

## Vishay Semiconductors

# **Small Signal Schottky Diode**



#### **LINKS TO ADDITIONAL RESOURCES**



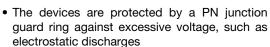
#### **MECHANICAL DATA**

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

#### **FEATURES**

- For general purpose applications
- This diode features low turn-on voltage





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

#### **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

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Continuous reverse voltage		V <sub>R</sub>	30	V	
Forward continuous current (1)		I <sub>F</sub>	200	mA	
Peak forward current (1)		I <sub>FM</sub>	300	mA	
Surge forward current (1)	t <sub>p</sub> < 1 s	I <sub>FSM</sub>	600	mA	
Power dissipation (1)	T <sub>amb</sub> = 65 °C	P <sub>tot</sub>	200	mW	

#### Note

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

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air (1)		R <sub>thJA</sub>	430	K/W	
Junction temperature		Tj	125	°C	
Storage temperature range		T <sub>sta</sub>	-55 to +150	°C	

#### Note

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

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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reserve breakdown voltage	I <sub>R</sub> = 10 μA (pulsed)	$V_{(BR)}$	30			V
Leakage current	V <sub>R</sub> = 25 V	I <sub>R</sub>		0.2	2	μΑ
	Pulse test $t_p < 300 \mu s$ , $I_F = 0.1 \text{ mA}$	$V_{F}$			240	mV
	Pulse test t <sub>p</sub> < 300 μs, I <sub>F</sub> = 1 mA	V <sub>F</sub>			320	mV
Forward voltage	Pulse test t <sub>p</sub> < 300 μs, I <sub>F</sub> = 10 mA	V <sub>F</sub>			400	mV
	Pulse test $t_p < 300 \mu s$ , $I_F = 30 \text{ mA}$	V <sub>F</sub>		500		mV
	Pulse test $t_p < 300 \mu s$ , $I_F = 100 \text{ mA}$	V <sub>F</sub>			800	mV
Diode capacitance	V <sub>R</sub> = 1 V, f = 1 MHz	C <sub>D</sub>			10	pF
Reserve recovery time	$I_F = 10 \text{ mA}, I_R = 10 \text{ mA},$ $I_R = 1 \text{ mA}$	t <sub>rr</sub>			5	ns

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

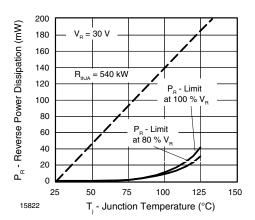


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

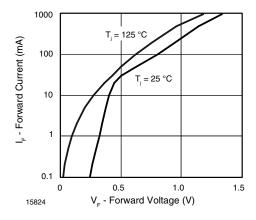


Fig. 2 - Forward Current vs. Forward Voltage

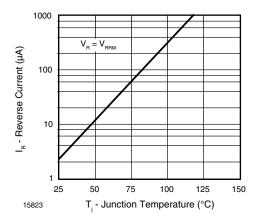


Fig. 3 - Reverse Current vs. Junction Temperature

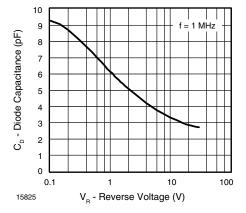
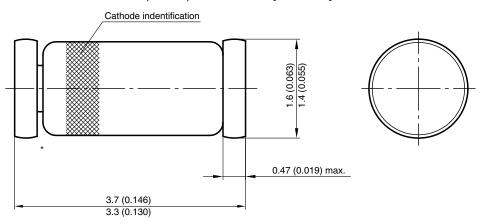


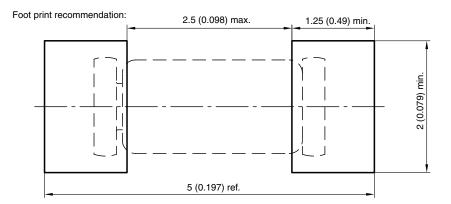
Fig. 4 - Diode Capacitance vs. Reverse Voltage

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



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



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