

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 (Note 2). 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
- Weight: 0.006 grams (approximate)

SOD323



Top View

Ordering Information (Note 5)

Part Number	Qualification	Case	Packaging
1N4148WS-7-F	Commercial	SOD323	3,000/Tape & Reel
1N4148WSQ-7-F	Automotive	SOD323	3,000/Tape & Reel
1N4148WS-13-F	Commercial	SOD323	10,000/Tape & Reel
BAV16WS-7-F	Commercial	SOD323	3,000/Tape & Reel

- Notes:
1. No purposefully added lead.
 2. 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.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



XX = Product Type Marking Code, T4 or T6

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit	
Non-Repetitive Peak Reverse Voltage (Note 5)	V _{RM}	100	V	
Peak Repetitive Reverse Voltage	V _R RRM	75	V	
Working Peak Reverse Voltage	V _R RWM			
DC Blocking Voltage	V _R			
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	I _{FSM}	@ t = 1.0μs	2.0	A
		@ t = 1.0s	1.0	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P _D	200	mW
Thermal Resistance Junction to Ambient Air (Note 4)	R _{θJA}	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 5)	V _{(BR)R}	75	—	V	I _R = 1.0μA
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 5)	I _{RM}	—	1.0 50 30 25	μA μA μA nA	V _R = 75V V _R = 75V, T _J = 150°C V _R = 25V, T _J = 150°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 = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω

