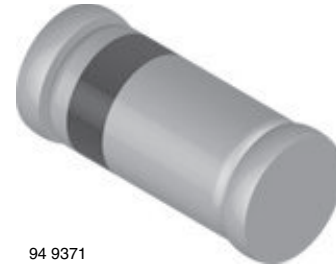


## Small Signal Schottky Diode

### 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.
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC



94 9371

### 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	Type marking	Remarks
BAS86	BAS86-GS18 or BAS86-GS08	-	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		$I_F$	200 <sup>1)</sup>	mA
Repetitive peak forward current	$t_p < 1\text{ s}, v \leq 0.5$	$I_{FRM}$	500 <sup>1)</sup>	mA
Power dissipation <sup>1)</sup>		$P_{tot}$	200 <sup>1)</sup>	mW

<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		$R_{thJA}$	300 <sup>1)</sup>	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	$^{\circ}\text{C}$

<sup>1)</sup> 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	$\mu\text{A}$
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	$I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ , $t_{rr} = 1\text{ mA}$ ,	$t_{rr}$			5	ns

### Typical Characteristics

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

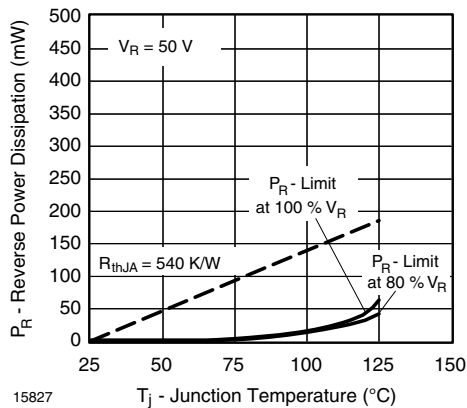


Figure 1. Max. Reverse Power Dissipation vs. Junction Temperature

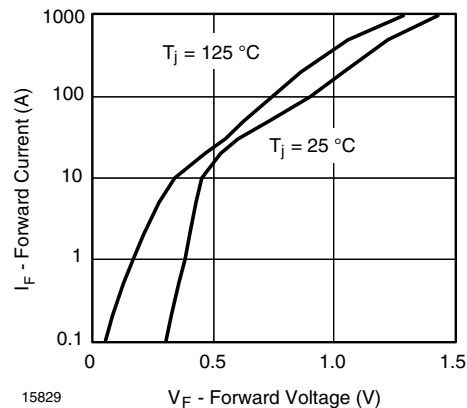


Figure 3. Forward Current vs. Forward Voltage

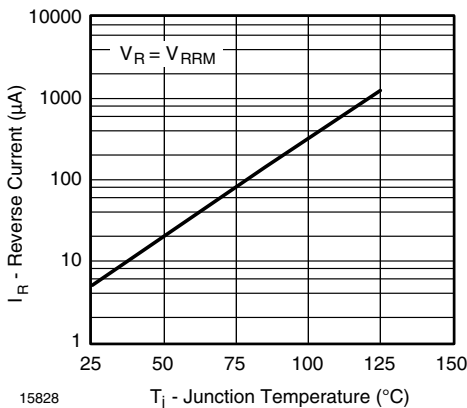


Figure 2. Reverse Current vs. Junction Temperature

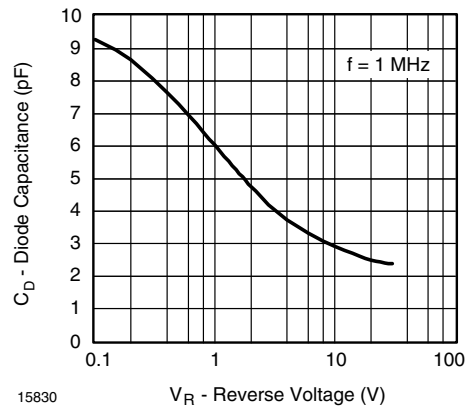
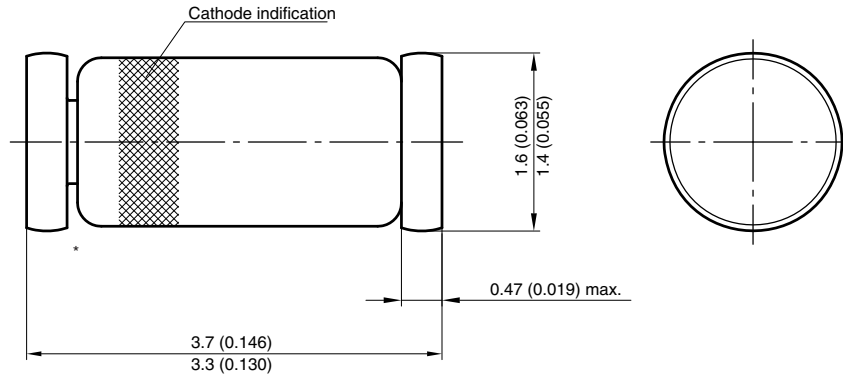


