



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## Features

- Ultra Low Leakage Current (5nA @  $V_R = 75V$ )
- Low Capacitance
- **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
- Terminal Connections: Cathode Bar
- Terminals: Finish – Matte Tin Finish Annealed over Alloy 42 Leadframe; Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 0.004 grams (Approximate)

SOD323



Top View

## Ordering Information (Note 5)

Product	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
BAV116WSQ-7	Automotive	TW	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. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to [http://www.diodes.com/quality/product\\_compliance\\_definitions/](http://www.diodes.com/quality/product_compliance_definitions/).
  5. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information

SOD323



TW = Product Type Marking Code  
Bar Denotes Cathode Side

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	85	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	60	V
Forward Continuous Current (Note 6)	I <sub>FM</sub>	215	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	500	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	4.0 1.0 0.5	A
	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s		

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P <sub>D</sub>	200	mW
Thermal Resistance Junction to Ambient Air (Note 6)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 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 7)	V <sub>(BR)R</sub>	85	—	—	V	I <sub>R</sub> = 100μA
Forward Voltage	V <sub>F</sub>	—	—	0.9 1.0 1.1 1.25	V	I <sub>F</sub> = 1.0mA I <sub>F</sub> = 10mA I <sub>F</sub> = 50mA I <sub>F</sub> = 150mA
Leakage Current (Note 7)	I <sub>R</sub>	—	—	5.0 80	nA nA	V <sub>R</sub> = 75V V <sub>R</sub> = 75V, T <sub>J</sub> = +150°C
Total Capacitance	C <sub>T</sub>	—	1.5	—	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	3.0	μs	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω

