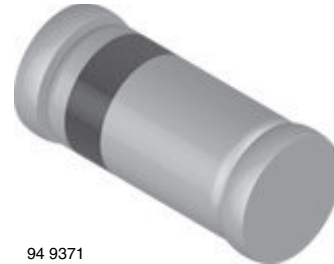




## Small Signal Switching Diodes, High Voltage

### Features

- Silicon epitaxial planar diodes
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



94 9371

### Applications

- General purposes

### Mechanical Data

**Case:** MiniMELF SOD-80

**Weight:** approx. 31 mg

**Cathode band color:** black

**Packaging codes/options:**

GS18/10 k per 13" reel (8 mm tape), 10 k/box

GS08/2.5 k per 7" reel (8 mm tape), 12.5 k/box

### Parts Table

Part	Type differentiation	Ordering code	Type Marking	Remarks
BAV100	$V_{RRM} = 60\text{ V}$	BAV100-GS18 or BAV100-GS08	-	Tape and Reel
BAV101	$V_{RRM} = 120\text{ V}$	BAV101-GS18 or BAV101-GS08	-	Tape and Reel
BAV102	$V_{RRM} = 200\text{ V}$	BAV102-GS18 or BAV102-GS08	-	Tape and Reel
BAV103	$V_{RRM} = 250\text{ V}$	BAV103-GS18 or BAV103-GS08	-	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

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

Parameter	Test condition	Symbol	Value	Unit
Junction 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

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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	$V_R = 50\text{ V}$	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	$\mu\text{A}$
	$T_j = 100\text{ }^{\circ}\text{C}$ , $V_R = 100\text{ V}$	BAV101	$I_R$			15	$\mu\text{A}$
	$T_j = 100\text{ }^{\circ}\text{C}$ , $V_R = 150\text{ V}$	BAV102	$I_R$			15	$\mu\text{A}$
	$T_j = 100\text{ }^{\circ}\text{C}$ , $V_R = 200\text{ V}$	BAV103	$I_R$			15	$\mu\text{A}$
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
		BAV103	$V_{(BR)}$	250			V
Diode capacitance	$V_R = 0$ , $f = 1\text{ MHz}$		$C_D$		1.5		pF
Differential forward resistance	$I_F = 10\text{ mA}$		$r_f$		5		$\Omega$
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

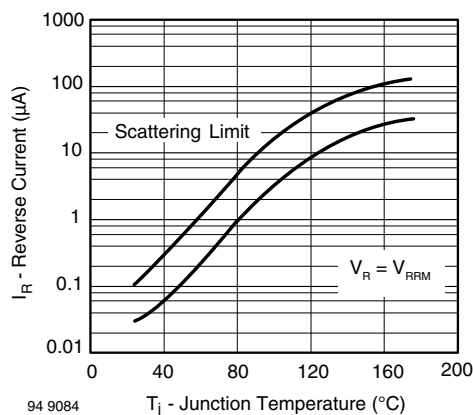


Figure 1. Reverse Current vs. Junction Temperature

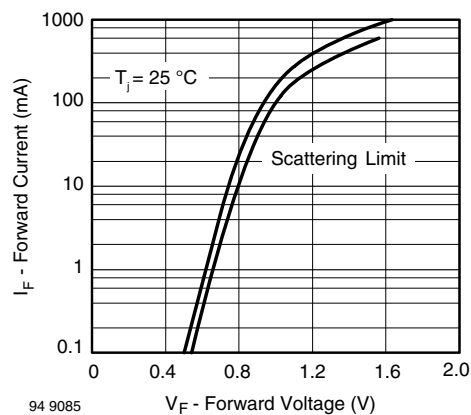


Figure 2. Forward Current vs. Forward Voltage

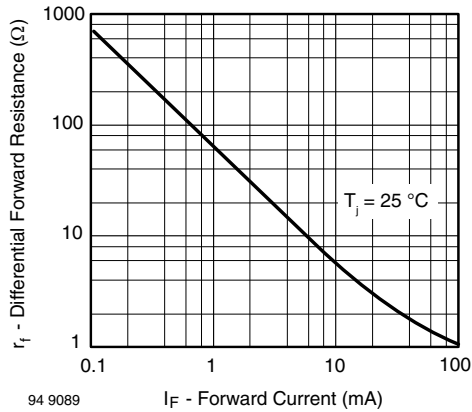
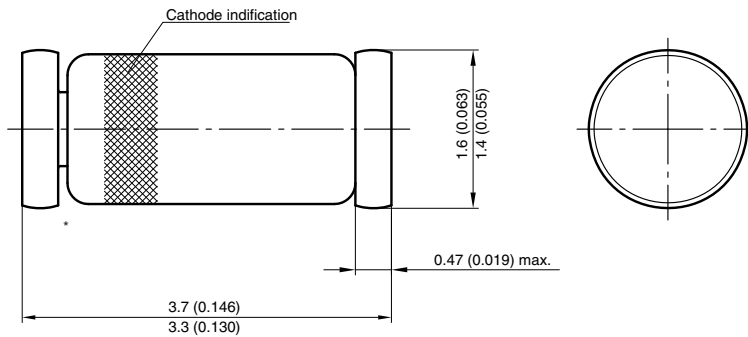


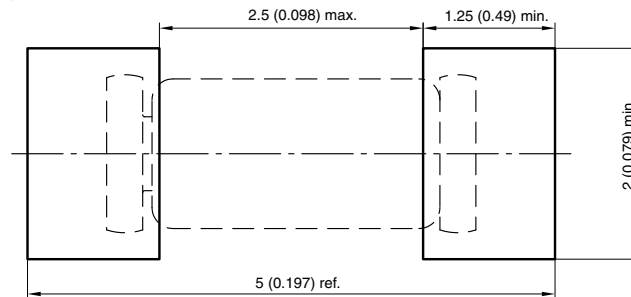
Figure 3. Differential Forward Resistance vs. Forward Current

## Package Dimensions in millimeters (inches): MiniMELF SOD-80



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

Foot print recommendation:



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 Rev. 8 - Date: 07.June.2006  
 96 12070



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