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
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT
HALOGEN FREE

APPLICATIONS

- General purposes

LINKS TO ADDITIONAL RESOURCES

3D Models | Marking | Parametric Search | Order Samples

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

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	CIRCUIT CONFIGURATION	REMARKS
BAV300	V_{RRM} = 60 V	BAV300-TR3 or BAV300-TR	Single	Tape and reel
BAV301	V_{RRM} = 120 V	BAV301-TR3 or BAV301-TR	Single	Tape and reel
BAV302	V_{RRM} = 200 V	BAV302-TR3 or BAV302-TR	Single	Tape and reel
BAV303	V_{RRM} = 250 V	BAV303-TR3 or BAV303-TR	Single	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °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 s, T_j = 25 °C		I_{FSM}	1	A
Forward peak current	f = 50 Hz		I_{FM}	625	mA

THERMAL CHARACTERISTICS (T_{amb} = 25 °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	°C
Storage temperature range		T_{stg}	-65 to +175	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 100 mA		V_F			1	V
Reverse current	V_R = 50 V	BAV300	I_R			100	nA
	V_R = 100 V	BAV301	I_R			100	nA
	V_R = 150 V	BAV302	I_R			100	nA
	V_R = 200 V	BAV303	I_R			100	nA
	T_j = 100 °C, V_R = 50 V	BAV300	I_R			15	µA
	T_j = 100 °C, V_R = 100 V	BAV301	I_R			15	µA
	T_j = 100 °C, V_R = 150 V	BAV302	I_R			15	µA
	T_j = 100 °C, V_R = 200 V	BAV303	I_R			15	µA
Breakdown voltage	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 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 V, f = 1 MHz		C_D		1.5		pF
Differential forward resistance	I_F = 10 mA		r_f		5		Ω
Reverse recovery time	I_F = I_R = 30 mA, i_R = 3 mA, R_L = 100 Ω		t_{rr}			50	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

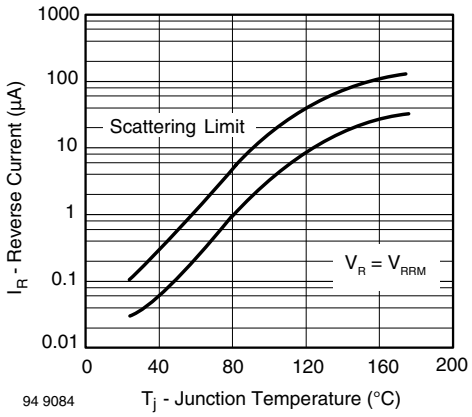


Fig. 1 - Reverse Current vs. Junction Temperature

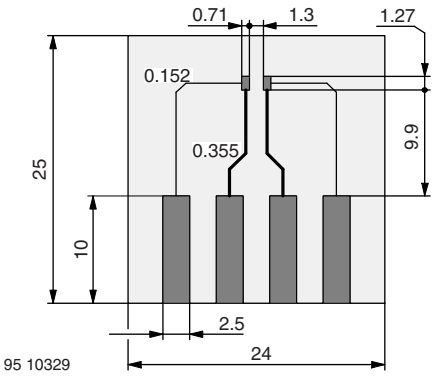


Fig. 4 - Board for R_{thJA} Definition (in mm)

