





### SURFACE MOUNT FAST SWITCHING DIODE

## **Features**

- Fast Switching Speed
- Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- Lead Free/RoHS Compliant (Note 1)
- "Green" Device (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability

### **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

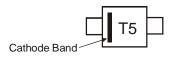
## Ordering Information (Note 3)

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 purposefully added lead.
- 2. Diodes Inc.`s "Green" Policy can be found on our website at http://www.diodes.com
- 3. For packaging details, go to our website at http://www.diodes.com.

# **Marking Information**



T5 = Product Type Marking Code



## Maximum Ratings @T<sub>A</sub> = 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 <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	80	V
RMS Reverse Voltage		V <sub>R(RMS)</sub>	57	V
Forward Continuous Current		I <sub>FM</sub>	500	mA
Average Rectified Output Current		Io	250	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0s	I <sub>FSM</sub>	4.0 1.0	А

## **Thermal Characteristics**

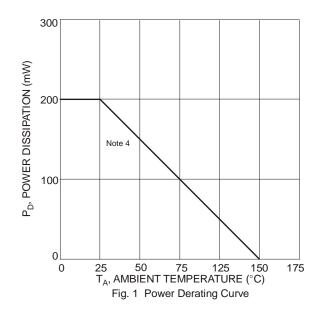
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P <sub>D</sub>	200	mW
Thermal Resistance Junction to Ambient Air (Note 4)	$R_{ heta JA}$	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

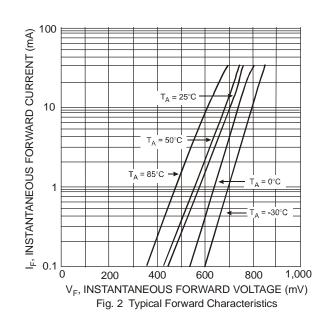
# Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{BR(R)}$	80		٧	$I_R = 100 \mu A$
		0.62	0.72	V	$I_F = 5.0 \text{mA}$
Forward Voltage	\/	_	0.855		$I_F = 10mA$
Tolward voltage	$V_{FM}$	_	1.0		$I_F = 100 \text{mA}$
		_	1.25		I <sub>F</sub> = 150mA
	I		100	nA	$V_R = 80V$
Peak Reverse Current (Note 5)			50	μΑ	$V_R = 75V, T_J = 150^{\circ}C$
reak Neverse Guiterii (Note 3)	IRM	I <sub>RM</sub> —	30	μΑ	$V_R = 25V, T_J = 150^{\circ}C$
			25	nA	$V_R = 20V$
Total Capacitance	C <sub>T</sub>		3.5	pF	$V_R = 0$ , $f = 1.0MHz$
Poverse Pecevery Time	t <sub>rr</sub>	_	4.0	ns	$I_F = I_R = 10 \text{mA},$
Reverse Recovery Time					$I_{rr} = 0.1 \times I_{R}, R_{L} = 100\Omega$

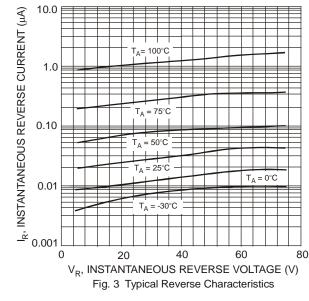
Notes:

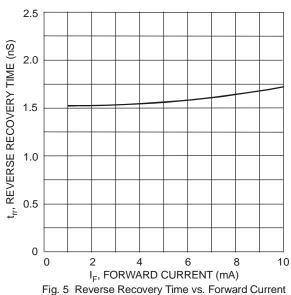
- 4. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.
- 5. Short duration pulse test used to minimize self-heating effect.

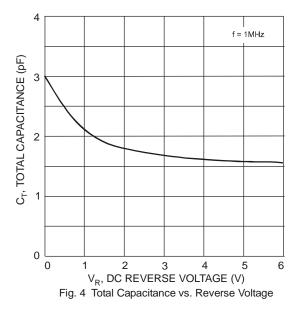




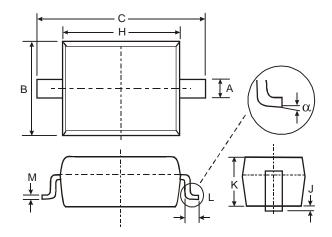








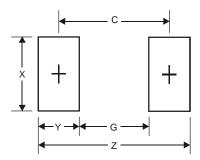
# **Package Outline Dimensions**



SOD323			
Dim	Min	Max	
Α	0.25	0.35	
В	1.20	1.40	
С	2.30	2.70	
Н	1.60	1.80	
7	0.00	0.10	
K	1.0	1.1	
L	0.20	0.40	
М	0.10	0.15	
α	0°	8°	
All Dimensions in mm			



## **Suggested Pad Layout**



Dimensions	Value (in mm)
Z	3.75
G	1.05
Х	0.65
Υ	1.35
С	2.40

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