Small Signal Schottky Diode

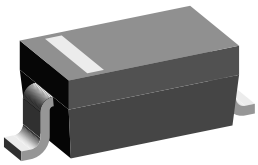
Features

- For general purpose applications
- This diode features very low turn-on voltage and fast switching.
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.
- This diode is also available in the DO-35 case with the type designation BAT46 and in the MiniMELF case with the type designation LL46.
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT



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Mechanical Data

Case: SOD-123

Weight: approx. 10.3 mg

Packaging Codes/Options:

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

GS08/3 k per 7" reel (8 mm tape), 15 k/box

Parts Table

Part	Ordering code	Type Marking	Remarks
BAT46W-V	BAT46W-V-GS18 or BAT46W-V-GS08	L6	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}	100	V
Forward continuous current		I_F	150[1)]	mA
Repetitive peak forward current	t_p < 1 s, δ < 0.5	I_{FRM}	350[1)]	mA
Surge forward current	t_p < 10 ms	I_{FSM}	750[1)]	mA
Power dissipation[1)]	T_{amb} = 65 °C	P_{tot}	150[1)]	mW

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

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

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)]	K/W
Junction temperature		T_j	125	°C
Ambient operating temperature range		T_{amb}	- 55 to + 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 = 100 µA (pulsed)	$V_{(BR)}$	100			V
Leakage current[2)]	V_R = 1.5 V	I_R			0.5	µA
	V_R = 1.5 V, T_j = 60 °C	I_R			5	µA
	V_R = 10 V	I_R			0.8	µA
	V_R = 10 V, T_j = 60 °C	I_R			7.5	µA
	V_R = 50 V	I_R			2	µA
	V_R = 50 V, T_j = 60 °C	I_R			15	µA
	V_R = 75 V	I_R			5	µA
	V_R = 75 V, T_j = 60 °C	I_R			20	µA
Forward voltage[2)]	I_F = 0.1 mA	V_F			250	mV
	I_F = 10 mA	V_F			450	mV
	I_F = 250 mA	V_F			1000	mV
Diode capacitance	V_R = 0 V, f = 1 MHz	C_D		10		pF
	V_R = 1 V, f = 1 MHz	C_D		6		pF

[2)] Pulse test t_p < 300 µs, δ < 2 %

Typical Characteristics

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

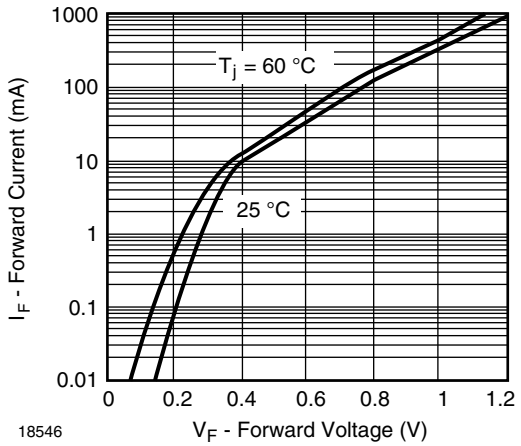

Figure 1. Typical Instantaneous Forward Characteristics

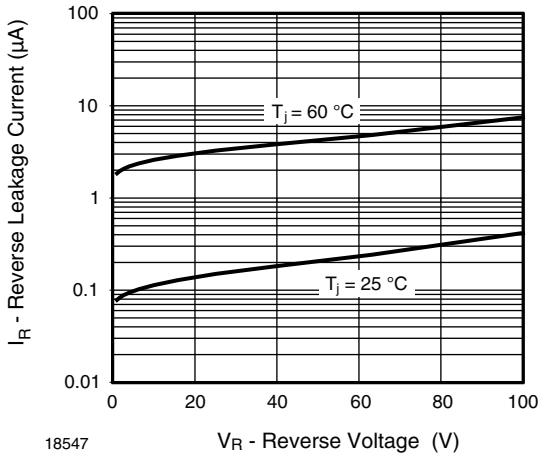

Figure 2. Typical Reverse Characteristics

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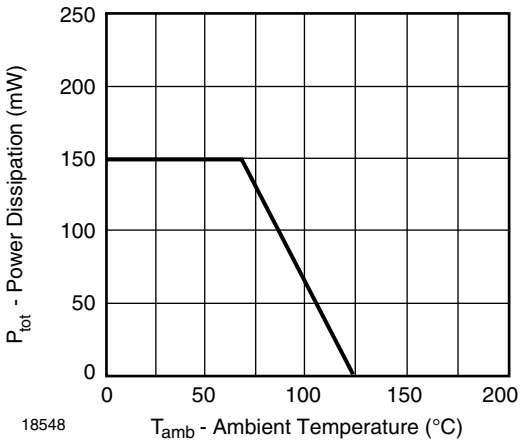
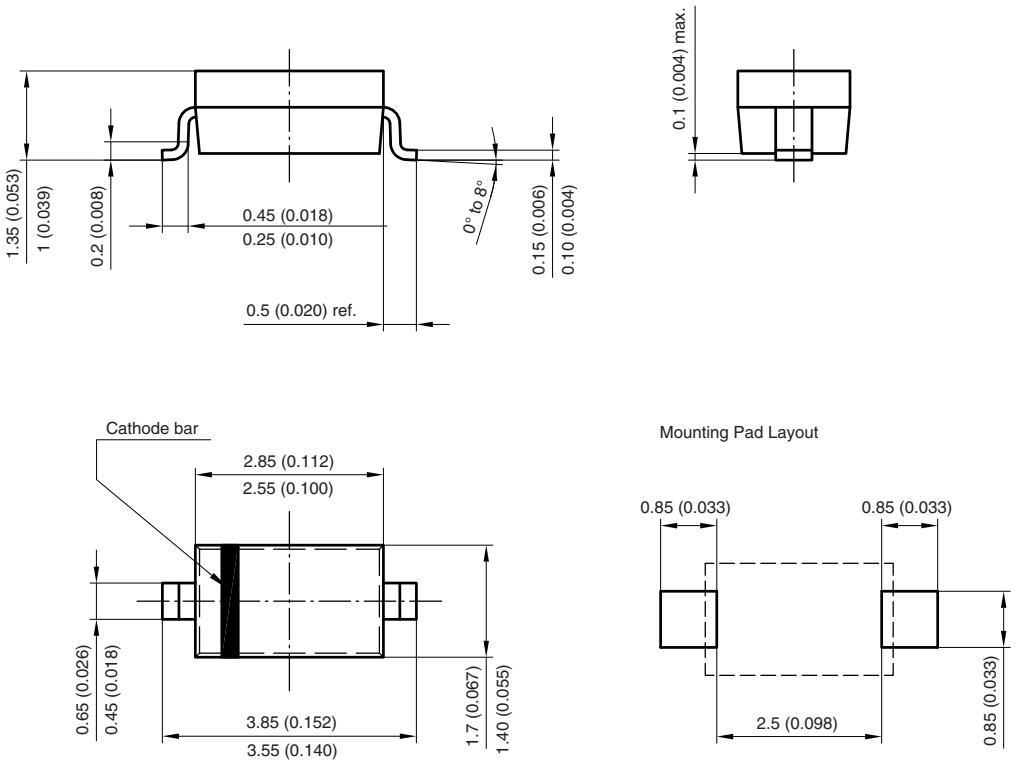


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

Package Dimensions in millimeters (inches): **SOD-123**



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