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
- Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring
- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications
- This diode is also available in a DO-35 case with type designation BAT86
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

LINKS TO ADDITIONAL RESOURCES

3D Models

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

APPLICATIONS

- Applications where a very low forward voltage is required

PARTS TABLE

PART	ORDERING CODE	CIRCUIT CONFIGURATION	REMARKS
BAS86	BAS86-GS18 or BAS86-GS08	Single	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Continuous reserve voltage		V_R	50	V
Forward continuous current (1)		I_F	200	mA
Repetitive peak forward current (1)	$t_p < 1$ s, $\delta \leq 0.5$	I_{FRM}	500	mA
Power dissipation (1)		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}	-65 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**
Reserve breakdown voltage	I_R = 10 µA (pulsed)	$V_{(BR)}$	50			V
Leakage current	V_R = 40 V	I_R			5	µA
Forward voltage	Pulse test t_p < 300 µs, I_F = 0.1 mA, δ < 2 %	V_F		200	300	mV
	Pulse test t_p < 300 µs, I_F = 1 mA, δ < 2 %	V_F		275	380	mV
	Pulse test t_p < 300 µs, I_F = 10 mA, δ < 2 %	V_F		365	450	mV
	Pulse test t_p < 300 µs, I_F = 30 mA, δ < 2 %	V_F		460	600	mV
	Pulse test t_p < 300 µs, I_F = 100 mA, δ < 2 %	V_F		700	900	mV
Diode capacitance	V_R = 1 V, f = 1 MHz	C_D			8	pF
Reserve recovery time	I_F = 10 mA, I_R = 10 mA, i_R = 1 mA	t_{rr}			5	ns

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

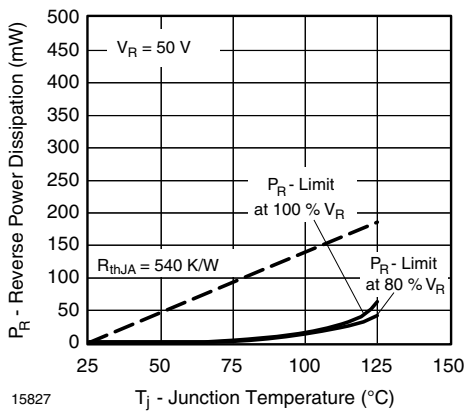


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

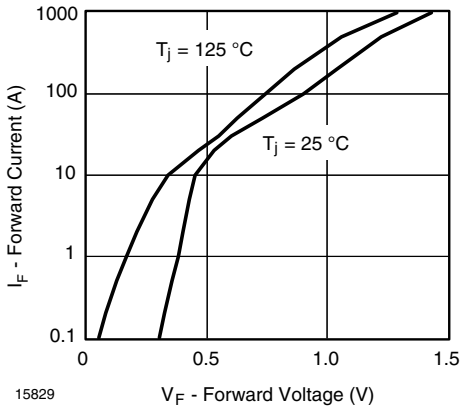


Fig. 3 - Forward Current vs. Forward Voltage

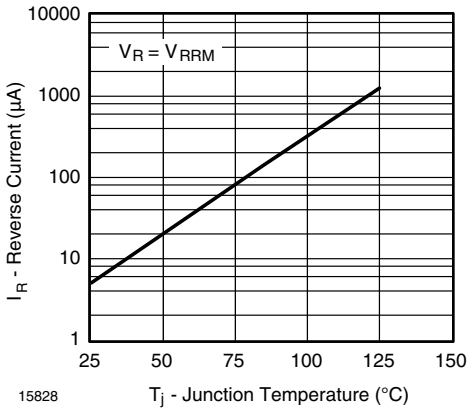


Fig. 2 - Reverse Current vs. Junction Temperature

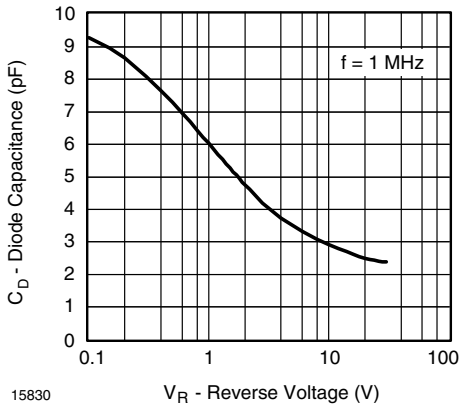
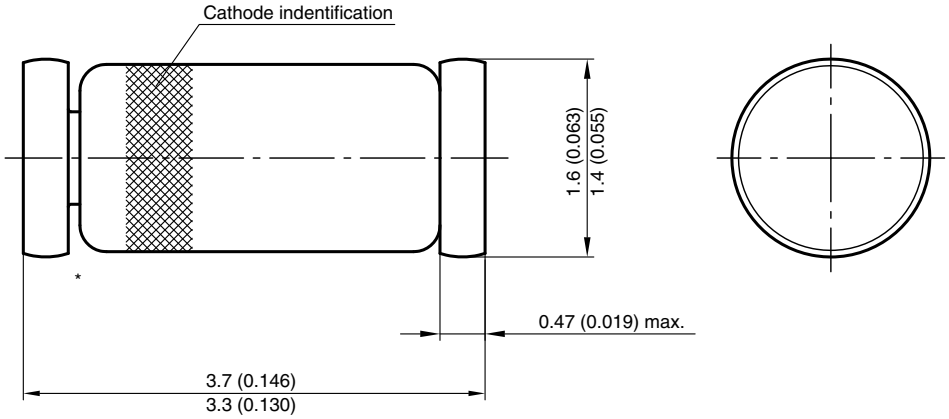


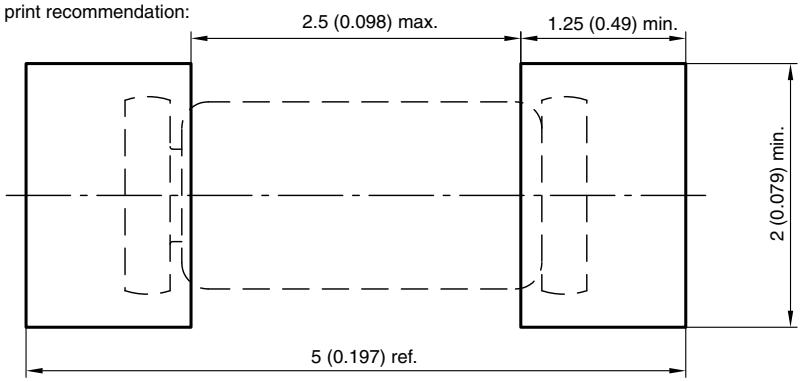
Fig. 4 - Diode Capacitance vs. Reverse Voltage

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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