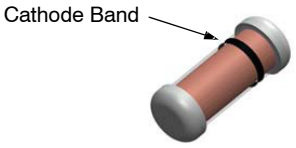
High Voltage, General Purpose Diode

BAV102



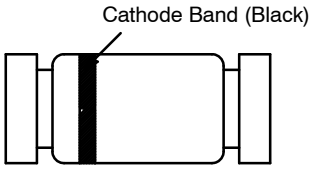
MiniMELF / SOD−80
CASE 100AD

(Color Band Denotes Cathode)

Description

A general purpose diode that couples high forward conductance fast switching speed and high blocking voltages in a glass leadless LL−34 surface mount package. Placement of the expansion gap has no relationship to the location of the cathode terminal which is indicated by the first color band.

MARKING DIAGRAM



(1st band denotes cathode terminal and has wider width)

BAV102 = Specific Device Code

ABSOLUTE MAXIMUM RATINGS

(T_A = 25°C unless otherwise noted) (Note 1)

Symbol	Parameter	Value	Units
W_{IV}	Working Inverse Voltage	150	V
I_O	Average Rectified Current	200	mA
I_F	DC Forward Current	500	mA
i_f	Recurrent Peak Forward Current	600	mA
I_{FSM}	Non−repetitive Peak Forward Current Pulse Width = 1.0 s Pulse Width = 1.0 μs	 1.0 4.0	A
T_{STG}	Storage Temperature Range	−65 to +200	°C
T_J	Operating Junction Temperature	−65 to +200	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Units
P_D	Power Dissipation	500	mW
	Linear Derating Factor from T_A = 25°C	3.33	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	350	°C

ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Max	Units
V_R	Breakdown Voltage	I_R = 100 μA	200	–	V
V_F	Forward Voltage	I_F = 100 mA	–	1.00	V
		I_F = 200 mA	–	1.25	V
I_R	Reverse Current	V_R = 150 V	–	100	nA
		V_R = 150 V, T_A = 150°C	–	100	μA
C_T	Total Capacitance	V_R = 0, f = 1.0 MHz	–	5.0	pF
t_{rr}	Reverse Recovery Time	I_F = I_R = 30 mA, I_{RR} = 1 mA, R_L = 100 Ω	–	50	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

ORDERING INFORMATION

Device	Package	Shipping†
BAV102	SOD−80 (Pb−Free)	2,500 Units / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

