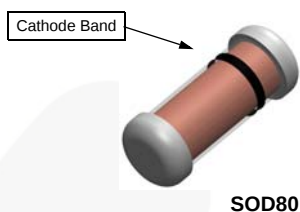


BAV102

High Voltage, General Purpose Diode



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.

Absolute Maximum Ratings⁽¹⁾

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

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	1.0	A
		Pulse Width = 1.0 μs	4.0	A
T_{STG}	Storage Temperature Range		-65 to +200	$^\circ\text{C}$
T_J	Operating Junction Temperature		-65 to +200	$^\circ\text{C}$

Note:

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 $T_A = 25^\circ\text{C}$	3.33	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	350	$^\circ\text{C/W}$

Electrical CharacteristicsValues are at $T_C = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Units
V_R	Breakdown Voltage	$I_R = 100\ \mu\text{A}$	200		V
V_F	Forward Voltage	$I_F = 100\ \text{mA}$		1.00	V
		$I_F = 200\ \text{mA}$		1.25	V
I_R	Reverse Current	$V_R = 150\ \text{V}$		100	nA
		$V_R = 150\ \text{V}, T_A = 150^\circ\text{C}$		100	μA
C_T	Total Capacitance	$V_R = 0, f = 1.0\ \text{MHz}$		5.00	pF
t_{rr}	Reverse Recovery Time	$I_F = I_R = 30\ \text{mA}, I_{RR} = 1\ \text{mA}$ $R_L = 100\ \Omega$		50	ns

Typical Performance Characteristics

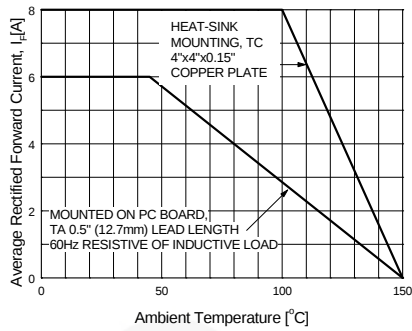


Figure 1. Forward Current Derating Curve

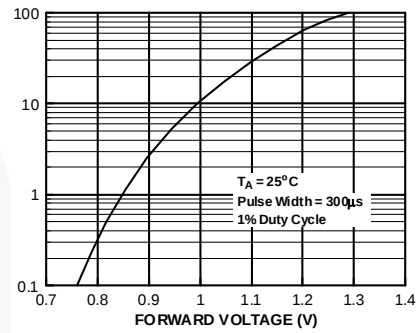


Figure 2. Forward Characteristics

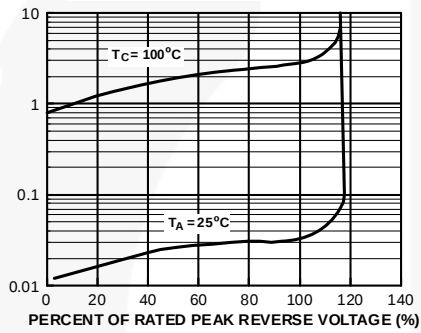


Figure 3. Reverse Characteristics

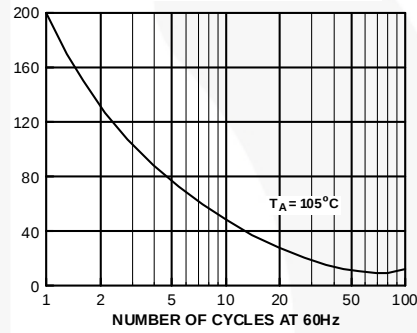


Figure 4. Non-Repetitive Surge Current

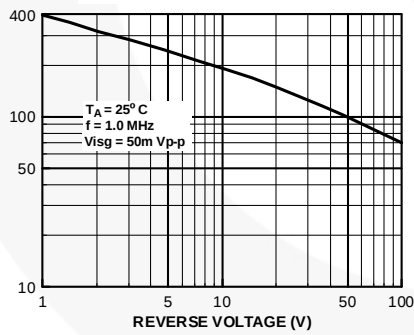
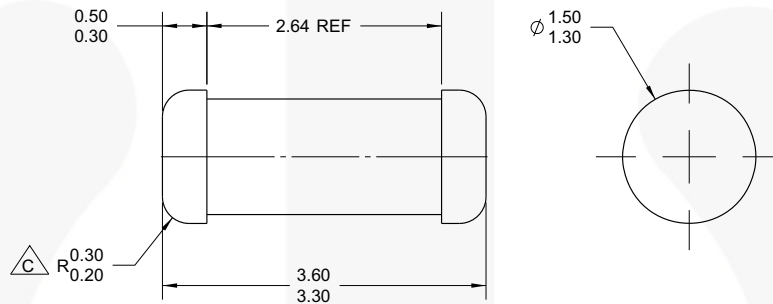


Figure 5. Junction Capacitance

Physical Dimensions

SOD-80



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

Figure 6. 2-TERMINAL, SOD-80, JEDEC DO-213AC, MINI-MELF

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Current Transfer Logic™	IntelliMAX™	Saving our world, 1mW/W/kW at a time™	TinyWire™
DEUXPEED®	ISOPLANAR™	SignalWise™	TranSiC™
Dual Cool™	Making Small Speakers Sound Louder and Better™	SmartMax™	TriFault Detect™
EcoSPARK®	MegaBuck™	SMART START™	TRUECURRENT®*
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Fairchild Semiconductor®	MillerDrive™	SuperSOT™-3	UniFET™
FACT Quiet Series™	MotionMax™	SuperSOT™-6	VCX™
FACT®	mWSaver™	SuperSOT™-8	VisualMax™
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