

Small Signal Switching Diodes, High Voltage



FEATURES

- Silicon epitaxial planar diodes
- Saving space
- Hermetic sealed parts
- Fits onto SOD-323/SOT-23 footprints
- Electrical data identical with the devices BAV100 to BAV103, BAV200 to BAV203
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?999912



RoHS
COMPLIANT
HALOGEN
FREE

MECHANICAL DATA

Case: MicroMELF

Weight: approx. 12 mg

Cathode band color: black

Packaging codes/options:

TR3/10K per 13" reel (8 mm tape), 10K/box

TR/2.5K per 7" reel (8 mm tape), 12.5K/box

APPLICATIONS

- General purposes

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	INTERNAL CONSTRUCTION	REMARKS
BAV300	$V_{RRM} = 60\text{ V}$	BAV300-TR3 or BAV300-TR	Single diode	Tape and reel
BAV301	$V_{RRM} = 120\text{ V}$	BAV301-TR3 or BAV301-TR	Single diode	Tape and reel
BAV302	$V_{RRM} = 200\text{ V}$	BAV302-TR3 or BAV302-TR	Single diode	Tape and reel
BAV303	$V_{RRM} = 250\text{ V}$	BAV303-TR3 or BAV303-TR	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		BAV300	V_{RRM}	60	V
		BAV301	V_{RRM}	120	V
		BAV302	V_{RRM}	200	V
		BAV303	V_{RRM}	250	V
Reverse voltage		BAV300	V_R	50	V
		BAV301	V_R	100	V
		BAV302	V_R	150	V
		BAV303	V_R	200	V
Forward continuous current			I_F	250	mA
Peak forward surge current	$t_p = 1\text{ s}, T_j = 25\text{ }^{\circ}\text{C}$		I_{FSM}	1	A
Forward peak current	$f = 50\text{ Hz}$		I_{FM}	625	mA

**THERMAL CHARACTERISTICS** ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	Mounted on epoxy-glass hard tissue, fig. 4 35 μm copper clad, 0.9 mm^2 copper area per electrode	R_{thJA}	500	K/W
Junction temperature		T_j	175	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 175	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 100\text{ mA}$		V_F			1000	mV
Reverse current	$V_R = 50\text{ V}$	BAV300	I_R			100	nA
	$V_R = 100\text{ V}$	BAV301	I_R			100	nA
	$V_R = 150\text{ V}$	BAV302	I_R			100	nA
	$V_R = 200\text{ V}$	BAV303	I_R			100	nA
	$T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 50\text{ V}$	BAV300	I_R			15	μA
	$T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 100\text{ V}$	BAV301	I_R			15	μA
	$T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 150\text{ V}$	BAV302	I_R			15	μA
	$T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 200\text{ V}$	BAV303	I_R			15	μA
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$	BAV300	$V_{(BR)}$	60			V
		BAV301	$V_{(BR)}$	120			V
		BAV302	$V_{(BR)}$	200			V
		BAV303	$V_{(BR)}$	250			V
Diode capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$		C_D		1.5		pF
Differential forward resistance	$I_F = 10\text{ mA}$		r_f		5		Ω
Reverse recovery time	$I_F = I_R = 30\text{ mA}$, $i_R = 3\text{ mA}$, $R_L = 100\text{ }\Omega$		t_{rr}			50	ns

