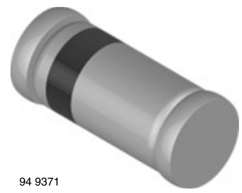
Small Signal Switching Diodes, High Voltage

Features

- Silicon Epitaxial Planar Diodes
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC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Applications

- General purposes

Mechanical Data

Case: MiniMELF Glass case (SOD80)
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 V	BAV100-GS18 or BAV100-GS08	-	Tape and Reel
BAV101	V_{RRM} = 120 V	BAV101-GS18 or BAV101-GS08	-	Tape and Reel
BAV102	V_{RRM} = 200 V	BAV102-GS18 or BAV102-GS08	-	Tape and Reel
BAV103	V_{RRM} = 250 V	BAV103-GS18 or BAV103-GS08	-	Tape and Reel

Absolute Maximum Ratings

T_{amb} = 25 °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 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 °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	°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			1000	mV
Reverse current	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
	V_R = 200 V	BAV103	I_R			100	nA
	T_j = 100 °C, V_R = 50 V	BAV100	I_R			15	µA
	T_j = 100 °C, V_R = 100 V	BAV101	I_R			15	µA
	T_j = 100 °C, V_R = 150 V	BAV102	I_R			15	µA
	T_j = 100 °C, V_R = 200 V	BAV103	I_R			15	µA
Breakdown voltage	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms	BAV100	$V_{(BR)}$	60			V
	I_R=100 µA, t_p/T = 0.01, t_p = 0.3 ms	BAV101	$V_{(BR)}$	120			V
	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms	BAV102	$V_{(BR)}$	200			V
		BAV103	$V_{(BR)}$	250			V
Diode capacitance	V_R = 0, 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

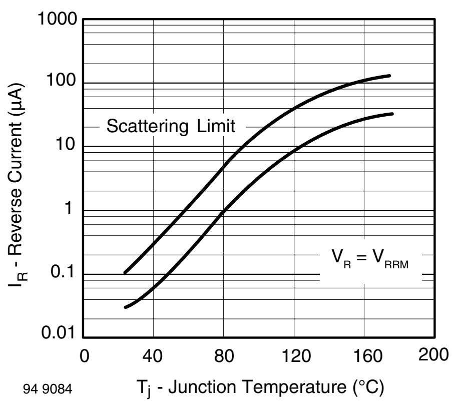


Figure 1. Reverse Current vs. Junction Temperature

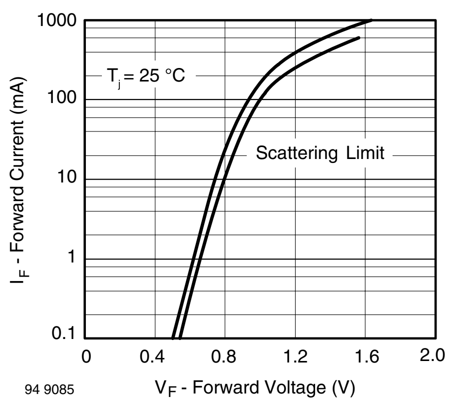


Figure 2. Forward Current vs. Forward Voltage

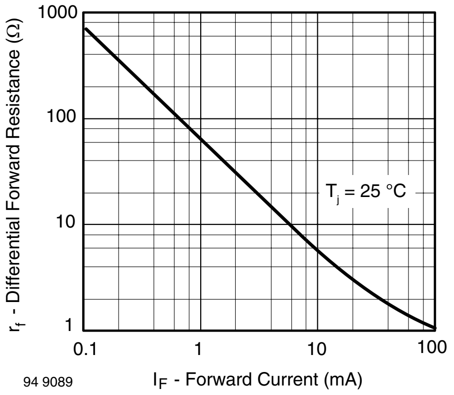
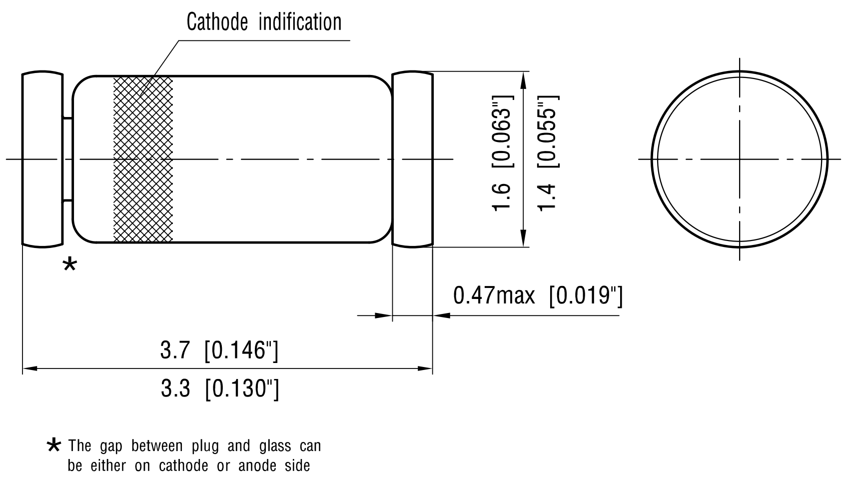
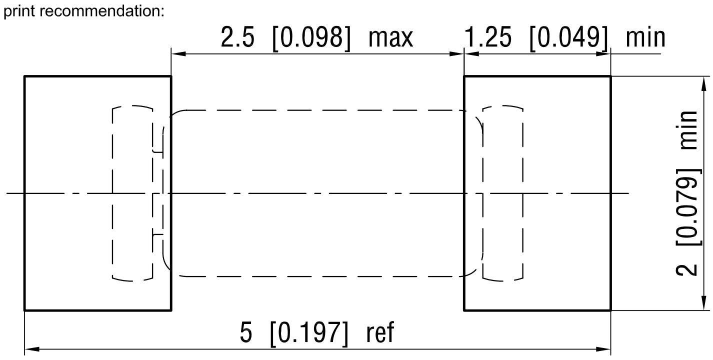


Figure 3. Differential Forward Resistance vs. Forward Current

Package Dimensions in millimeters (inches): SOD80



foot print recommendation:



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Ozone Depleting Substances Policy Statement

It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany

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