

Small Signal Schottky Diode



LINKS TO ADDITIONAL RESOURCES


RoHS
COMPLIANT

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 guarding against excessive voltage, such as electrostatic discharges
- This diode is also available in the DO-35 (DO-204AH) case with type designation BAT46 and in the SOD-123 case with type designation BAT46W-V
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

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	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
LL46	LL46-GS18 or LL46-GS08	Single	-	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 ($T_{amb} = 25 \text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100 \mu\text{A}$ (pulsed)	$V_{(BR)}$	100			V
Leakage current ⁽¹⁾	$V_R = 1.5 \text{ V}$	I_R			0.5	μA
	$V_R = 1.5 \text{ V}, T_j = 60 \text{ }^{\circ}\text{C}$	I_R			5	μA
	$V_R = 10 \text{ V}$	I_R			0.8	μA
	$V_R = 10 \text{ V}, T_j = 60 \text{ }^{\circ}\text{C}$	I_R			7.5	μA
	$V_R = 50 \text{ V}$	I_R			2	μA
	$V_R = 50 \text{ V}, T_j = 60 \text{ }^{\circ}\text{C}$	I_R			15	μA
	$V_R = 75 \text{ V}$	I_R			5	μA
	$V_R = 75 \text{ V}, T_j = 60 \text{ }^{\circ}\text{C}$	I_R			20	μA
Forward voltage ⁽¹⁾	$I_F = 0.1 \text{ mA}$	V_F			250	mV
	$I_F = 10 \text{ mA}$	V_F			450	mV
	$I_F = 250 \text{ mA}$	V_F			1000	mV
Diode capacitance	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$	C_D		10		pF
	$V_R = 1 \text{ V}, f = 1 \text{ MHz}$	C_D		6		pF

Note

(1) Pulse test $t_p < 300 \mu\text{s}$, $\delta < 2 \%$

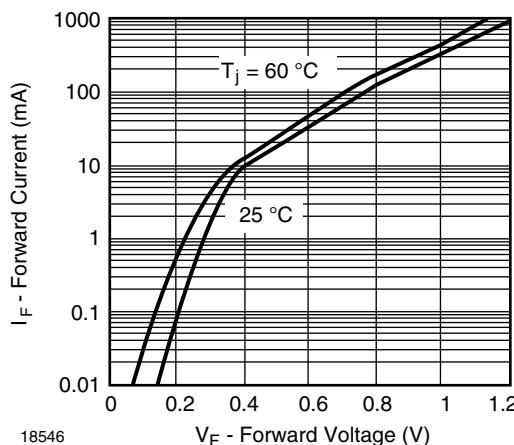
TYPICAL CHARACTERISTICS ($T_{amb} = 25 \text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Instantaneous Forward Characteristics

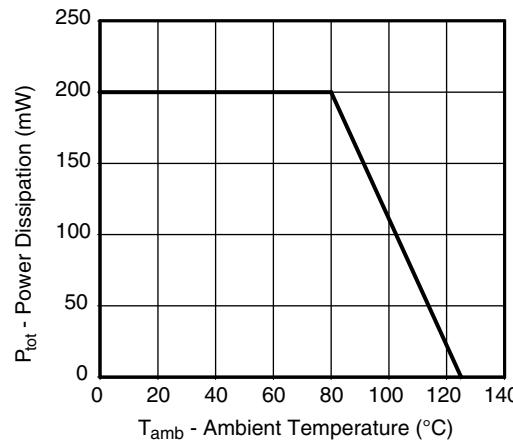


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

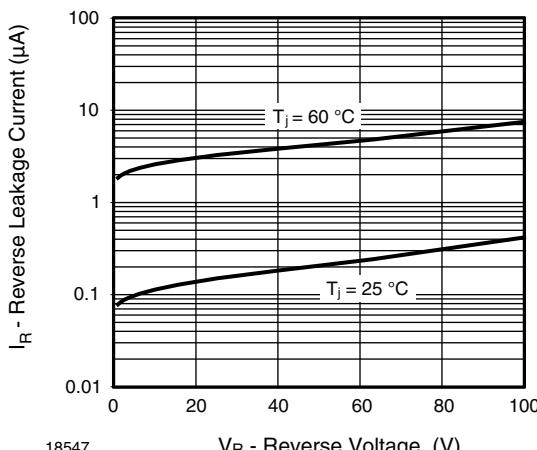
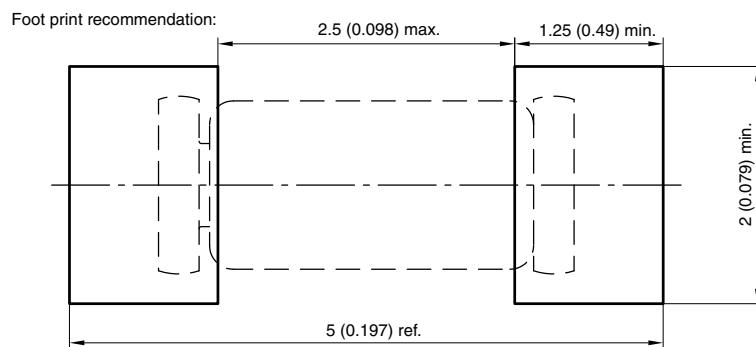
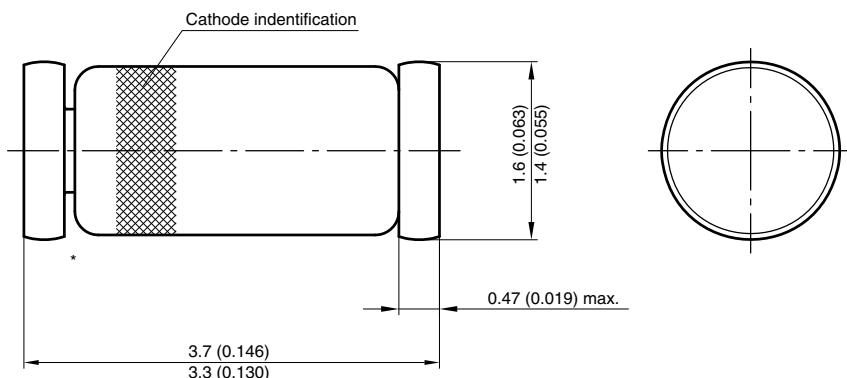


Fig. 2 - Typical Reverse Characteristics

PACKAGE DIMENSIONS in millimeters (inches): **MinIMELF (SOD-80)**


Document no.:6.560-5005.01-4

Rev. 8 - Date: 07.June.2006

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