

## Features

- Fast Switching Speed: 50ns Maximum
- 400V High Reverse Breakdown Voltage Rating
- Low Capacitance: 2.5pF Maximum
- Surface Mount Package Ideally Suited for Automated Insertion
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

## Mechanical Data

- Case: SOD323
- Case Material: Molded Plastic, "Green" Molding Compound. 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
- Weight: 0.005 grams (approximate)

SOD323



Top View

## Ordering Information (Note 4)

Product	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
BAV5004WS-7	AEC-Q101	LY	7	8	3,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>

## Marking Information



LY = Product Type Marking Code  
Line Denotes Cathode Side

## Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	400	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	350	V
DC Blocking Voltage	V <sub>R</sub>	247	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	247	V
Forward Continuous Current (Note 5)	I <sub>FM</sub>	300	mA
Peak Repetitive Forward Current (Note 5)	I <sub>FRM</sub>	625	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	@ t = 1.0µs	5.0
		@ t = 1.0ms	3.0

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5) (See figure 1)	$P_D$	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	625	$^{\circ}C/W$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^{\circ}C$

**Electrical Characteristics (@ $T_A = +25^{\circ}C$ , unless otherwise specified.)**

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	400	-	-	V	$I_R = 150\mu A$
Forward Voltage	$V_F$	-	-	0.93 1.09 1.29	V	$I_F = 20mA$ $I_F = 100mA$ $I_F = 200mA$
Reverse Current (Note 6)	$I_R$	-	-	1 100	$\mu A$ $\mu A$	$V_R = 240V$ $V_R = 240V, T_J = +150^{\circ}C$
Total Capacitance	$C_T$	-	0.9	2.5	pF	$V_R = 0V, f = 1.0MHz$
Reverse Recovery Time	$t_{rr}$	-	-	50	ns	$I_F = I_R = 30mA$ , $I_{rr} = 3.0mA, R_L = 100\Omega$