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

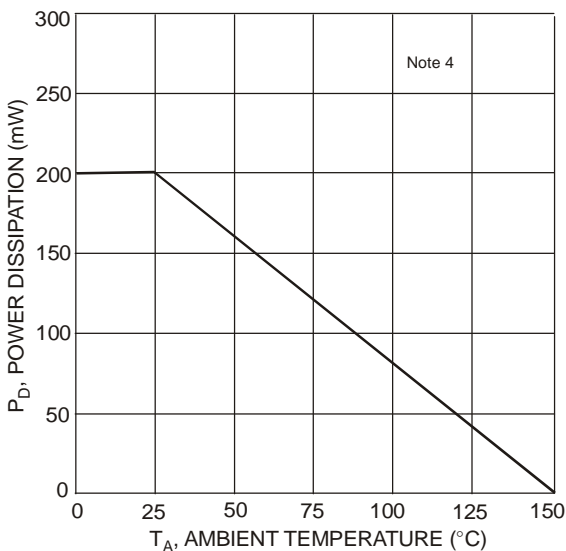


Fig. 1 Power Derating Curve

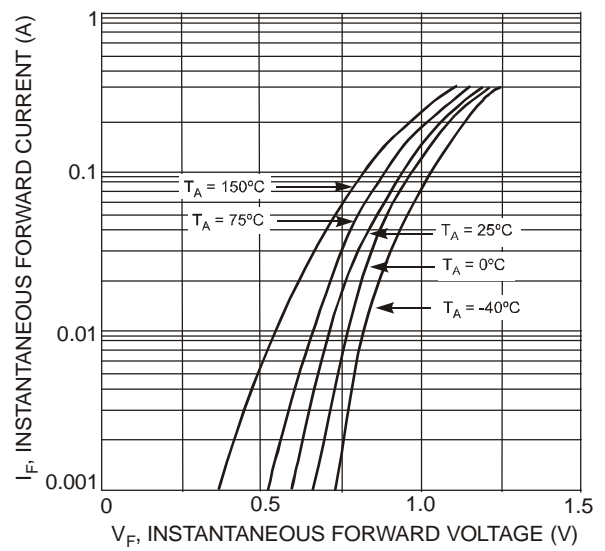


Fig. 2 Typical Forward Characteristics

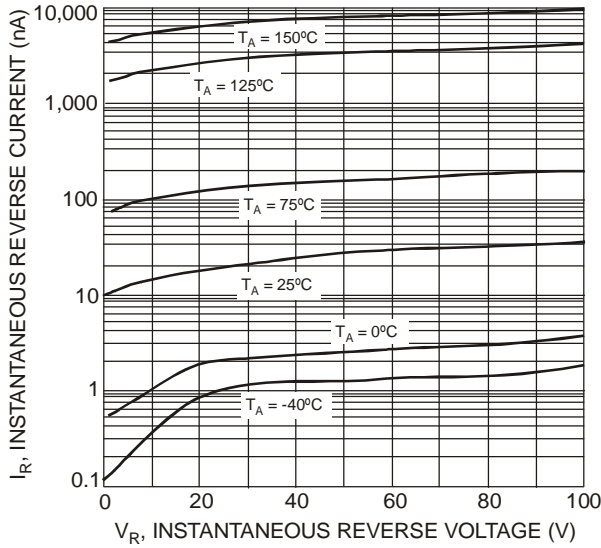


Fig. 3 Typical Reverse Characteristics

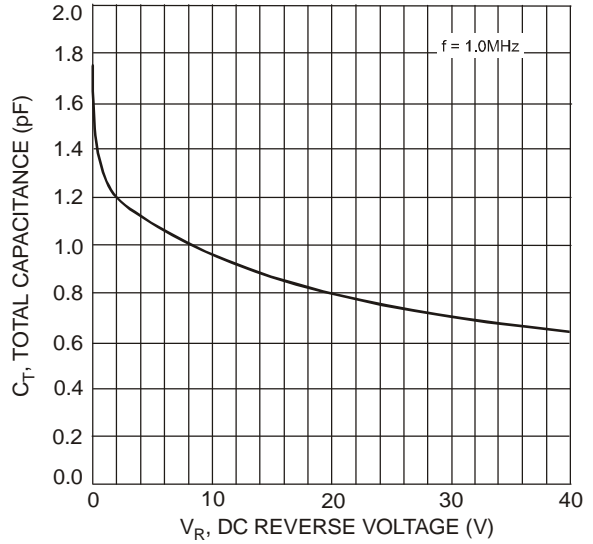


Fig. 4 Total Capacitance vs. Reverse Voltage

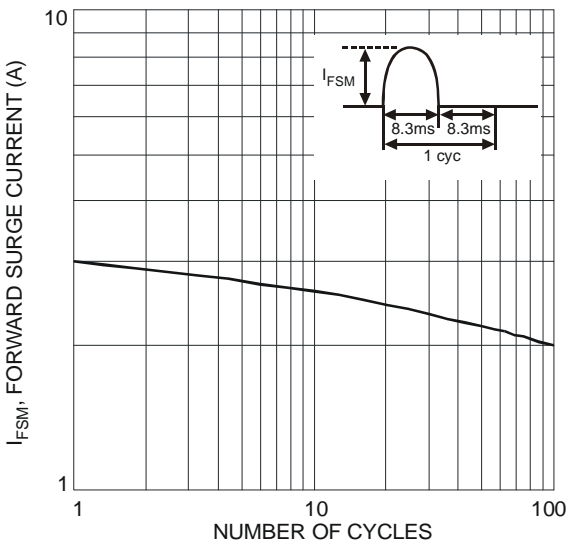


Fig. 5 Maximum Non-Repetitive Surge Current

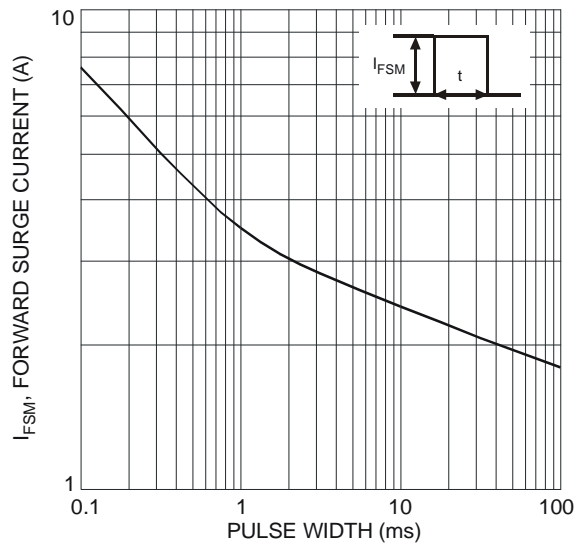
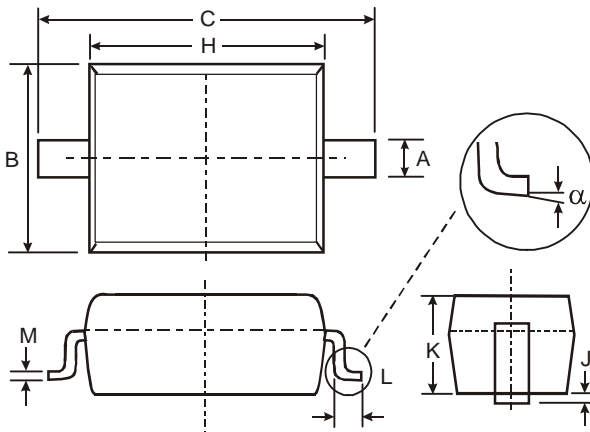


Fig. 6 Maximum Non-Repetitive Surge Current

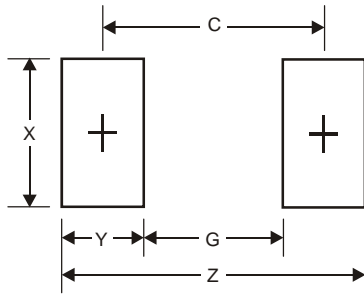
Package Outline Dimensions



SOD323		
Dim	Min	Max
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	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
X	0.65
Y	1.35
C	2.40

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