Small Signal Schottky Diode

FEATURES

- For general purpose applications
- This diode features low turn-on voltage and high break-down voltage. This device is protected by a PN junction guardring against excessive voltage, such as electrostatic discharges
- This diode is also available in the DO-35 case with type designation BAT46 and in the SOD-123 case with type designation BAT46W-V
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

MECHANICAL DATA

Case: MiniMELF SOD-80

Weight: approx. 31 mg

Cathode Band Color: black

Packaging Codes/Options:

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

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

PARTS TABLE

PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
LL46	LL46-GS18 or LL46-GS08	Single diode	-	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 (1)		I_F	150	mA
Repetitive peak forward current (1)	$t_p < 1$ s, $\delta < 0.5$	I_{FRM}	350	mA
Surge forward current (1)	t_p = 10 ms	I_{FSM}	750	mA
Power dissipation (1)	T_{amb} = 80 °C	P_{tot}	200	mW

Note

(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 (1)		R_{thJA}	300	K/W
Junction temperature		T_j	125	°C
Ambient operating temperature range		T_{amb}	- 55 to + 125	°C
Storage temperature range		T_{stg}	- 65 to + 150	°C

Note

(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 (1)	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 (1)	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

Note

(1) Pulse test t_p < 300 µs, δ < 2 %

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

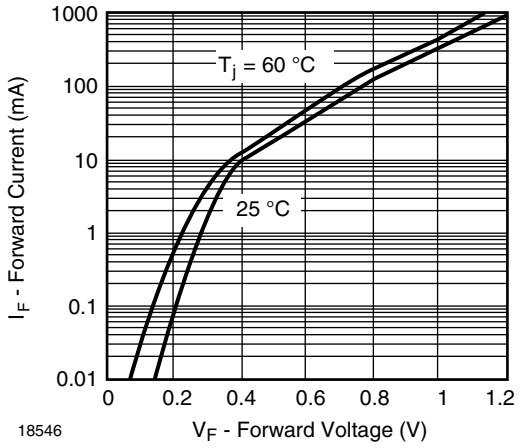


Fig. 1 - Typical Instantaneous Forward Characteristics

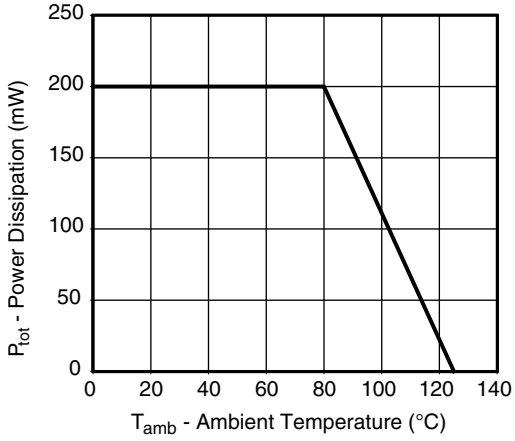


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

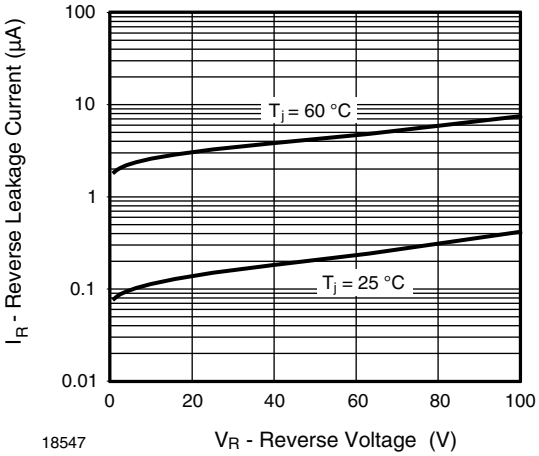
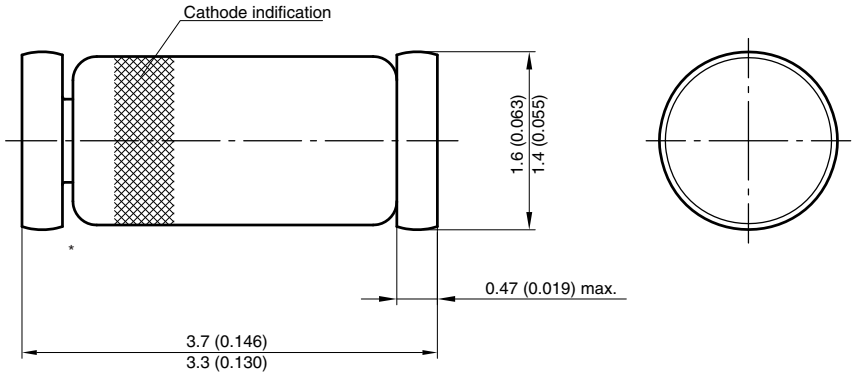


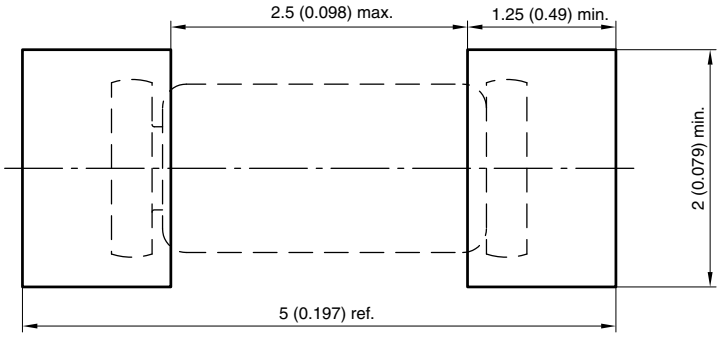
Fig. 2 - Typical Reverse Characteristics

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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