

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
- This diode is also available in a DO-35 case with type designation BAT85
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

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
BAS85	BAS85-GS18 or BAS85-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	30	V
Forward continuous current ⁽¹⁾		I_F	200	mA
Peak forward current ⁽¹⁾		I_{FM}	300	mA
Surge forward current ⁽¹⁾	$t_p < 1\text{ s}$	I_{FSM}	600	mA
Power dissipation ⁽¹⁾	$T_{amb} = 65\text{ }^{\circ}\text{C}$	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}	430	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-55 to +150	$^{\circ}\text{C}$
Operating temperature range		T_{op}	-55 to +125	$^{\circ}\text{C}$

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)	$V_{(BR)}$	30			V
Leakage current	$V_R = 25\text{ V}$	I_R		0.2	2	μA
Forward voltage	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 0.1\text{ mA}$	V_F			240	mV
	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 1\text{ mA}$	V_F			320	mV
	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 10\text{ mA}$	V_F			400	mV
	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 30\text{ mA}$	V_F		500		mV
	Pulse test $t_p < 300\text{ }\mu\text{s}$, $I_F = 100\text{ mA}$	V_F			800	mV
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_D			10	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)

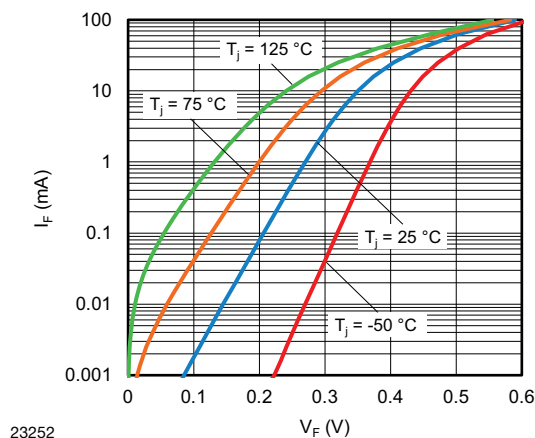


Fig. 1 - Typical Forward Current vs. Forward Voltage

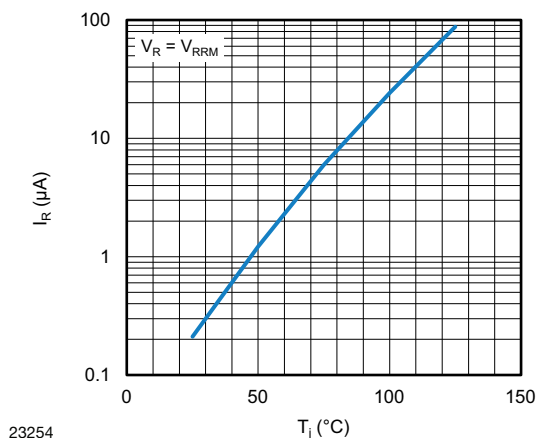


Fig. 3 - Typical Reverse Current vs. Junction Temperature

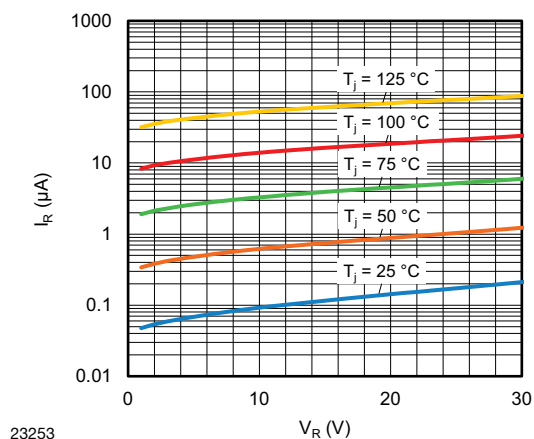


Fig. 2 - Typical Reverse Leakage Current vs. Reverse Voltage

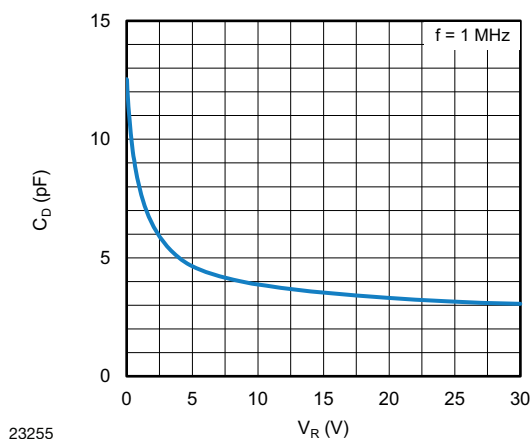
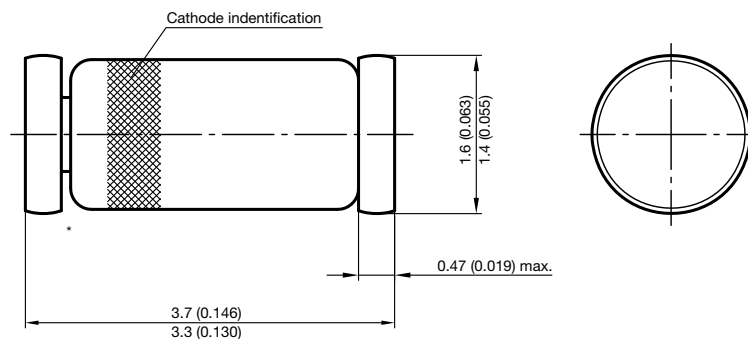
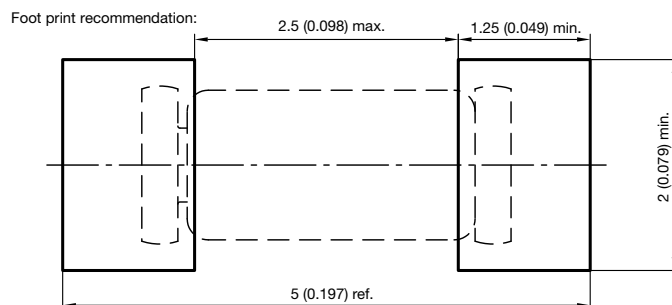


Fig. 4 - Typical Capacitance vs. Reverse Voltage

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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