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# 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:

18/10K per 13" reel (8 mm tape), 10K/box 08/2.5K per 7" reel (8 mm tape), 12.5K/box

#### **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
- Material categorization: for definitions of compliance please see www.vishav.com/doc?99912



RoHS

### COMPLIANT HALOGEN FREE

### **APPLICATIONS**

Applications where a very low forward voltage is required

PARTS TABLE			
PART	ORDERING CODE	CIRCUIT CONFIGURATION	REMARKS
BAS85-M	BAS85-M-18 or BAS85-M-08	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		$V_{R}$	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

(1) 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>stg</sub>	-55 to +150	°C	
Operating temperature range		T <sub>op</sub>	-55 to +125	°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
Reverse breakdown voltage	I <sub>R</sub> = 10 μA (pulsed)	V <sub>(BR)</sub>	30			V
Leakage current	V <sub>R</sub> = 25 V	I <sub>R</sub>		0.2	2	μA
	Pulse test $t_p < 300 \mu s$ , $I_F = 0.1 \text{ mA}$	$V_{F}$			240	mV
	Pulse test $t_p < 300 \mu s$ , $I_F = 1 mA$	$V_{F}$			320	mV
Forward voltage	Pulse test $t_p < 300 \mu s$ , $I_F = 10 mA$	$V_{F}$			400	mV
	Pulse test $t_p < 300 \mu s$ , $I_F = 30 \text{ mA}$	$V_{F}$		500		mV
	Pulse test $t_p < 300 \mu s$ , $I_F = 100 \text{ mA}$	$V_{F}$			800	mV
Diode capacitance	V <sub>R</sub> = 1 V, f = 1 MHz	C <sub>D</sub>			10	pF
Reverse 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)

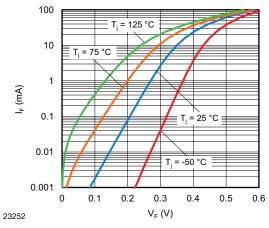


Fig. 1 - Typical Forward Current vs. Forward Voltage

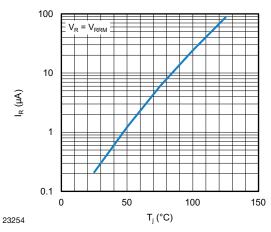


Fig. 3 - Typical Reverse Current vs. Junction Temperature

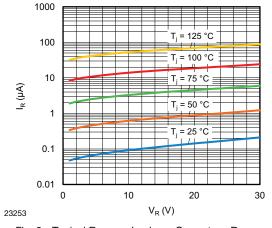


Fig. 2 - Typical Reverse Leakage Current vs. Reverse Voltage

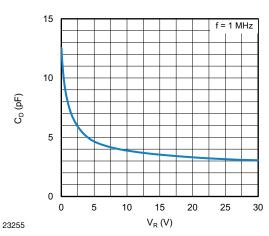
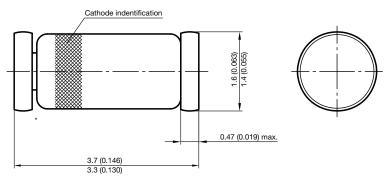


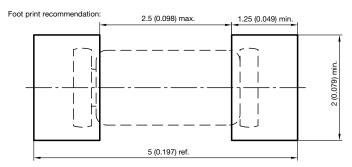
Fig. 4 - Typical Capacitance vs. Reverse Voltage

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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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