

## 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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	350	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	300	V
DC Blocking Voltage	V <sub>R</sub>		V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	212	V
Forward Continuous Current	I <sub>FM</sub>	225	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	625	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	4.0	A
	@ t = 1.0μs	1.0	
	@ t = 1.0s		

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P <sub>D</sub>	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	350	—	—	V	I <sub>R</sub> = 150μA
Forward Voltage	V <sub>F</sub>	—	0.78 0.93 1.03	0.87 1.0 1.25	V	I <sub>F</sub> = 20mA I <sub>F</sub> = 100mA I <sub>F</sub> = 200mA
Leakage Current (Note 2)	I <sub>R</sub>	—	30 35	100 100	nA μA	V <sub>R</sub> = 240V, T <sub>J</sub> = 25°C V <sub>R</sub> = 240V, T <sub>J</sub> = 150°C
Total Capacitance	C <sub>T</sub>	—	1.0	5.0	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	50	ns	I <sub>F</sub> = I <sub>R</sub> = 30mA, I <sub>rr</sub> = 3.0mA, R <sub>L</sub> = 100Ω

- 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](http://www.diodes.com/products/lead_free/index.php).

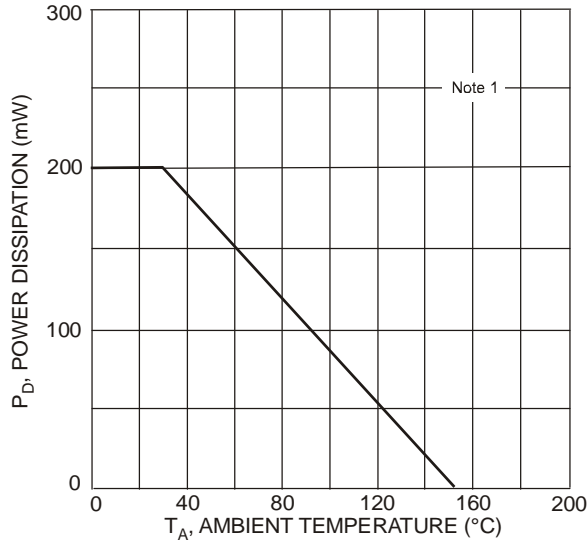


Fig. 1 Power Derating Curve

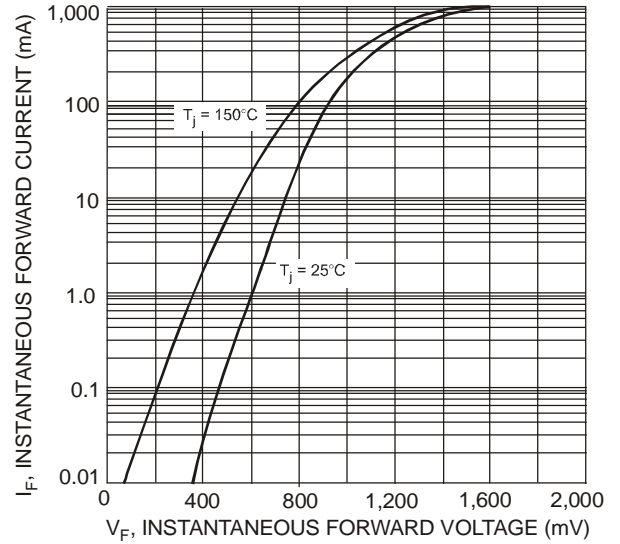


Fig. 2 Typical Forward Characteristics

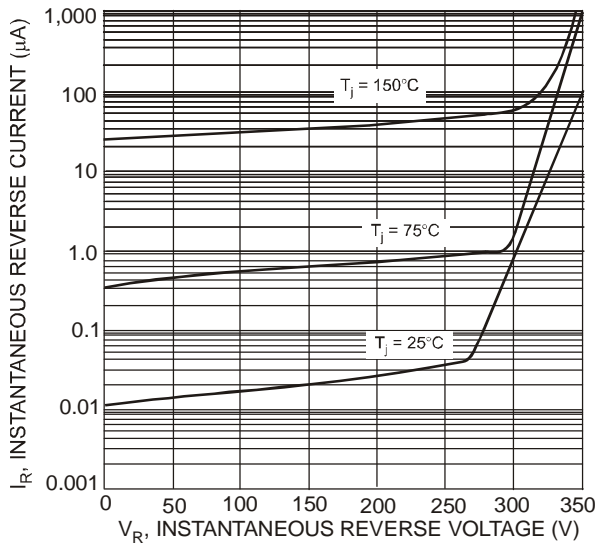


Fig. 3 Typical Reverse Characteristics

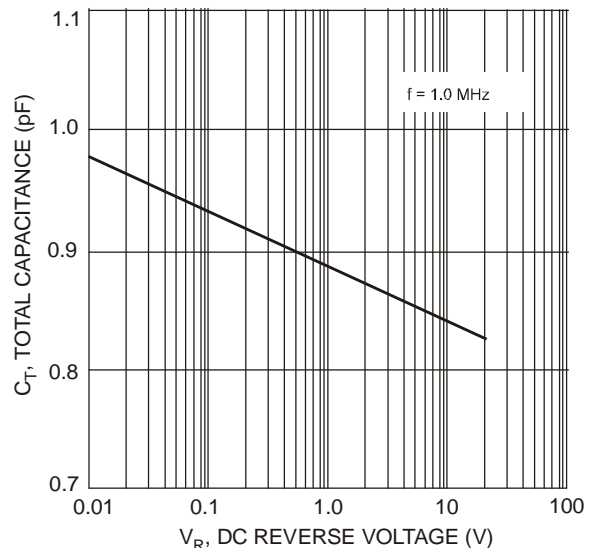


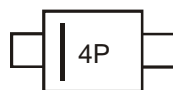
Fig. 4 Total Capacitance vs. Reverse Voltage

**Ordering Information** (Note 5)

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

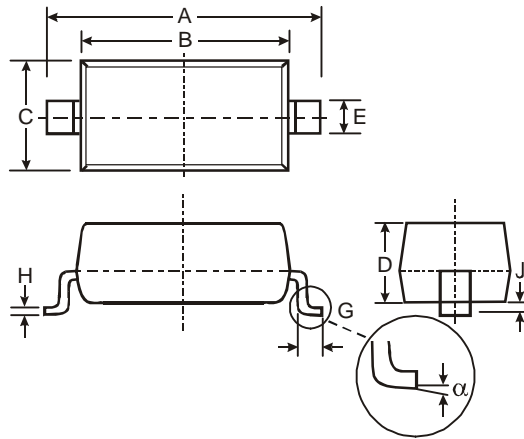
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



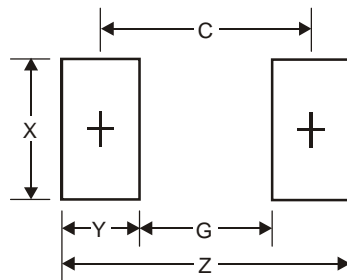
4P = Product Type Marking Code

**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

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