

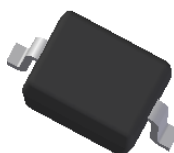
Features

- 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**
- **PPAP Capable (Note 4)**

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 5)

Part Number	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
BAV5004WSQ-7	Automotive	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) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> 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. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to <https://www.diodes.com/quality/>.
 5. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



LY = Product Type Marking Code
Bar Denotes Cathode Side

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	400	V
Working Peak Reverse Voltage	V _{RWM}	350	V
DC Blocking Voltage	V _R		V
RMS Reverse Voltage	V _{R(RMS)}	247	V
Forward Continuous Current (Note 6)	I _{FM}	300	mA
Peak Repetitive Forward Current (Note 6)	I _{FRM}	625	mA
Non-Repetitive Peak Forward Surge Current	I _{FSM}	@ t = 1.0µs	5.0
		@ t = 1.0ms	3.0

Note: 6. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6) (See Figure 1)	P_D	200	mW
Thermal Resistance Junction to Ambient Air (Note 6)	$R_{\theta JA}$	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 7)	$V_{(BR)R}$	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 7)	I_R	-	-	1 100	μA	$V_R = 240V$ $V_R = 240V, T_J = +150^{\circ}C$
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: 6. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
7. Short duration pulse test used to minimize self-heating effect.

