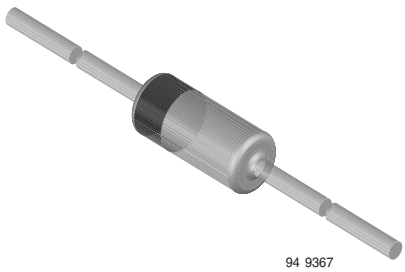
Schottky Diodes

Features

- For general purpose applications
- These diodes feature very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- This diode is also available in the Mini-MELF case with type designations LL46



Mechanical Data

Case: DO-35 Glass Case

Weight: approx. 125 mg

Packaging Codes/Options:

TR / 10 k per 13 " reel (52 mm tape), 50 k/box

TAP / 10 k per Ammopack (52 mm tape), 50 k/box

Parts Table

Part	Ordering code	Marking	Remarks
BAT48	BAT48-TAP or BAT48-TR	-	Ammopack / Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	40	V
Forward continuous current	T_{amb} = 25 °C	I_F	350[1)]	mA
Repetitive peak forward current	t_p < 1 s, θ < 0.5, T_{amb} = 25 °C	I_{FRM}	1.0[1)]	A
Surge forward current	t_p < 10 ms, T_{amb} = 25 °C	I_{FSM}	7.5[1)]	A
Power dissipation[1)]	T_{amb} = 65 °C	P_{tot}	330[1)]	mW

[1)] Valid provided that leads at a distance of 4 mm from case 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}	300[1)]	°C/W
Junction temperature		T_j	125	°C
Ambient operating temperature range		T_{amb}	- 65 to + 125	°C
Storage temperature range		T_S	- 65 to +150	°C

[1)] Valid provided that leads at a distance of 4 mm from case 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 = 100 µA (pulsed)	$V_{(BR)R}$	40			V
Forward voltage	Pulse test t_p < 300 µs, δ < 2 % at I_F = 0.1 mA	V_F			0.25	V
Forward voltage[1)]	Pulse test t_p < 300 µs, δ < 2 % at I_F = 1.0 mA	V_F			0.30	V
	Pulse test t_p < 300 µs, δ < 2 % at I_F = 10 mA	V_F			0.40	V
	Pulse test t_p < 300 µs, δ < 2 % at I_F = 50 mA	V_F			0.50	V
	Pulse test t_p < 300 µs, δ < 2 % at I_F = 200 mA	V_F			0.75	V
	Pulse test t_p < 300 µs, δ < 2 % at I_F = 500 mA	V_F			0.90	V
Leakage current	Pulse test t_p < 300 µs, δ < 2 % at V_R = 10 V	I_R			2	nA
	Pulse test t_p < 300 µs, δ < 2 % at V_R = 1.5 V, T_j = 60 °C	I_R			15	nA
	Pulse test t_p < 300 µs, δ < 2 % at V_R = 10 V	I_R			5	nA
	Pulse test t_p < 300 µs, δ < 2 % at V_R = 10 V, T_j = 60 °C	I_R			25	nA
	Pulse test t_p < 300 µs, δ < 2 % at V_R = 20 V	I_R			25	nA
	Pulse test t_p < 300 µs, δ < 2 % at V_R = 20 V, T_j = 60 °C	I_R			50	nA
Diode capacitance	V_R = 1 V, f = 1 MHz	C_{tot}		12		pF

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

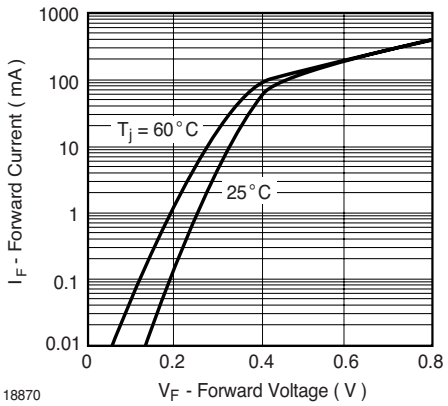


Fig. 1 Forward Current vs. Forward Voltage

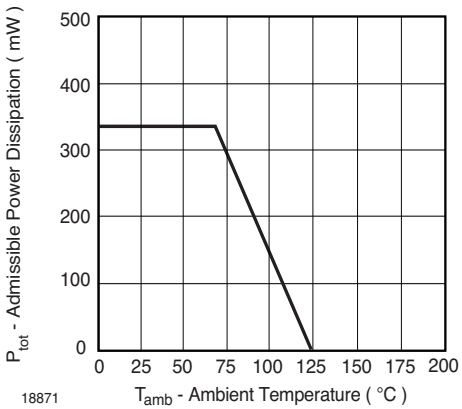


Fig. 2 Admissible Power Dissipation vs. Ambient Temperature

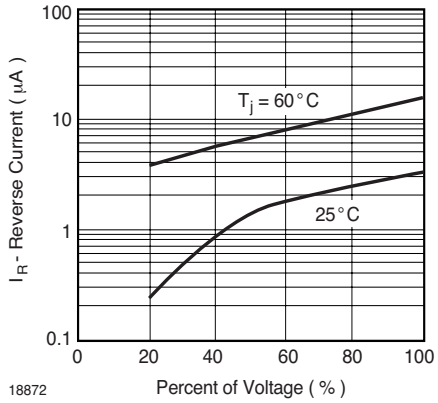
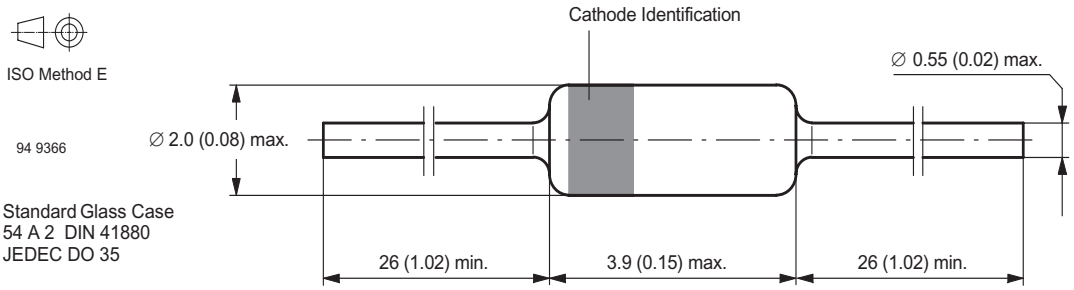


Fig. 3 Reverse Current vs. Percent of Reverse Voltage

Package Dimensions in mm (Inches)



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 operatingsystems 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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