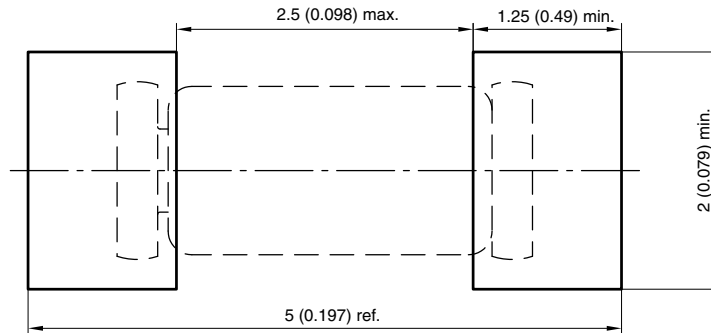
Figure 4. Diode Capacitance vs. Reverse Voltage

## Package Dimensions in millimeters (inches): MiniMELF SOD-80



\* The gap between plug and glass can be either on cathode or anode side

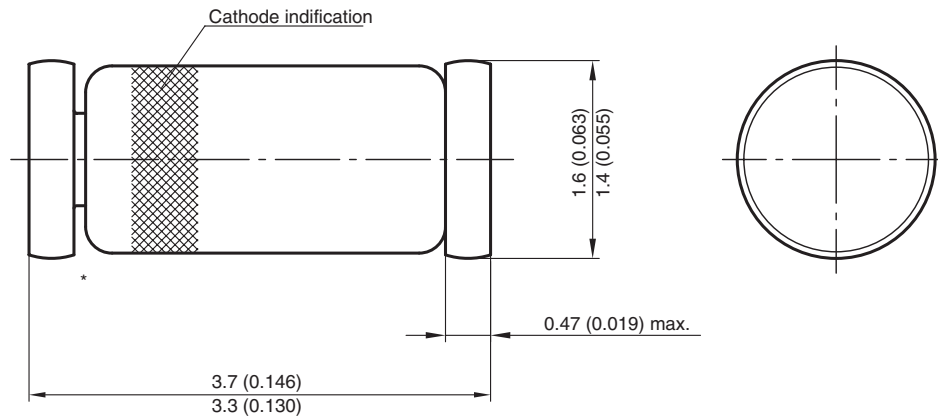
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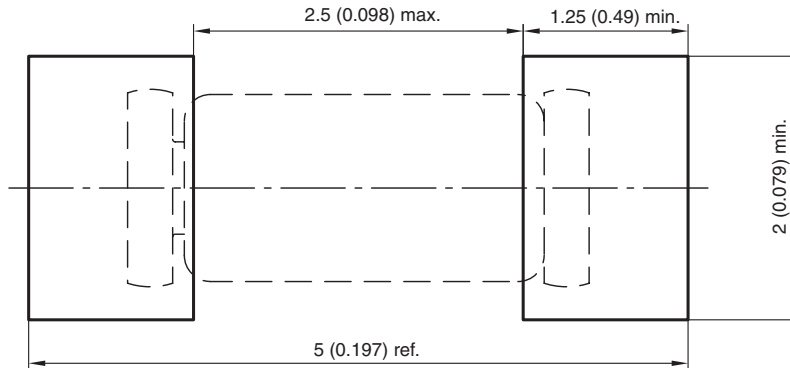


**PACKAGE DIMENSIONS** in millimeters (inches)



\* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



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