

Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Low Leakage Current
- Fast Switching Speed
- High Reverse Breakdown Voltage
- **Lead Free By Design/RoHS Compliant (Note 3)**
- **“Green” Device (Note 4)**

Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish — Matte Tin Finish annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.004 grams (approximate)

SOD-323



TOP VIEW

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	350	V
Working Peak Reverse Voltage	V_{RWM}	300	V
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	212	V
Forward Continuous Current	I_{FM}	225	mA
Repetitive Peak Forward Current	I_{FRM}	625	mA
Non-Repetitive Peak Forward Surge Current	I_{FSM}	@ $t = 1.0\mu\text{s}$	4.0
		@ $t = 1.0\text{s}$	1.0

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_D	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
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	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	350	—	—	V	$I_R = 150\mu\text{A}$
Forward Voltage	V_F	—	0.78 0.93 1.03	0.87 1.0 1.25	V	$I_F = 20\text{mA}$ $I_F = 100\text{mA}$ $I_F = 200\text{mA}$
Leakage Current (Note 2)	I_R	—	30 35	100 100	nA μA	$V_R = 240\text{V}, T_J = 25^\circ\text{C}$ $V_R = 240\text{V}, T_J = 150^\circ\text{C}$
Total Capacitance	C_T	—	1.0	5.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	—	50	ns	$I_F = I_R = 30\text{mA},$ $I_{rr} = 3.0\text{mA}, R_L = 100\Omega$

- Notes:
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 pulse test used to minimize self-heating effect.
 3. No purposefully added lead.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.

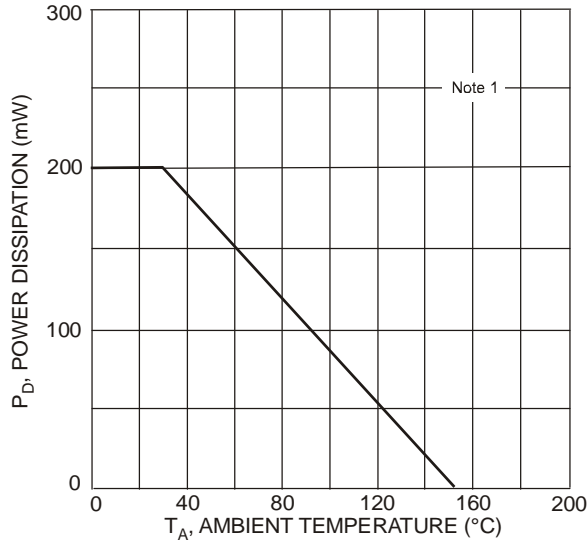


Fig. 1 Power Derating Curve

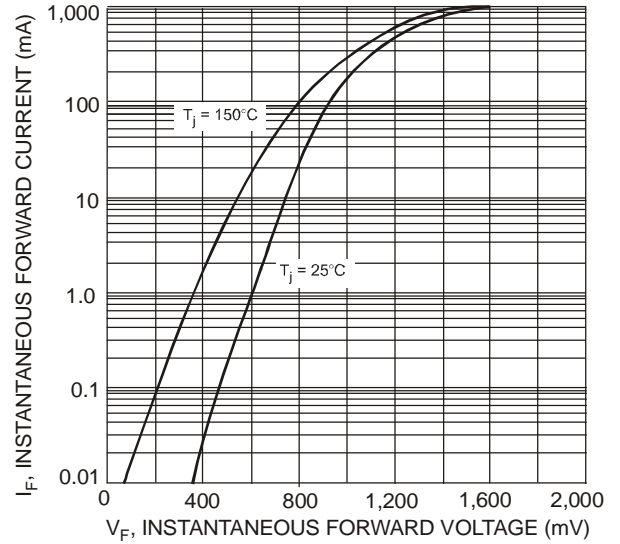


Fig. 2 Typical Forward Characteristics

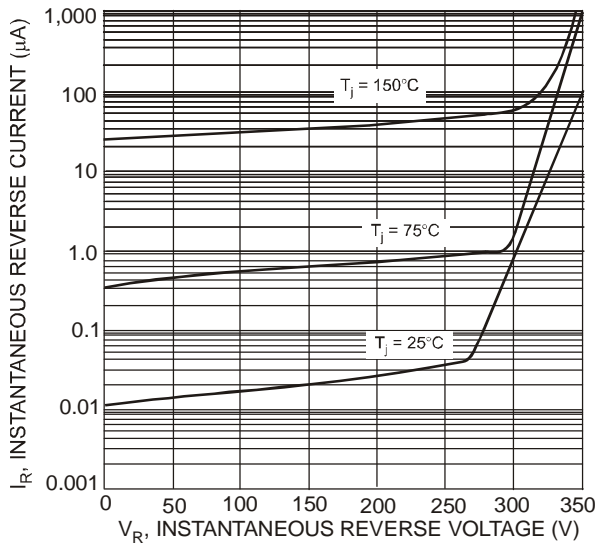


Fig. 3 Typical Reverse Characteristics

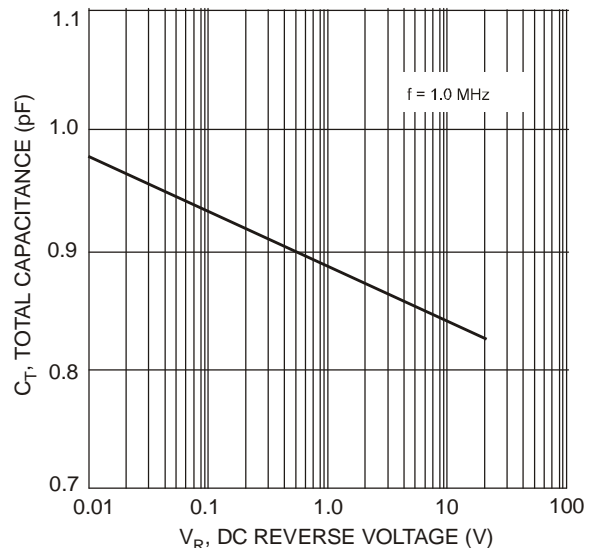


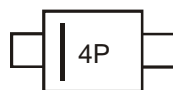
Fig. 4 Total Capacitance vs. Reverse Voltage

Ordering Information (Note 5)

Part Number	Case	Packaging
BAV3004WS-7	SOD-323	3000/Tape & Reel

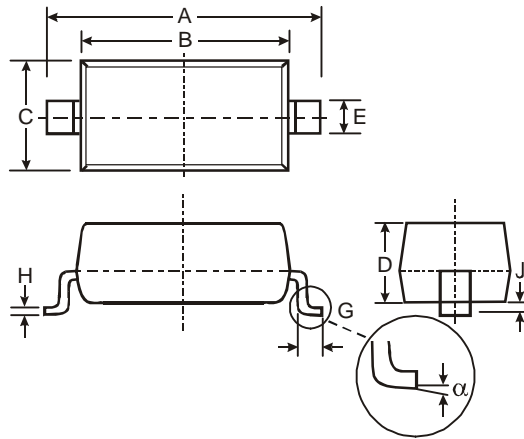
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



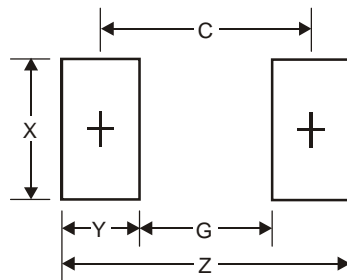
4P = Product Type Marking Code

Package Outline Dimensions



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	0.00	0.10
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

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.