



## Small Signal Switching Diodes, High Voltage



### FEATURES

- Silicon epitaxial planar diode
- Material categorization:  
for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### APPLICATIONS

- General purposes

### LINKS TO ADDITIONAL RESOURCES



### 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	CIRCUIT CONFIGURATION	REMARKS
BAV100	$V_{RRM} = 60\text{ V}$	BAV100-GS18 or BAV100-GS08	-	Single	Tape and reel
BAV101	$V_{RRM} = 120\text{ V}$	BAV101-GS18 or BAV101-GS08	-	Single	Tape and reel
BAV102	$V_{RRM} = 200\text{ V}$	BAV102-GS18 or BAV102-GS08	-	Single	Tape and reel
BAV103	$V_{RRM} = 250\text{ V}$	BAV103-GS18 or BAV103-GS08	-	Single	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		BAV100	$V_{RRM}$	60	V
		BAV101	$V_{RRM}$	120	V
		BAV102	$V_{RRM}$	200	V
		BAV103	$V_{RRM}$	250	V
Reverse voltage		BAV100	$V_R$	50	V
		BAV101	$V_R$	100	V
		BAV102	$V_R$	150	V
		BAV103	$V_R$	200	V
Peak forward surge current	$t_p = 1\text{ s}$		$I_{FSM}$	1	A
Repetitive peak forward current			$I_{FRM}$	625	mA
Forward continuous current			$I_F$	250	mA
Power dissipation			$P_{tot}$	500	mW



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

ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 100 mA		V <sub>F</sub>			1	V
Reverse current	V <sub>R</sub> = 50 V	BAV100	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 100 V	BAV101	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 150 V	BAV102	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 200 V	BAV103	I <sub>R</sub>			100	nA
	T <sub>j</sub> = 100 °C, V <sub>R</sub> = 50 V	BAV100	I <sub>R</sub>			15	µA
	T <sub>j</sub> = 100 °C, V <sub>R</sub> = 100 V	BAV101	I <sub>R</sub>			15	µA
	T <sub>j</sub> = 100 °C, V <sub>R</sub> = 150 V	BAV102	I <sub>R</sub>			15	µA
	T <sub>j</sub> = 100 °C, V <sub>R</sub> = 200 V	BAV103	I <sub>R</sub>			15	µA
Breakdown voltage	I <sub>R</sub> = 100 µA, t <sub>p</sub> /T = 0.01, t <sub>p</sub> = 0.3 ms	BAV100	V <sub>(BR)</sub>	60			V
	I <sub>R</sub> = 100 µA, t <sub>p</sub> /T = 0.01, t <sub>p</sub> = 0.3 ms	BAV101	V <sub>(BR)</sub>	120			V
	I <sub>R</sub> = 100 µA, t <sub>p</sub> /T = 0.01, t <sub>p</sub> = 0.3 ms	BAV102	V <sub>(BR)</sub>	200			V
		BAV103	V <sub>(BR)</sub>	250			V
Diode capacitance	V <sub>R</sub> = 0 V, f = 1 MHz, V <sub>HF</sub> = 50 mV		C <sub>D</sub>		1.5		pF
Differential forward current	I <sub>F</sub> = 10 mA		r <sub>f</sub>		5		Ω
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 30 mA, i <sub>R</sub> = 3 mA, R <sub>L</sub> = 100 Ω		t <sub>rr</sub>			50	ns

TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

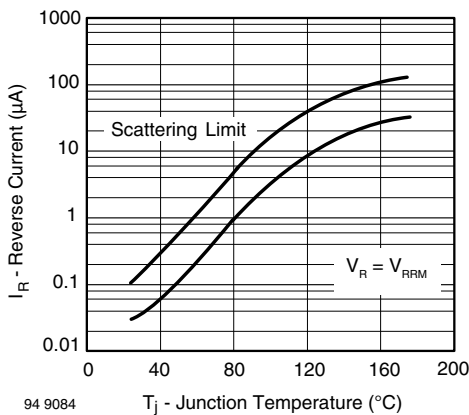


Fig. 1 - Reverse Current vs. Junction Temperature

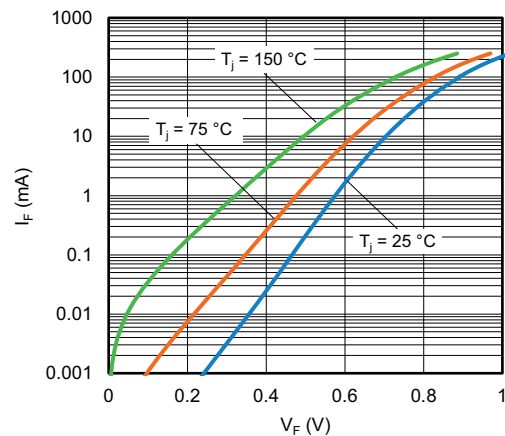


Fig. 2 - Forward Current vs. Forward Voltage, I<sub>F</sub> vs. V<sub>F</sub>

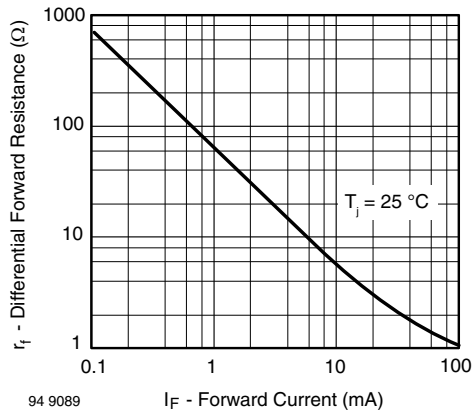


Fig. 3 - Differential Forward Resistance vs. Forward Current

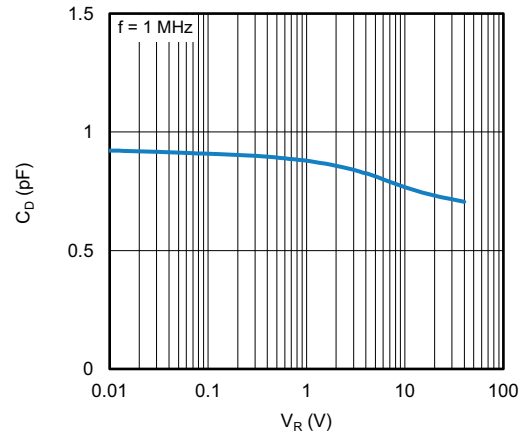
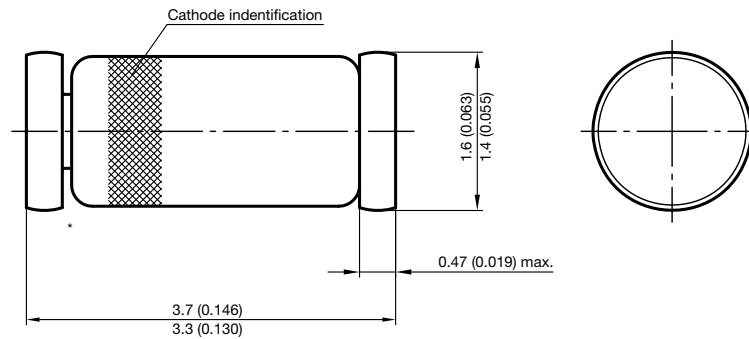
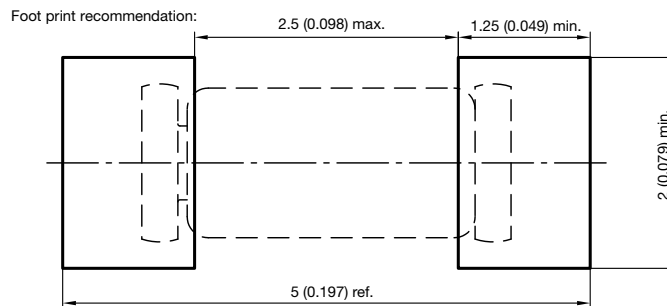


Fig. 4 - Typical Capacitance vs. Reverse Voltage,  $C_D$  vs.  $V_R$

## 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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