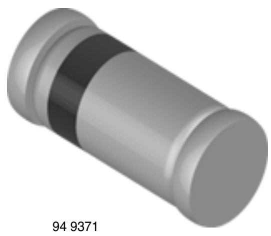
Small Signal Schottky Diode

Features

- For general purpose applications
- This diode features low turn-on voltage
- The devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- This diode is also available in a DO35 case with type designation BAT85
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



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Applications

- Applications where a very low forward voltage is required

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	Ordering code	Type Marking	Remarks
BAS85	BAS85-GS18 or BAS85-GS08	-	Tape and Reel

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Continuous reverse voltage		V_R	30	V
Forward continuous current	T_{amb} = 25 °C	I_F	200[1)]	mA
Peak forward current	T_{amb} = 25 °C	I_{FM}	300[1)]	mA
Surge forward current	t_p < 1 s, T_{amb} = 25 °C	I_{FSM}	600[1)]	mA
Power dissipation	T_{amb} = 65 °C	P_{tot}	200[1)]	mW

[1)] Valid provided that electrodes are kept at ambient temperature.

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	430[1)]	K/W
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	- 55 to +150	°C

[1)] Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	I_R = 10 µA (pulsed)	$V_{(BR)R}$	30			V
Leakage current	V_R = 25 V	I_R		0.2	2	µA
Forward voltage	Pulse test t_p < 300 µs, I_F = 0.1 mA	V_F			240	mV
	Pulse test t_p < 300 µs, I_F = 1 mA	V_F			320	mV
	Pulse test t_p < 300 µs, I_F = 10 mA	V_F			400	mV
	Pulse test t_p < 300 µs, I_F = 30 mA	V_F		500		mV
	Pulse test t_p < 300 µs, I_F = 100 mA	V_F			800	mV
Diode capacitance	V_R = 1 V, f = 1 MHz	C_{tot}			10	pF
Reverse recovery time	I_F = 10 mA, I_R = 10 mA, I_{rr} = 1 mA,	t_{rr}			5	ns

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

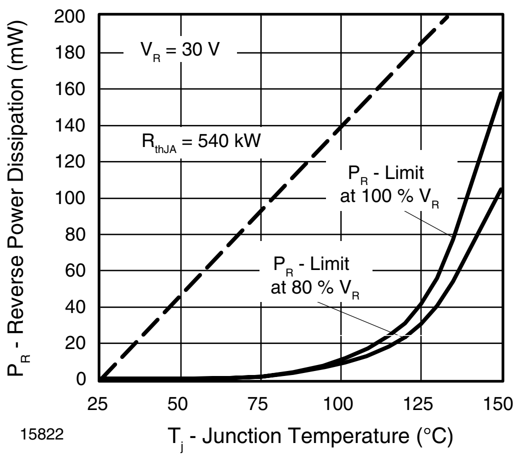


Figure 1. Max. Reverse Power Dissipation vs. Junction Temperature

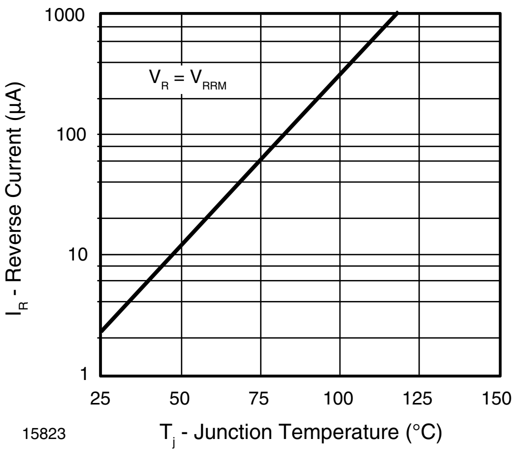


Figure 2. Reverse Current vs. Junction Temperature

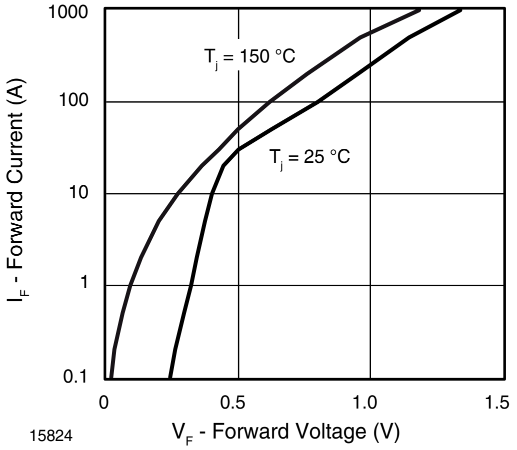


Figure 3. Forward Current vs. Forward Voltage

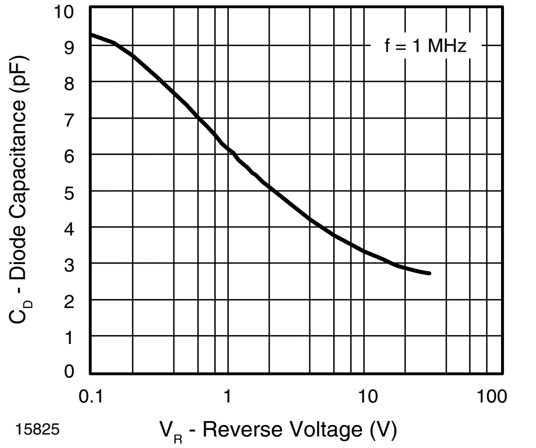
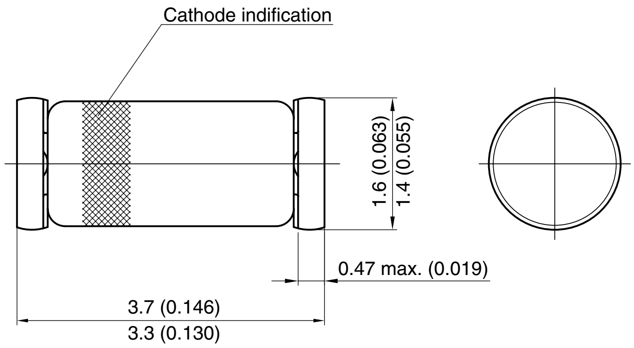
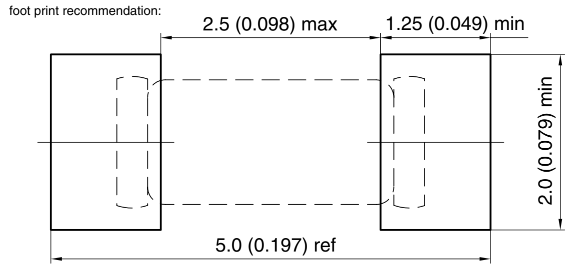


Figure 4. Diode Capacitance vs. Reverse Voltage

Package Dimensions in mm (Inches)





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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.

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and may do so without further notice.
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