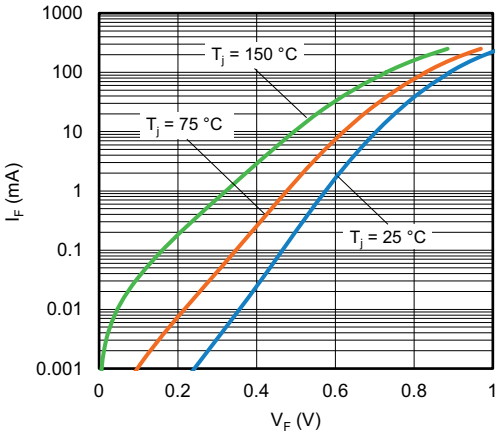


Fig. 2 - Forward Current vs. Forward Voltage, I_F vs. V_F

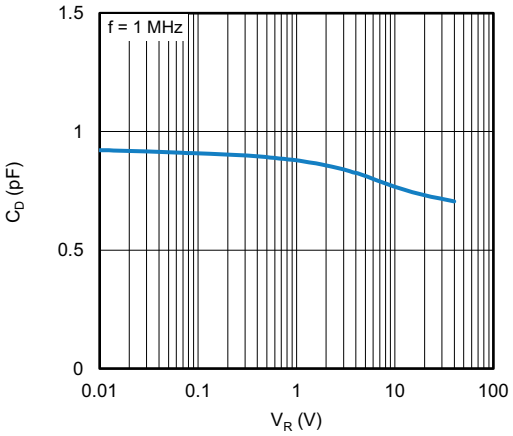


Fig. 5 - Typical Capacitance vs. Reverse Voltage, C_D vs. V_R

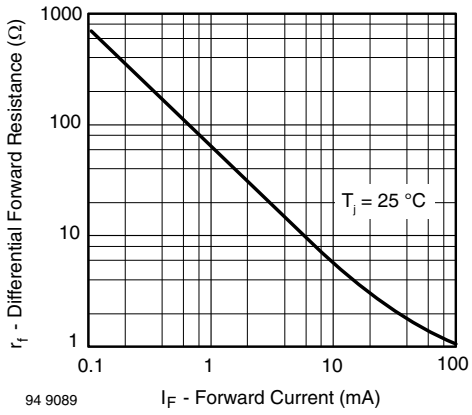
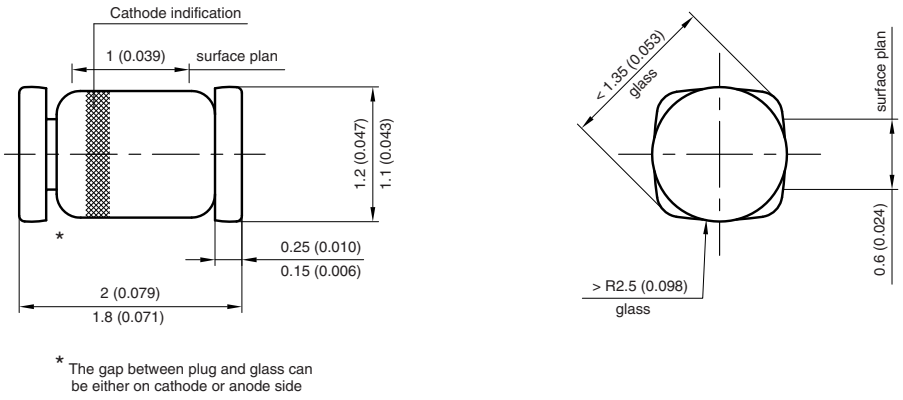


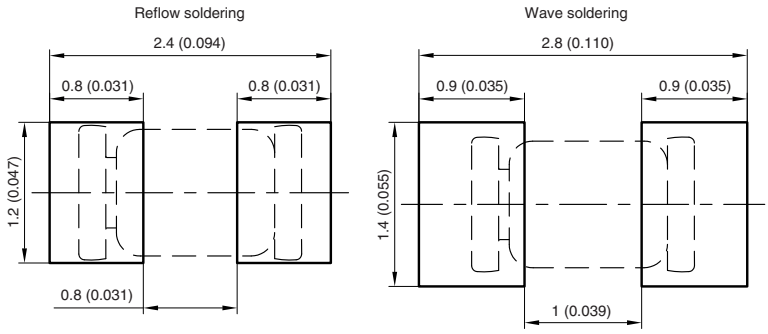
Fig. 3 - Differential Forward Resistance vs. Forward Current

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



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

Foot print recommendation:



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