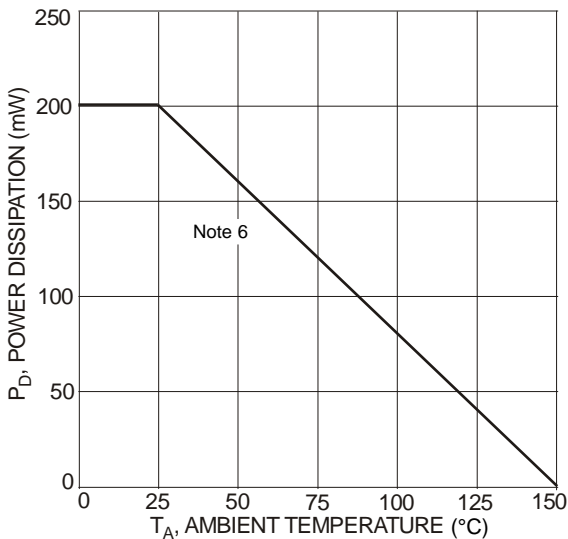


Fig. 1 Power Derating Curve

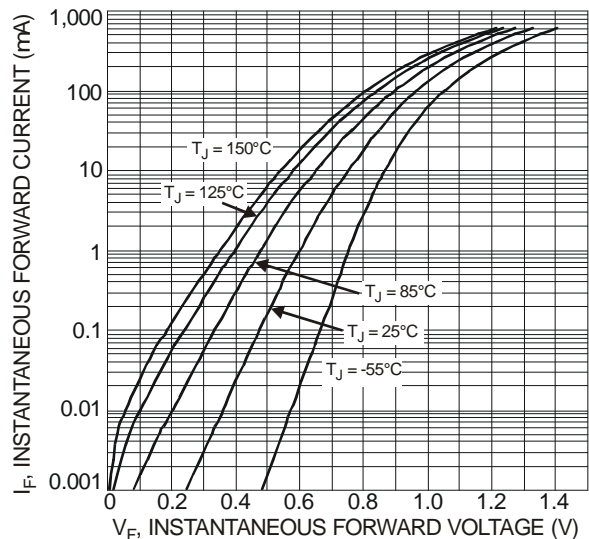


Fig. 2 Typical Forward Characteristics

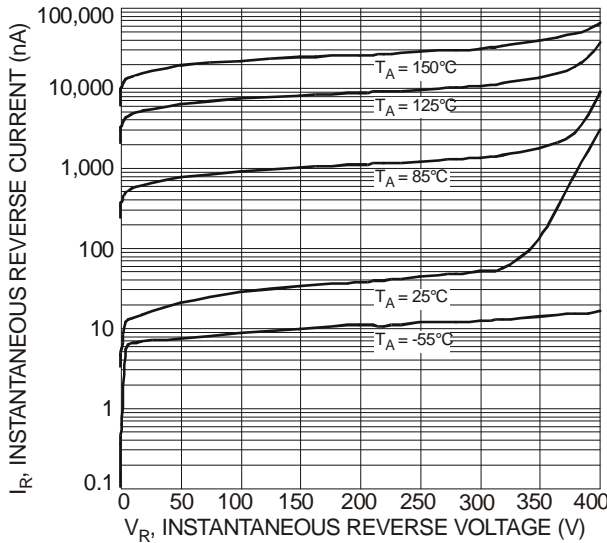


Fig. 3 Typical Reverse Characteristics

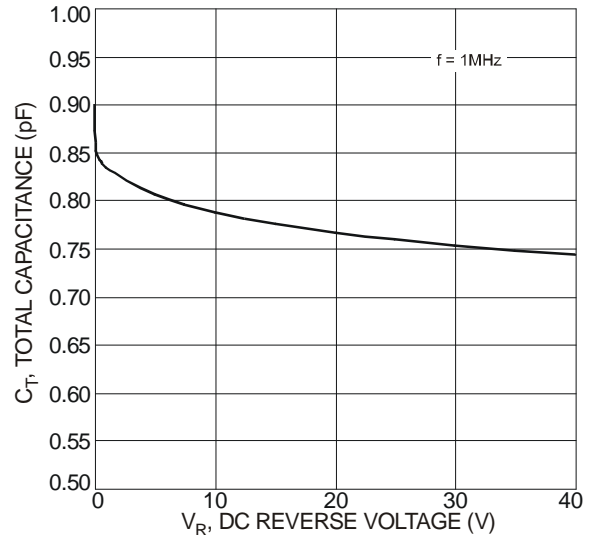
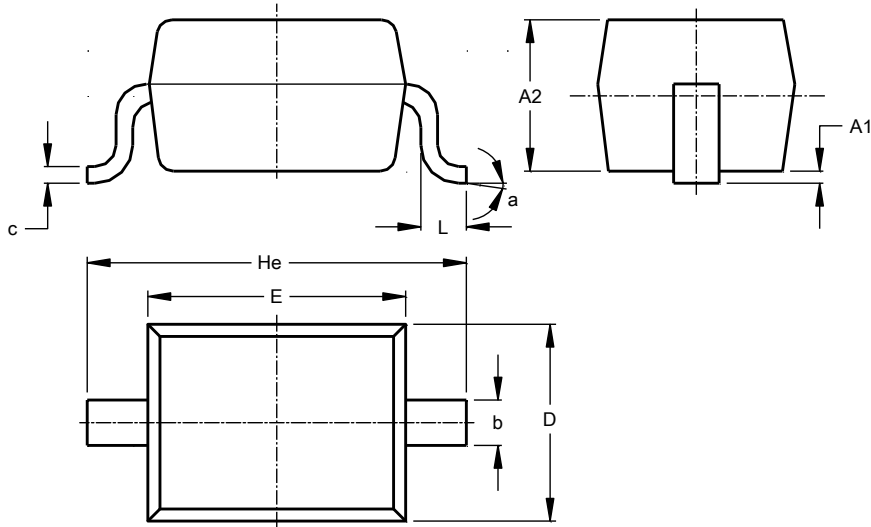


Fig. 4 Typical Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

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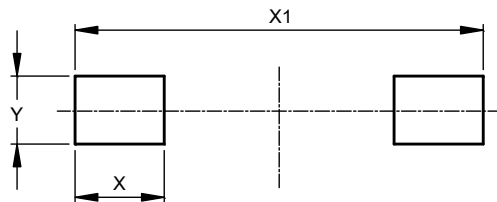


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Dim	Min	Max	Typ
A1	--	0.10	0.05
A2	1.00	1.10	1.05
b	0.25	0.35	0.30
c	0.10	0.15	0.11
D	1.20	1.40	1.30
E	1.60	1.80	1.70
He	2.30	2.70	2.50
L	0.20	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOD323



Dimensions	Value (in mm)
X	0.590
X1	2.700
Y	0.450

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