

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 barrier 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



LINKS TO ADDITIONAL RESOURCES



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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Continuous reverse voltage		V_R	50	V
Forward continuous current ⁽¹⁾		I_F	200	mA
Repetitive peak forward current ⁽¹⁾	$t_p < 1\text{ s}, \delta \leq 0.5$	I_{FRM}	500	mA
Power dissipation ⁽¹⁾		P_{tot}	200	mW

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, 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	$^{\circ}\text{C}$
Ambient operating temperature range		T_{amb}	-65 to +125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-65 to +150	$^{\circ}\text{C}$

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	$I_R = 10\text{ }\mu\text{A}$ (pulsed)	$V_{(BR)}$	50			V
Leakage current	$V_R = 40\text{ V}$	I_R			5	μA
Forward voltage	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 0.1\text{ mA}$, $\delta < 2\%$	V_F		200	300	mV
	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 1\text{ mA}$, $\delta < 2\%$	V_F		275	380	mV
	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 10\text{ mA}$, $\delta < 2\%$	V_F		365	450	mV
	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 30\text{ mA}$, $\delta < 2\%$	V_F		460	600	mV
	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 100\text{ mA}$, $\delta < 2\%$	V_F		700	900	mV
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_D			8	pF
Reverse recovery time	$I_F = 10\text{ mA}$, $I_R = 10\text{ mA}$, $i_R = 1\text{ mA}$	t_{rr}			5	ns

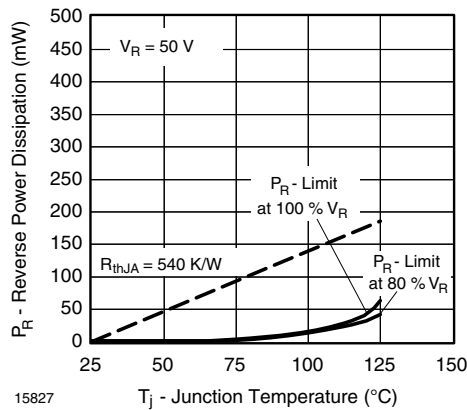
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


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

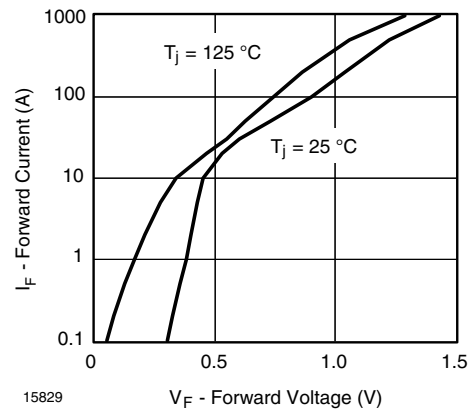


Fig. 3 - Forward Current vs. Forward Voltage

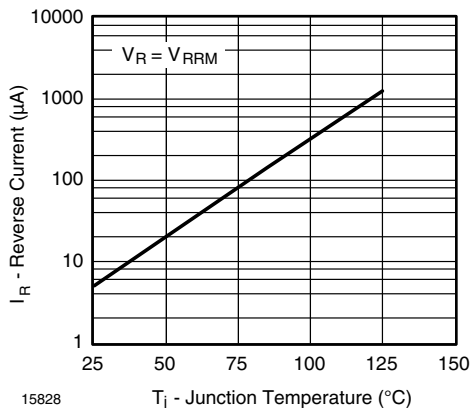


Fig. 2 - Reverse Current vs. Junction Temperature

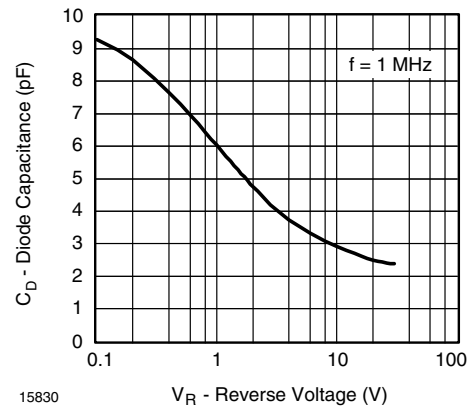
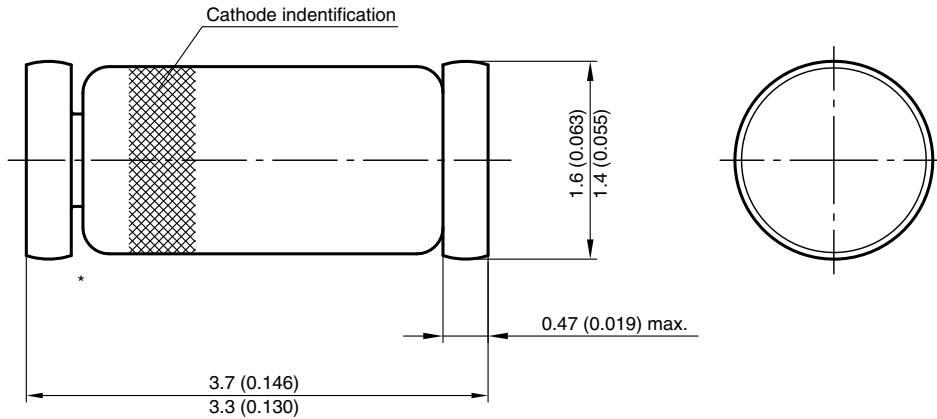
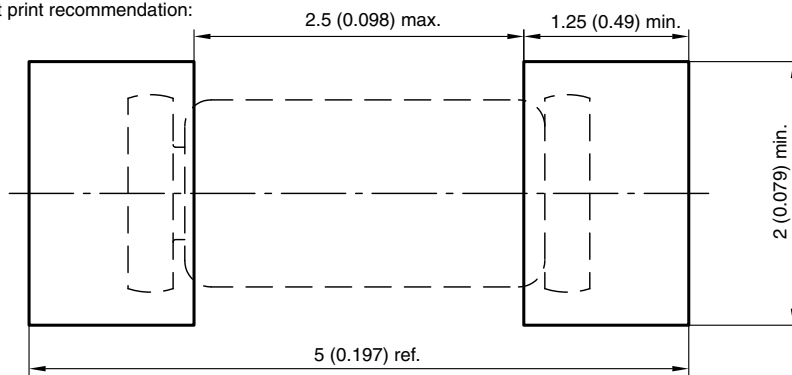


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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



Foot print recommendation:



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