

BAV100, BAV101, BAV102, BAV103

Vishay Semiconductors

Small Signal Switching Diodes, High Voltage



FEATURES

- Silicon epitaxial planar diode
- AEC-Q101 qualified
- Material categorization:
 For definitions of compliance please see www.vishay.com/doc?99912





APPLICATIONS

· General purposes

MECHANICAL DATA

Case: MiniMELF SOD-80
Weight: approx. 31 mg
Cathode band color: black
Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box GS08/2.5K per 7" reel (8 mm tape), 12.5K/box

PARTS TABLE						
PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS	
BAV100	$V_{RRM} = 60 \text{ V}$	BAV100-GS18 or BAV100-GS08	-	Single diode	Tape and reel	
BAV101	V _{RRM} = 120 V	BAV101-GS18 or BAV101-GS08	-	Single diode	Tape and reel	
BAV102	V _{RRM} = 200 V	BAV102-GS18 or BAV102-GS08	-	Single diode	Tape and reel	
BAV103	V _{RRM} = 250 V	BAV103-GS18 or BAV103-GS08	-	Single diode	Tape and reel	

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
		BAV100	V _{RRM}	60	V	
Popotitivo poek reverse voltage		BAV101	V _{RRM}	120	V	
Repetitive peak reverse voltage		BAV102	V _{RRM}	200	V	
		BAV103	V _{RRM}	250	V	
		BAV100	V_R	50	V	
Poverse voltage		BAV101	V _R	100	V	
Reverse voltage		BAV102	V _R	150	V	
		BAV103	V _R	200	V	
Peak forward surge current	t _p = 1 μs		I _{FSM}	1	А	
Repetitive peak forward current			I _{FRM}	625	mA	
Forward continuous current			I _F	250	mA	
Power dissipation			P _{tot}	500	mW	



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THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT			
Thermal resistance junction to lead		R _{thJL}	350	K/W			
Thermal resistance junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R _{thJA}	500	K/W			
Junction temperature		Tj	175	°C			
Storage temperature range		T _{stg}	- 65 to + 175	°C			

ELECTRICAL							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 100 mA		V_{F}			1000	mV
	V _R = 50 V	BAV100	I _R			100	nA
	V _R = 100 V	BAV101	I _R			100	nA
	V _R = 150 V	BAV102	I _R			100	nA
D	V _R = 200 V	BAV103	I _R			100	nA
Reverse current	T _j = 100 °C, V _R = 50 V	BAV100	I _R			15	μΑ
	T _j = 100 °C, V _R = 100 V	BAV101	I _R			15	μΑ
	T _j = 100 °C, V _R = 150 V	BAV102	I _R			15	μΑ
	T _j = 100 °C, V _R = 200 V	BAV103	I _R			15	μΑ
	$I_R = 100 \mu A, t_p/T = 0.01,$ $t_p = 0.3 \text{ ms}$	BAV100	V _(BR)	60			V
Breakdown voltage	$I_R = 100 \ \mu A, \ t_p/T = 0.01, \ t_p = 0.3 \ ms$	BAV101	V _(BR)	120			V
	$I_R = 100 \ \mu\text{A}, \ t_p/T = 0.01, \ t_p = 0.3 \ \text{ms}$	BAV102	V _(BR)	200			V
		BAV103	V _(BR)	250			V
Diode capacitance	$V_R = 0 \text{ V, f} = 1 \text{ MHz,} $ $V_{HF} = 50 \text{ mV}$		C _D		1.5		pF
Differential forward current	I _F = 10 mA		r _f		5		Ω
Reverse recovery time	$I_F = I_R = 30 \text{ mA},$ $I_R = 3 \text{ mA}, R_L = 100 \Omega$		t _{rr}			50	ns

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

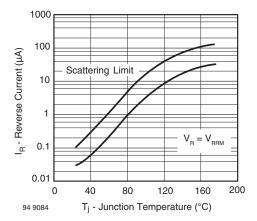


Fig. 1 - Reverse Current vs. Junction Temperature

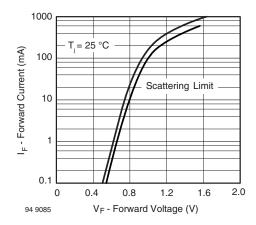


Fig. 2 - Forward Current vs. Forward Voltage

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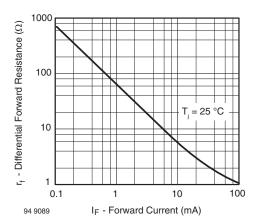
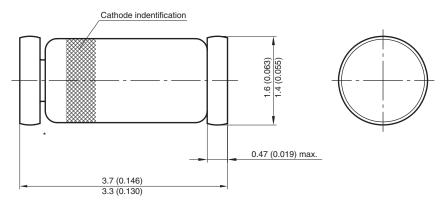
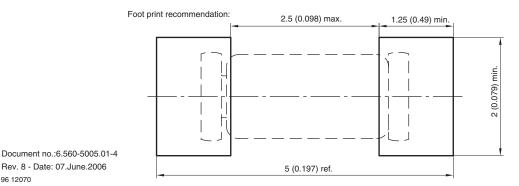


Fig. 3 - Differential Forward Resistance vs. Forward Current

PACKAGE DIMENSIONS in millimeters (inches): MiniMELF SOD-80



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



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