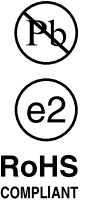


## Small Signal Schottky Diode



### 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](http://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 <sup>(1)</sup>		$I_F$	200	mA
Repetitive peak forward current <sup>(1)</sup>	$t_p < 1\text{ s}, \delta \leq 0.5$	$I_{FRM}$	500	mA
Power dissipation <sup>(1)</sup>		$P_{tot}$	200	mW

#### Note

<sup>(1)</sup> 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 <sup>(1)</sup>		$R_{thJA}$	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

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature

ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I <sub>R</sub> = 10 μA (pulsed)	V <sub>(BR)</sub>	50			V
Leakage current	V <sub>R</sub> = 40 V	I <sub>R</sub>			5	μA
Forward voltage	Pulse test t <sub>p</sub> < 300 μs, I <sub>F</sub> = 0.1 mA, δ < 2 %	V <sub>F</sub>		200	300	mV
	Pulse test t <sub>p</sub> < 300 μs, I <sub>F</sub> = 1 mA, δ < 2 %	V <sub>F</sub>		275	380	mV
	Pulse test t <sub>p</sub> < 300 μs, I <sub>F</sub> = 10 mA, δ < 2 %	V <sub>F</sub>		365	450	mV
	Pulse test t <sub>p</sub> < 300 μs, I <sub>F</sub> = 30 mA, δ < 2 %	V <sub>F</sub>		460	600	mV
	Pulse test t <sub>p</sub> < 300 μs, I <sub>F</sub> = 100 mA, δ < 2 %	V <sub>F</sub>		700	900	mV
Diode capacitance	V <sub>R</sub> = 1 V, f = 1 MHz	C <sub>D</sub>			8	pF
Reverse recovery time	I <sub>F</sub> = 10 mA, I <sub>R</sub> = 10 mA, i <sub>R</sub> = 1 mA	t <sub>rr</sub>			5	ns

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

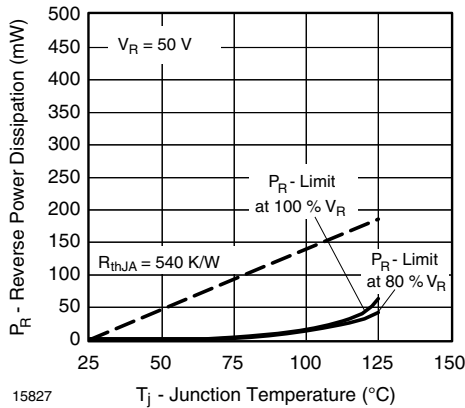


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

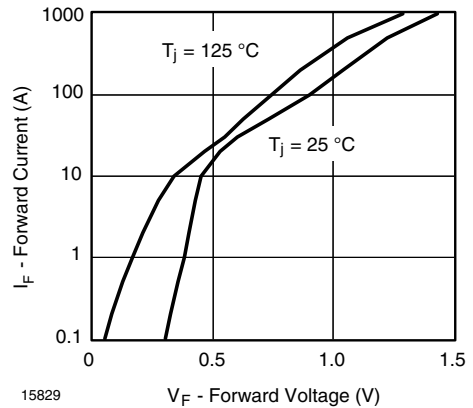


Fig. 3 - Forward Current vs. Forward Voltage

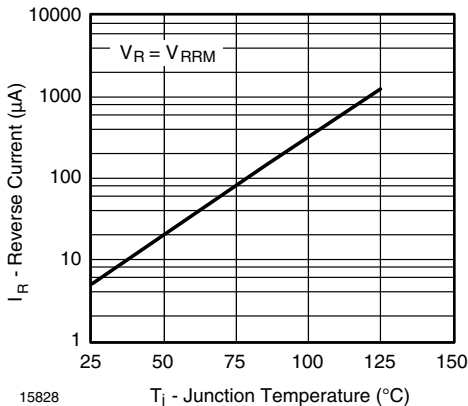


Fig. 2 - Reverse Current vs. Junction Temperature

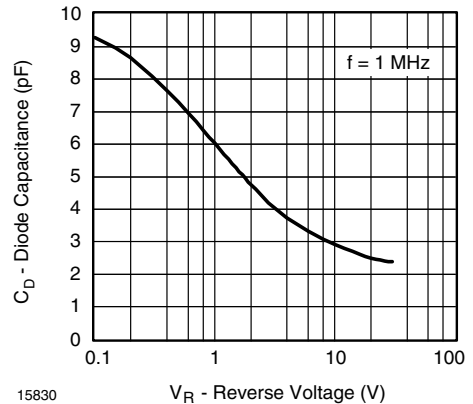
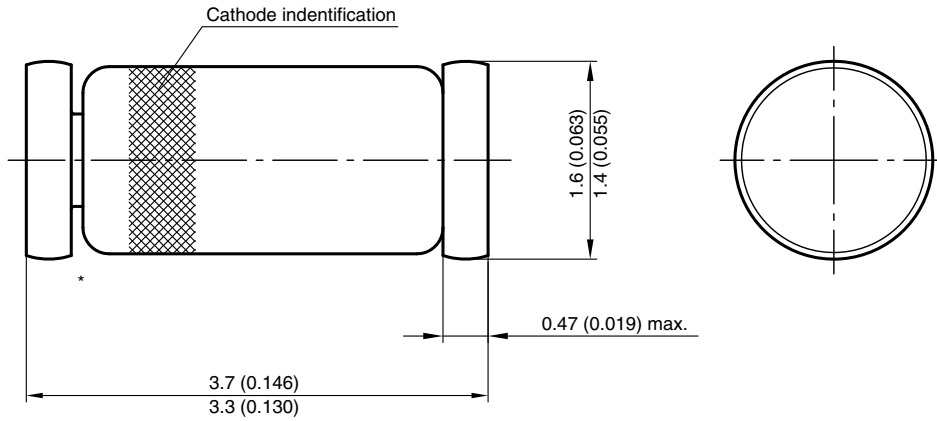
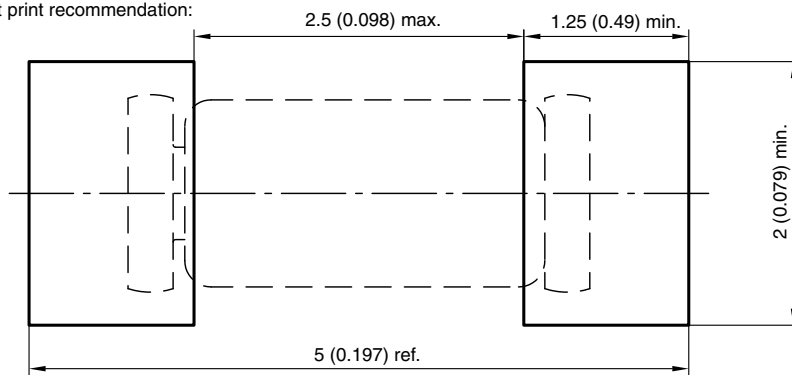


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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



Foot print recommendation:



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