0.25	0.35	
В	1.20	1.40	
С	2.30	2.70	
Н	1.60	1.80	
J	0.00	0.10	
K	1.0	1.1	
L	0.20	0.40	
M	0.10	0.15	
α	0°	8°	
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
G	1.520
Х	0.590
X1	2.700
Υ	0.450



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