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

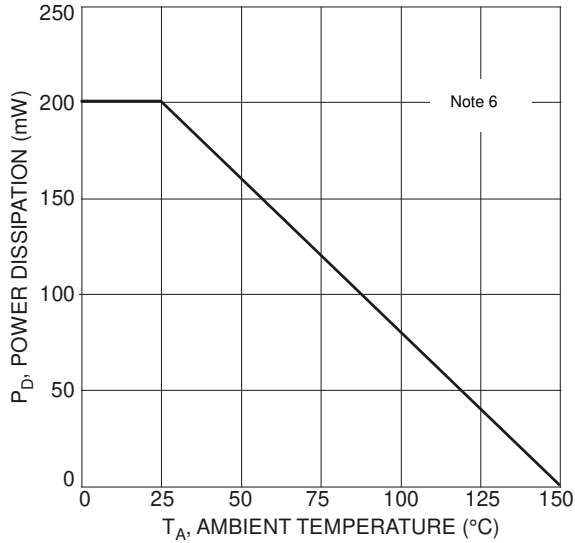


Fig. 1 Power Derating Curve, Total Package

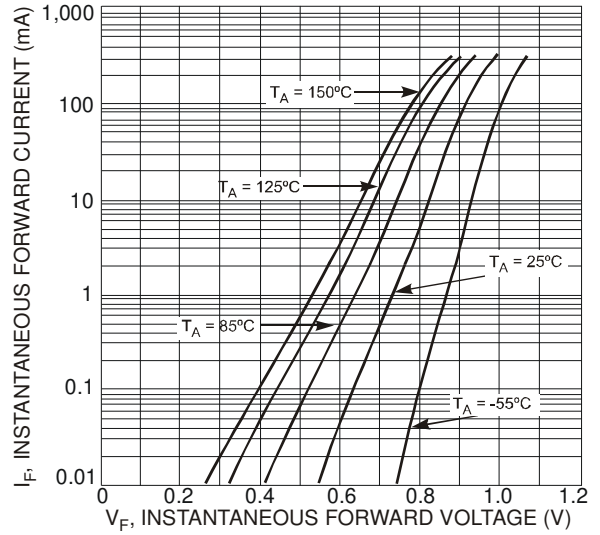


Fig. 2 Typical Forward Characteristics

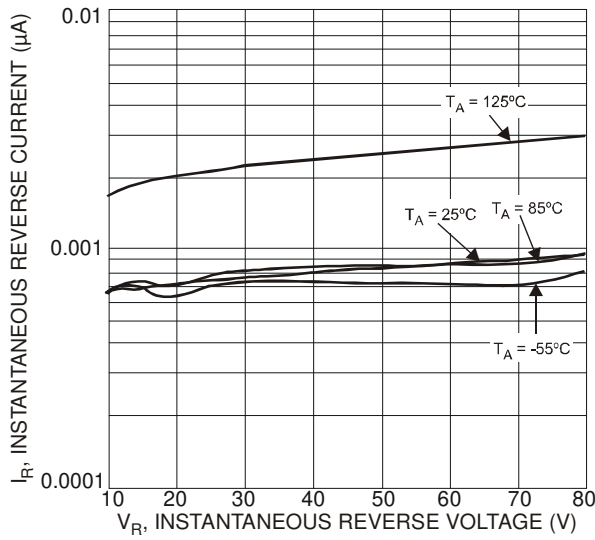


Fig. 3 Typical Reverse Characteristics

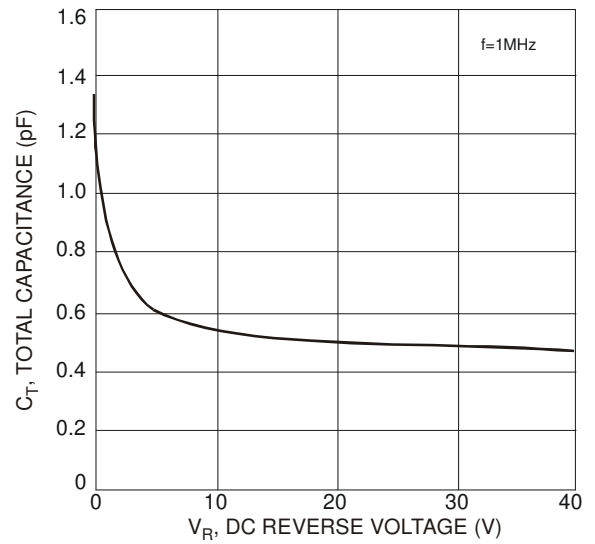
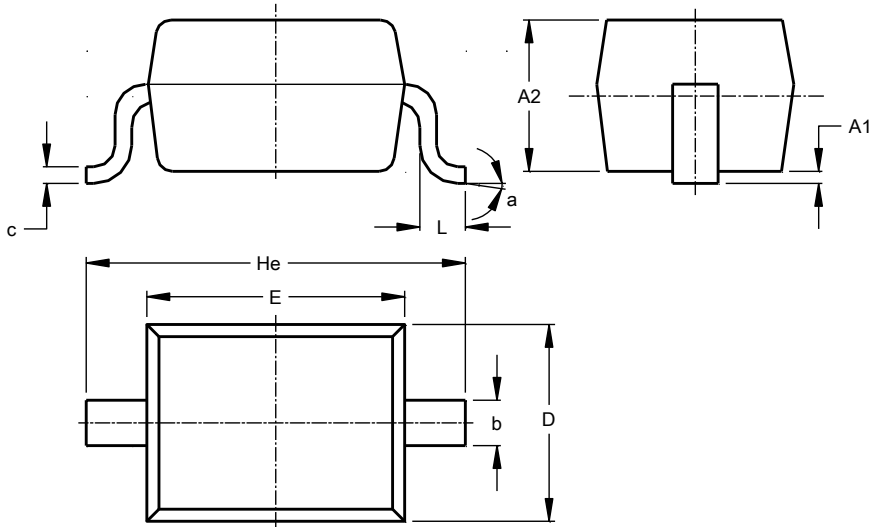


Fig. 4 Total Capacitance vs. Reverse Voltage

**Package Outline Dimensions**

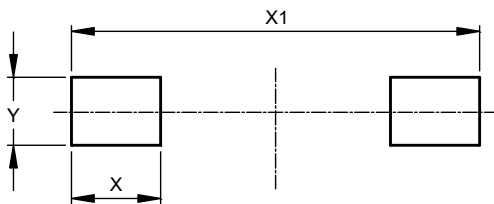
Please see AP02001 at [http://www.diodes.com/\\_files/datasheets/ap02001.pdf](http://www.diodes.com/_files/datasheets/ap02001.pdf) for the latest version.



SOD323			
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 AP02001 at [http://www.diodes.com/\\_files/datasheets/ap02001.pdf](http://www.diodes.com/_files/datasheets/ap02001.pdf) for the latest version.



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

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