



1N4148WS / BAV16WS

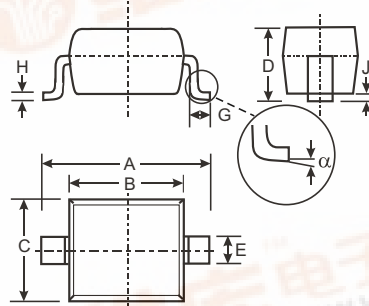
SURFACE MOUNT FAST SWITCHING DIODE

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
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.05 Typical	
	0	8
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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 @ $t = 1.0\text{ s}$ @ $t = 1.0\text{ s}$	I_{FSM}	2.0 1.0	A
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R_{JA}	625	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	75		V	$I_R = 1.0\text{ A}$
Forward Voltage	V_{FM}		0.715 0.855 1.0 1.25	V	$I_F = 1.0\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 50\text{ mA}$ $I_F = 150\text{ mA}$
Peak Reverse Current (Note 2)	I_{RM}		1.0 50 30 25	A A A nA	$V_R = 75\text{ V}$ $V_R = 75\text{ V}, T_J = 150^\circ\text{C}$ $V_R = 25\text{ V}, T_J = 150^\circ\text{C}$ $V_R = 20\text{ V}$
Total Capacitance	C_T		2.0	pF	$V_R = 0, f = 1.0\text{ MHz}$
Reverse Recovery Time	t_{rr}		4.0	ns	$I_F = I_R = 10\text{ mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100$

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.



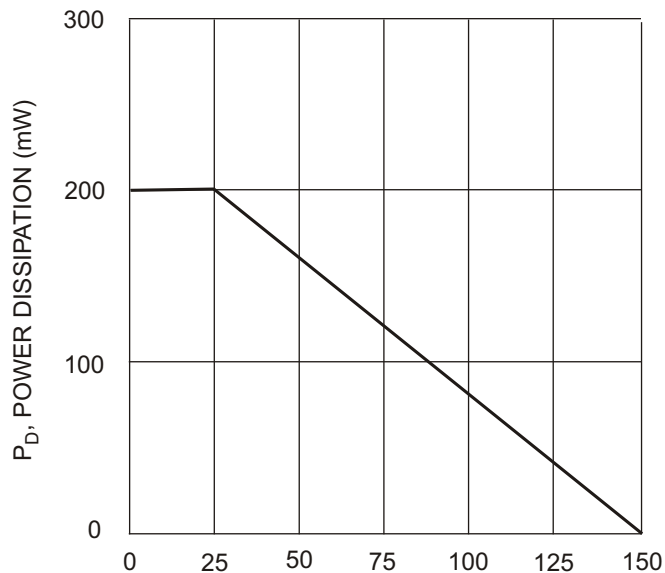


Fig. 1 Power Derating Curve

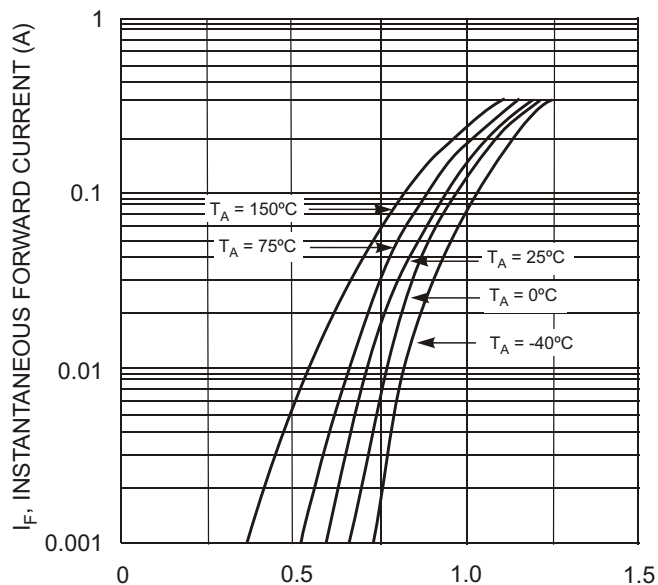


Fig. 2 Forward Characteristics

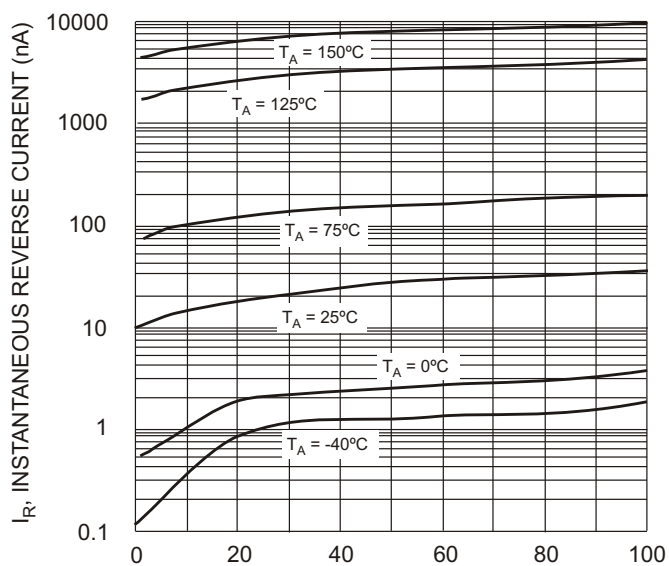


Fig. 3 Typical Reverse Characteristics

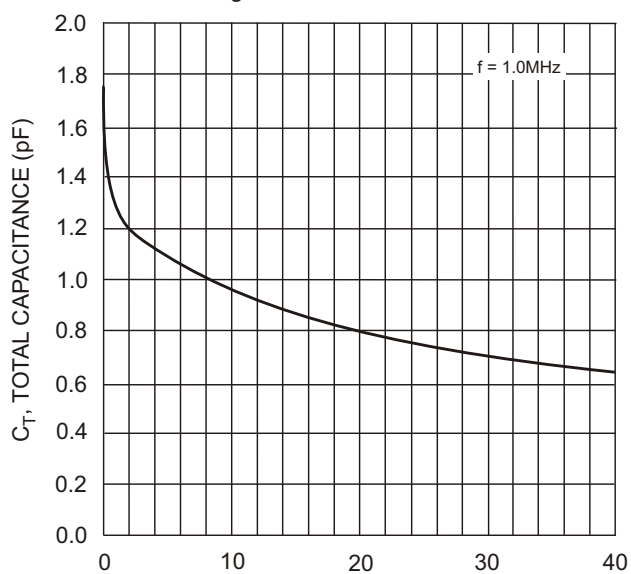


Fig. 4 Typical Capacitance vs. Reverse Voltage

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



XX = Product Type Marking Code, See Page 1



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