TYPICAL PERFORMANCE CHARACTERISTICS

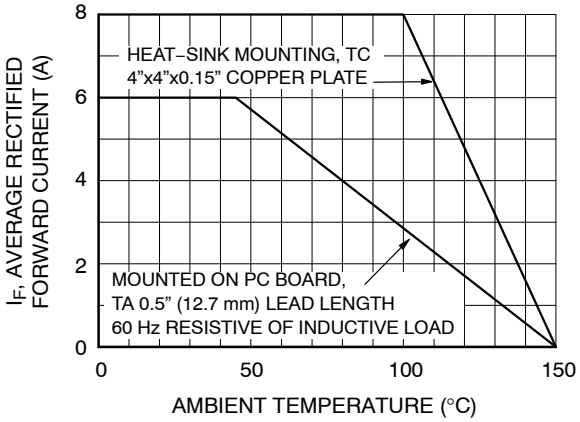


Figure 1. Forward Current Derating Curve

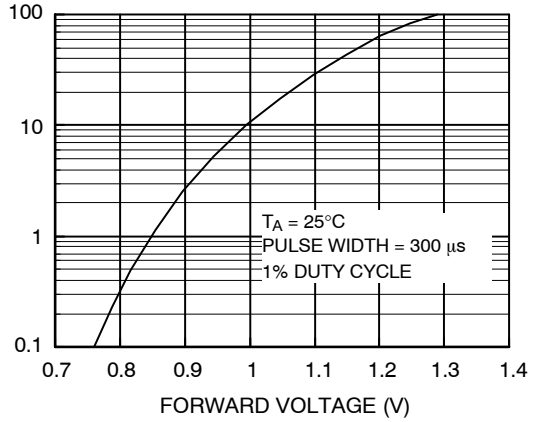


Figure 2. Forward Characteristics

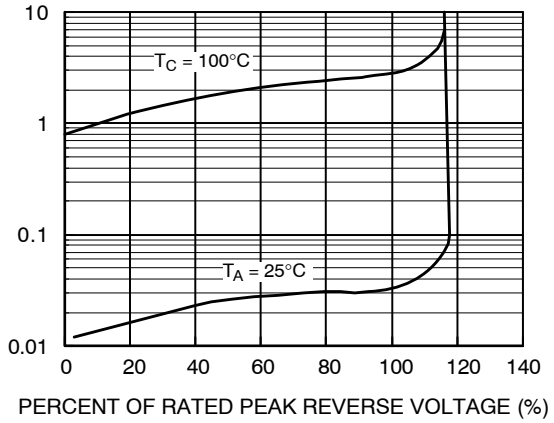


Figure 3. Reverse Characteristics

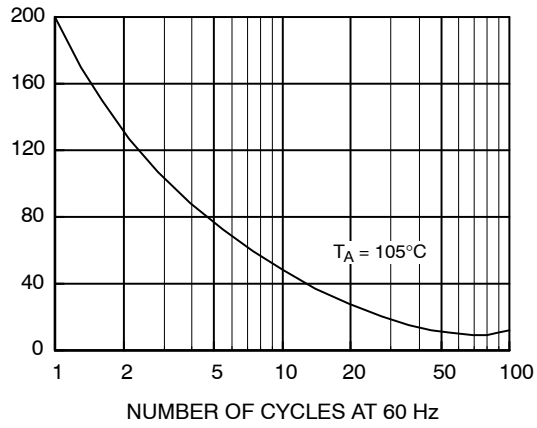


Figure 4. Non−Repetitive Surge Current

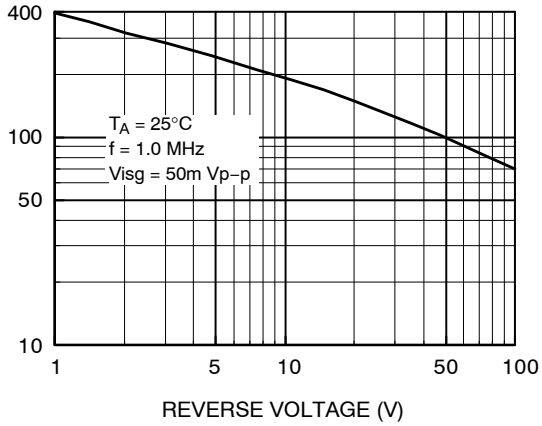


Figure 5. Junction Capacitance

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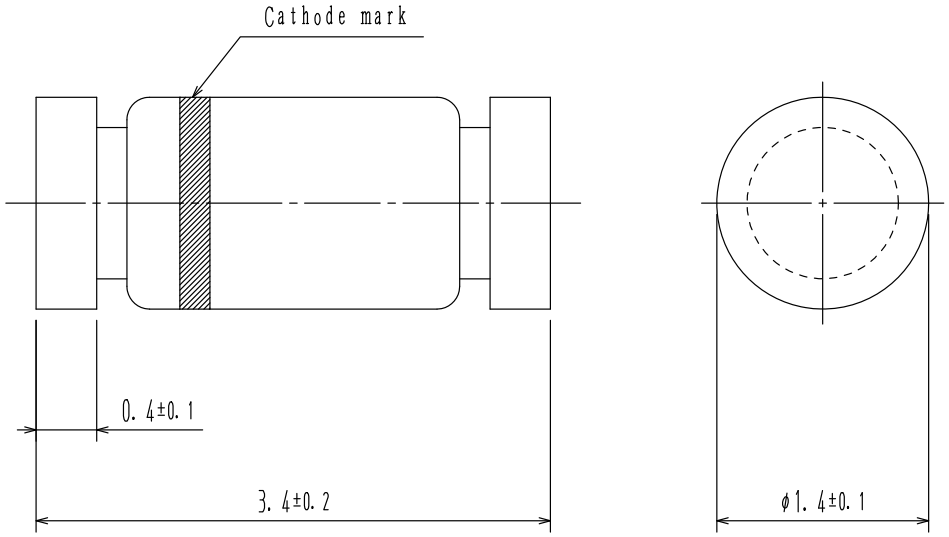

NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE: JEDEC DO-213, VARIATION AC.

B) ALL DIMENSIONS ARE IN MILLIMETERS.

△C CORNER RADIUS IS OPTIONAL.

D) DRAWING FILE NAME: SOD80A REV01

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