

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


RoHS
COMPLIANT

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	$V_{RRM} = 120\text{ V}$	BAV101-GS18 or BAV101-GS08	-	Single diode	Tape and reel
BAV102	$V_{RRM} = 200\text{ V}$	BAV102-GS18 or BAV102-GS08	-	Single diode	Tape and reel
BAV103	$V_{RRM} = 250\text{ V}$	BAV103-GS18 or BAV103-GS08	-	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		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** ($T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$, 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		T_j	175	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 175	$^{\circ}\text{C}$

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

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 100\text{ mA}$		V_F			1	V
Reverse current	$V_R = 50\text{ V}$	BAV100	I_R			100	nA
	$V_R = 100\text{ V}$	BAV101	I_R			100	nA
	$V_R = 150\text{ V}$	BAV102	I_R			100	nA
	$V_R = 200\text{ V}$	BAV103	I_R			100	nA
	$T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 50\text{ V}$	BAV100	I_R			15	μA
	$T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 100\text{ V}$	BAV101	I_R			15	μA
	$T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 150\text{ V}$	BAV102	I_R			15	μA
	$T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 200\text{ V}$	BAV103	I_R			15	μA
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$	BAV100	$V_{(BR)}$	60			V
	$I_R = 100\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$	BAV101	$V_{(BR)}$	120			V
	$I_R = 100\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$	BAV102	$V_{(BR)}$	200			V
	$I_R = 100\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$	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	$I_F = 10\text{ mA}$		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

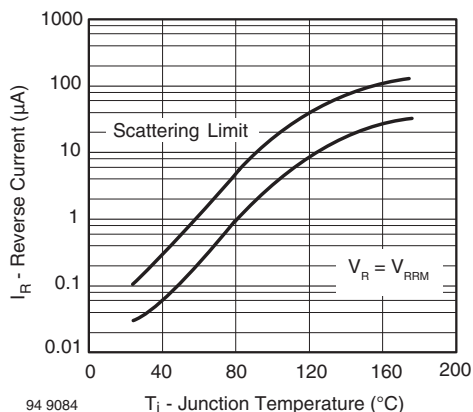
TYPICAL CHARACTERISTICS ($T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

Fig. 1 - Reverse Current vs. Junction Temperature

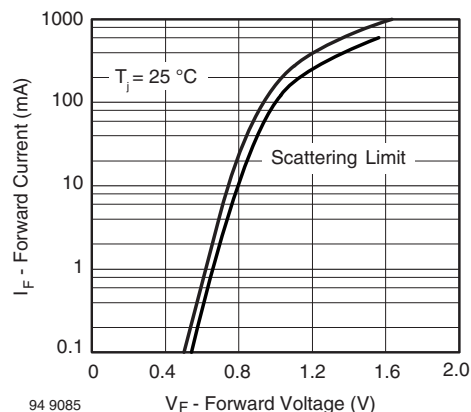


Fig. 2 - Forward Current vs. Forward Voltage

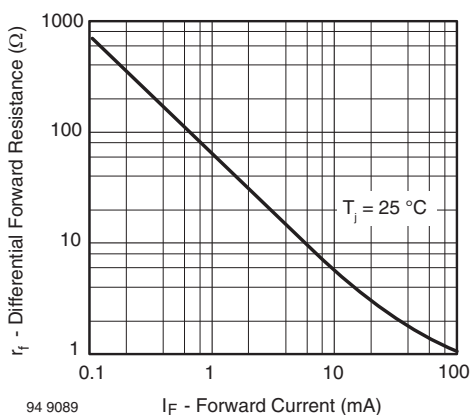
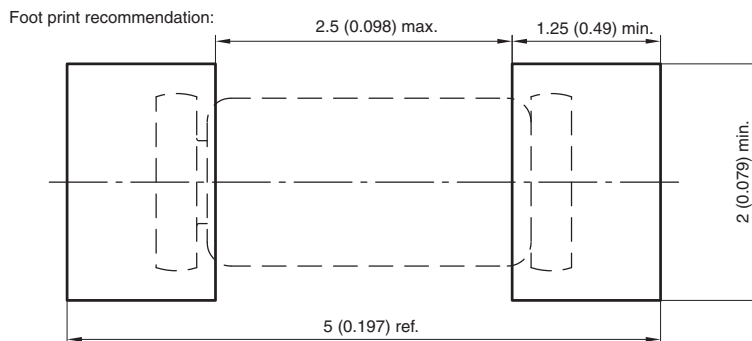
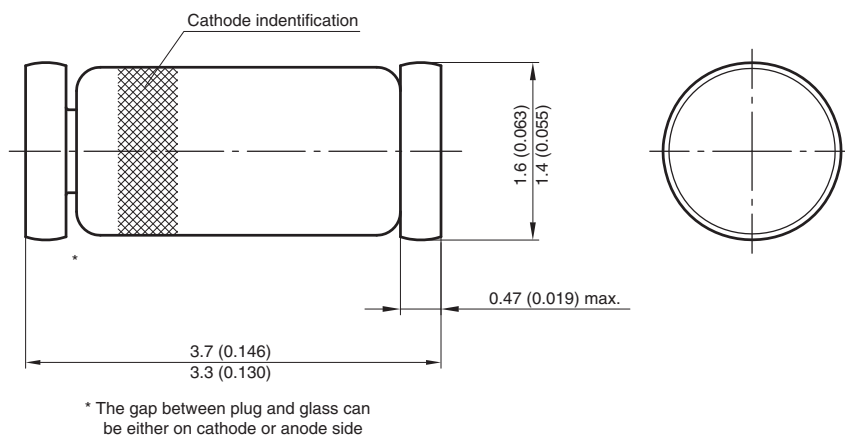


Fig. 3 - Differential Forward Resistance vs. Forward Current

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



Document no.: 6.560-5005.01-4
Rev. 8 - Date: 07.June.2006
96 12070



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