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

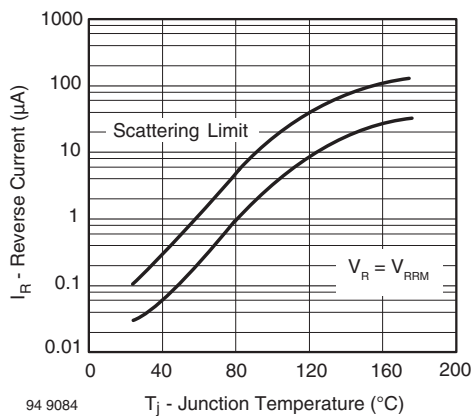


Fig. 1 - Reverse Current vs. Junction Temperature

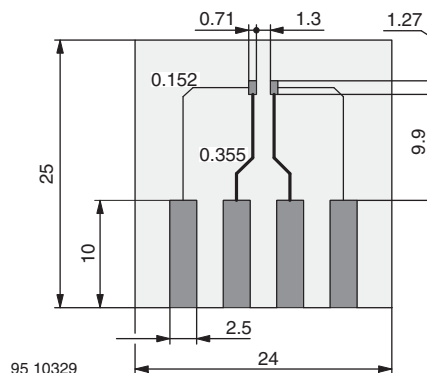


Fig. 4 - Board for R_{thJA} Definition (in mm)

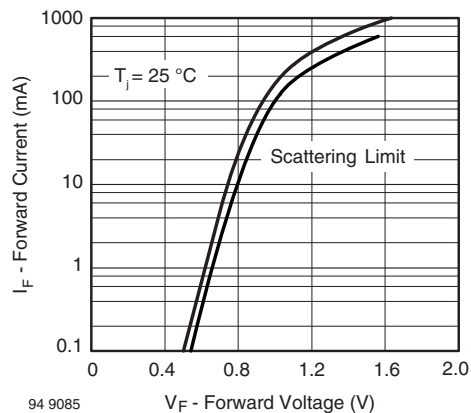


Fig. 2 - Forward Current vs. Forward Voltage

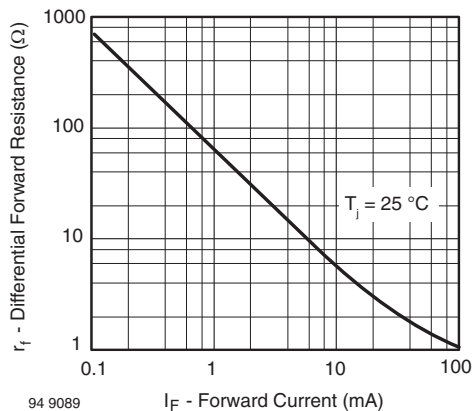
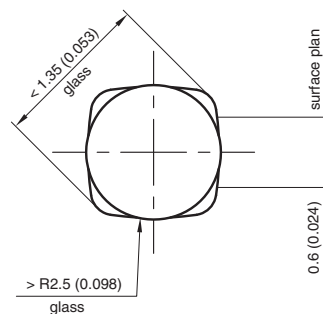
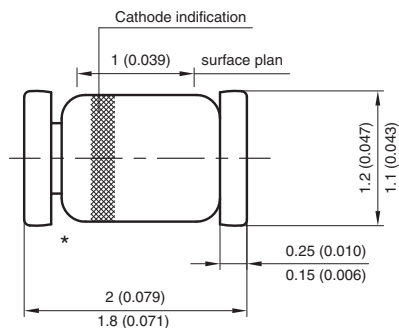
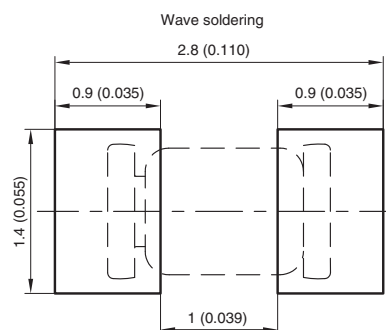
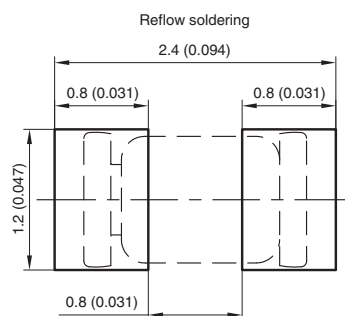


Fig. 3 - Differential Forward Resistance vs. Forward Current

PACKAGE DIMENSIONS in millimeters (inches): **MicroMELF**

* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



Created - Date: 26.July.1996
Rev. 13 - Date: 07.June.2006
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96 12072



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