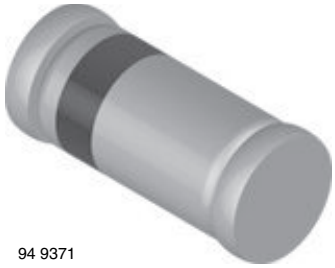
Small Signal Schottky Diode

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

RoHS COMPLIANT



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Applications

- Applications where a very low forward voltage is required

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	Type marking	Remarks
BAS86	BAS86-GS18 or BAS86-GS08	-	Tape and reel

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Continuous reverse voltage		V_R	50	V
Forward continuous current		I_F	200 [1]	mA
Repetitive peak forward current	t_p < 1 s, ν ≤ 0.5	I_{FRM}	500 [1]	mA
Power dissipation[1]		P_{tot}	200 [1]	mW

[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		R_{thJA}	300 [1]	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

[1] Valid provided that electrodes are kept at ambient temperature

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Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Reverse 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
Reverse recovery time	I_F = 10 mA, I_R = 10 mA, I_{rr} = 1 mA,	t_{rr}			5	ns

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

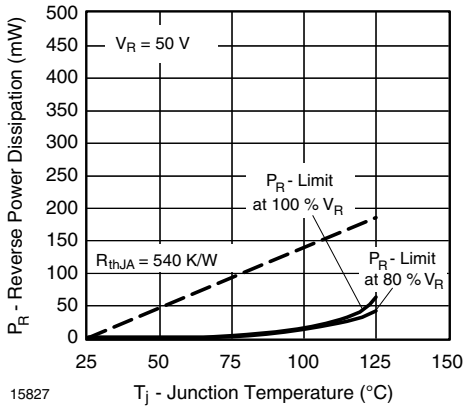

Figure 1. Max. Reverse Power Dissipation vs. Junction Temperature

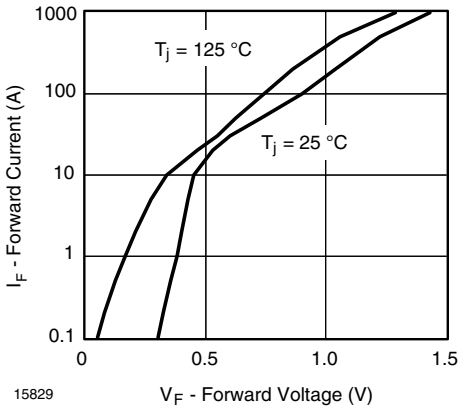

Figure 3. Forward Current vs. Forward Voltage

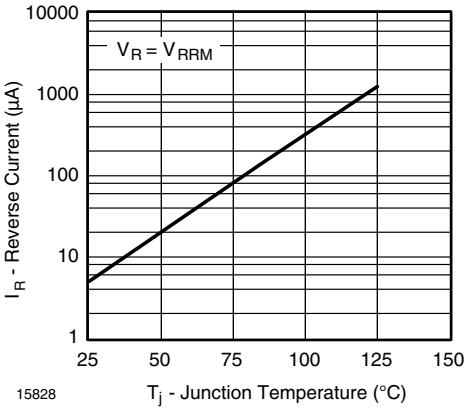

Figure 2. Reverse Current vs. Junction Temperature

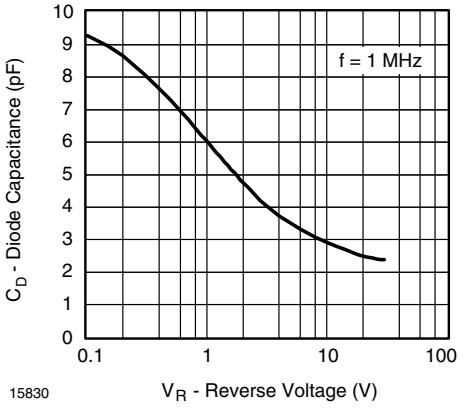

Figure 4. Diode Capacitance vs. Reverse Voltage

For technical questions within your region, please contact one of the following:
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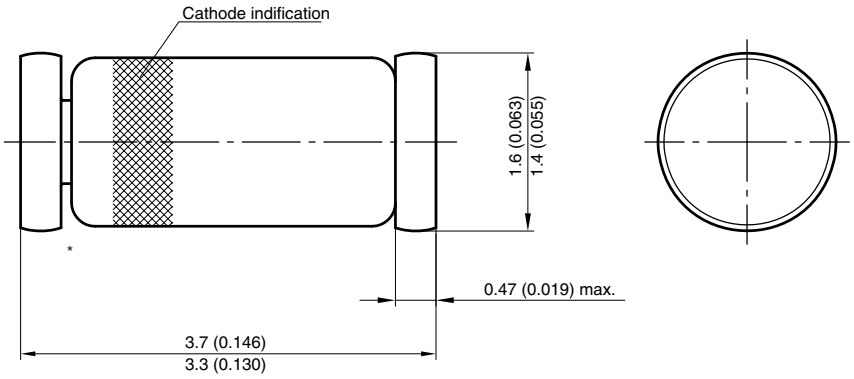
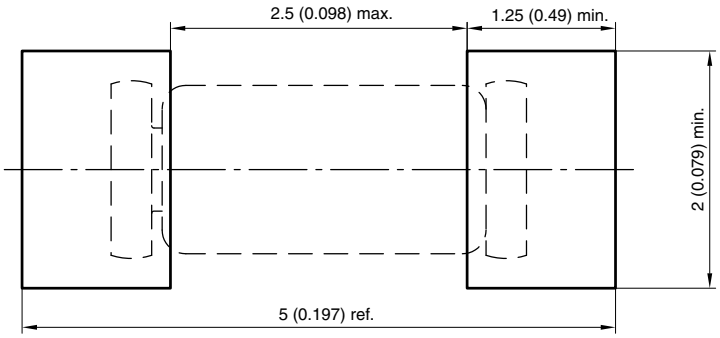
Package Dimensions in millimeters (inches): MiniMELF SOD-80



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

Foot print recommendation:



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