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

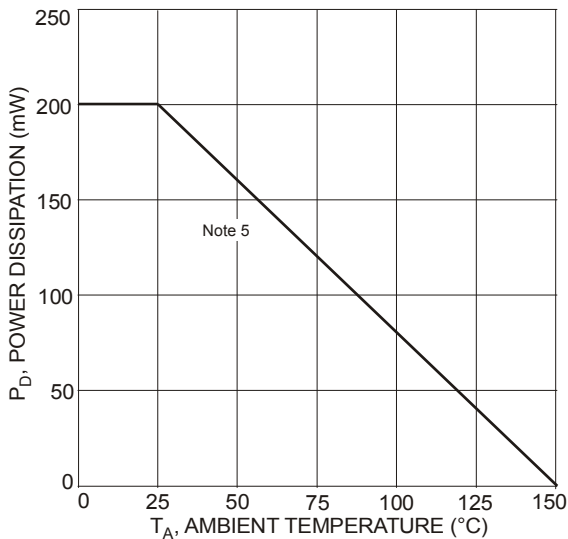


Fig. 1 Power Derating Curve

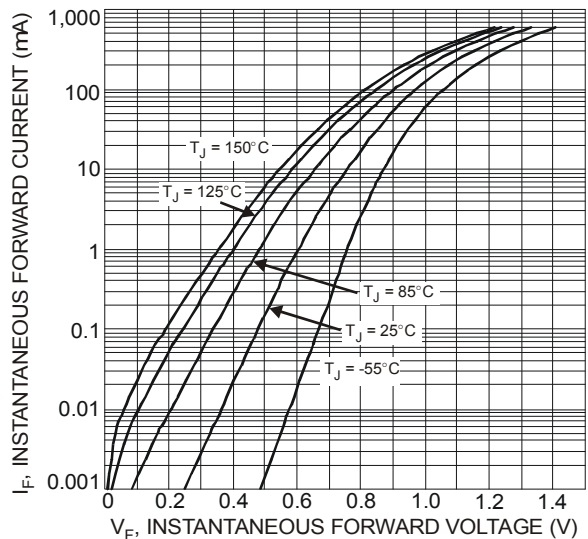


Fig. 2 Typical Forward Characteristics

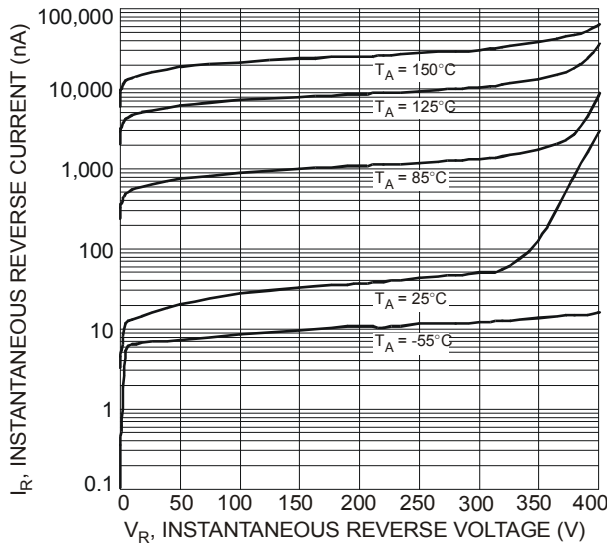


Fig. 3 Typical Reverse Characteristics

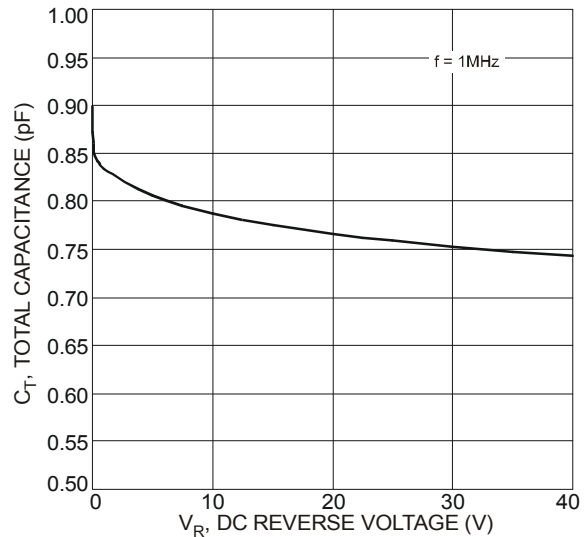
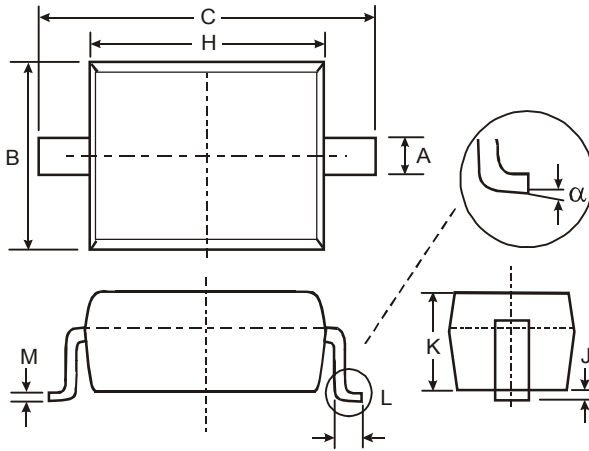


Fig. 4 Typical Total Capacitance vs. Reverse Voltage

**Package Outline Dimensions**

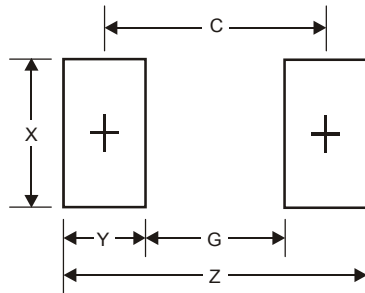
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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**

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

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