

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 3)
- "Green" Device (Note 4)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic, "Green" Molding Compound (Note 4). UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)

SOD-323



TOP VIEW

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage (Note 2)		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		lo	150	mA
	@ t = 1.0μs @ t = 1.0s	I _{FSM}	2.0 1.0	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _D	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	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

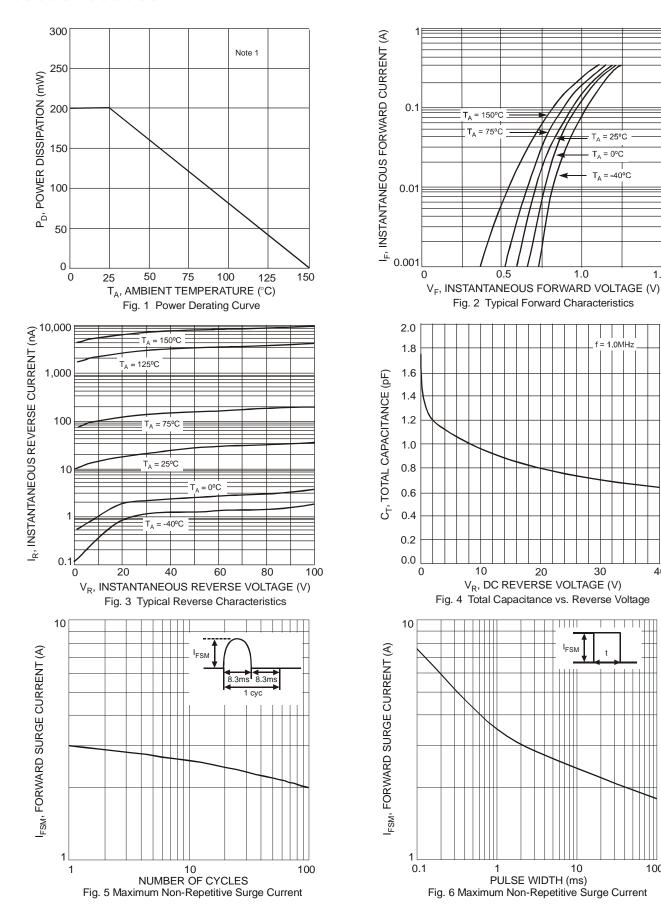
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	75	_	V	$I_R = 1.0 \mu A$
Forward Voltage	V _{FM}	_	0.715 0.855 1.0 1.25	٧	I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA
Peak Reverse Current (Note 2)	I _{RM}	_	1.0 50 30 25	μΑ μΑ μΑ nA	$V_R = 75V$ $V_R = 75V$, $T_J = 150^{\circ}C$ $V_R = 25V$, $T_J = 150^{\circ}C$ $V_R = 20V$
Total Capacitance	C _T	_	2.0	pF	$V_R = 0$, $f = 1.0MHz$
Reverse Recovery Time	t _{rr}	_	4.0	ns	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

Notes:

- 1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website http://www.diodes.com/datasheets/ap02001.pdf.
- 2. Short duration pulse test used to minimize self-heating effect.
- 3. No purposefully added lead.
- Product manufactured with Data Code OW (week 42, 2009) and newer are built with Green Molding Compound. Product manufactured prior to Date Code OW are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.

1.5





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Ordering Information (Note 5)

Part Number	Case	Packaging
1N4148WS-7-F	SOD-323	3,000/Tape & Reel
1N4148WS-13-F	SOD-323	10,000/Tape & Reel
BAV16WS-7-F	SOD-323	3,000/Tape & Reel

Notes:

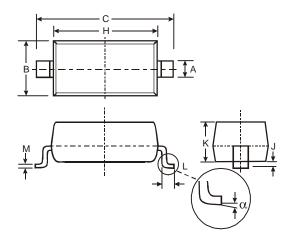
5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



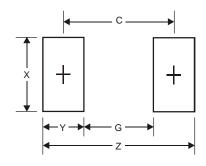
XX = Product Type Marking Code, T4 or T6

Package Outline Dimensions



SOD-323				
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)
Z	3.75
G	1.05
Х	0.65
Y	1.35
С	2.40



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