



1N4148WS / BAV16WS

SURFACE MOUNT FAST SWITCHING DIODE

Features

Fast Switching Speed

Ultra-Small Surface Mount Package

For General Purpose Switching Applications

High Conductance

Lead Free/RoHS Compliant (Note 3)

Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

Case: SOD-323

Case Material: Molded Plastic. UL Flammability Classification

Rating 94V-0

Moisture Sensitivity: Level 1 per J-STD-020C

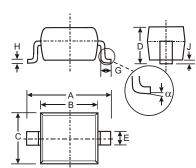
Terminals: Solderable per MIL-STD-202, Method 208

Lead Free Plating (Matte Tin Finish annealed over Alloy 42

leadframe).

Polarity: Cathode Band Marking: See Page 2 Type Code: T4, T6

Ordering Information: See Page 2 Weight: 0.004 grams (approximate)



SOD-323				
Dim	Min	Max		
Α	2.30	2.70		
В	1.60	1.80		
С	1.20	1.40		
D	1.05 Typical			
E	0.25	0.35		
G	0.20	0.40		
Н	0.10	0.15		
J	0.05 Typical			
	0	8		
All Dimensions in mm				

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	75	V
RMS Reverse Voltage	V _{R(RMS)}	53	V
Forward Continuous Current	I _{FM}	300	mA
Average Rectified Output Current	I _O	150	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0 s @ t = 1.0s	I _{FSM}	2.0 1.0	А
Power Dissipation (Note 1)	Pd	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R _{JA}	625	C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150	С

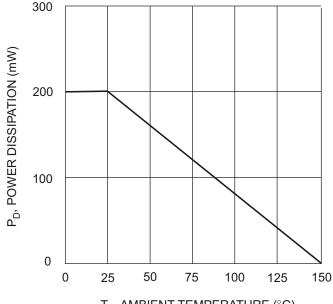
Electrical Characteristics @ TA = 25 C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage	V _{(BR)R}	75		V	I _R = 1.0 A
Forward Voltage	V _{FM}		0.715 0.855 1.0 1.25	V	I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA
Peak Reverse Current (Note 2)	I _{RM}		1.0 50 30 25	A A A nA	$\label{eq:VR} \begin{array}{l} V_R = 75V \\ V_R = 75V, T_j = 150 C \\ V_R = 25V, T_j = 150 C \\ V_R = 20V \end{array}$
Total Capacitance	C _T		2.0	pF	$V_R = 0$, $f = 1.0MHz$
Reverse Recovery Time	t _{rr}		4.0	ns	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100$

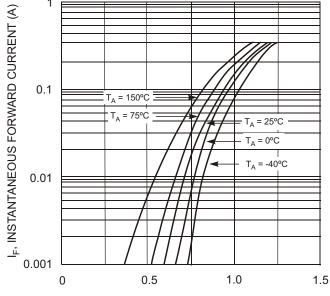
Note: 1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

- 2. Short duration test pulse used to minimize self-heating effect.
- 3. No purposefully added lead.

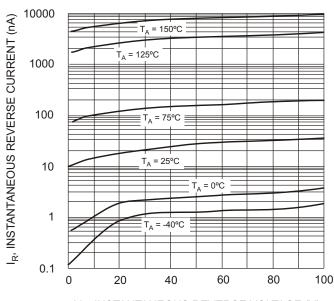




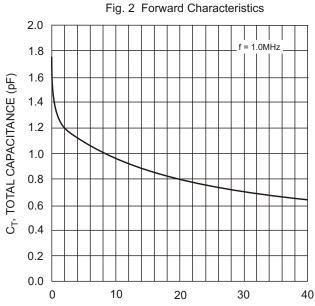
T_A, AMBIENT TEMPERATURE (°C) Fig. 1 Power Derating Curve



V_F, INSTANTANEOUS FORWARD VOLTAGE (V)



 V_{R} , INSTANTANEOUS REVERSE VOLTAGE (V) Fig. 3 Typical Reverse Characteristics



 $\rm V_R$, REVERSE VOLTAGE (V) Fig. 4 Typical Capacitance vs. Reverse Voltage

Ordering Information (Note 4)

Device	Packaging	Shipping
1N4148WS-7-F	SOD-323	3000/Tape & Reel
BAV16WS-7-F	SOD-323	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information





IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.