FREE



**Vishay Semiconductors** 

# **Small Signal Schottky Diode**

### FEATURES

- Integrated protection ring against static discharge
- Very low forward voltage
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>
  RoHS

#### APPLICATIONS

· Applications where a very low forward voltage is required



3D Models

#### **MECHANICAL DATA**

Case: MicroMELF

Weight: approx. 12 mg

Cathode band color: black

### Packaging codes/options:

TR3/10K per 13" reel (8 mm tape), 10K/box TR/2.5K per 7" reel (8 mm tape), 12.5K/box

PARTS TABLE						
PART	TYPE DIFFERENTIATION	ORDERING CODE	CIRCUIT CONFIGURATION	REMARKS		
BAS385	V <sub>R</sub> = 30 V	BAS385-TR3 or BAS385-TR	Single	Tape and reel		

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Reverse voltage		V <sub>R</sub>	30	V	
Peak forward surge current	t <sub>p</sub> = 10 ms	I <sub>FSM</sub>	5	A	
Repetitive peak forward current $t_p \le 1 s$		I <sub>FRM</sub>	300	mA	
Forward continuous current		I <sub>F</sub>	200	mA	
Average forward current	V <sub>RWM</sub> = 25 V	I <sub>FAV</sub>	200	mA	

<b>THERMAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R <sub>thJA</sub>	320	K/W		
Junction temperature		Tj	125	°C		
Storage temperature range		T <sub>stg</sub>	-65 to +150	°C		

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ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I <sub>F</sub> = 0.1mA	V <sub>F</sub>			240	mV
	I <sub>F</sub> = 1 mA	V <sub>F</sub>			320	mV
Forward voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>			400	mV
	I <sub>F</sub> = 30 mA	V <sub>F</sub>			500	mV
	I <sub>F</sub> = 100 mA	V <sub>F</sub>			800	mV
Reserve current	$V_{R} = 25 \text{ V}, t_{p} = 300 \ \mu \text{s}$	I <sub>R</sub>			2.3	μA
Diode capacitance	$V_R = 1 V, f = 1 MHz$	CD			10	pF

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

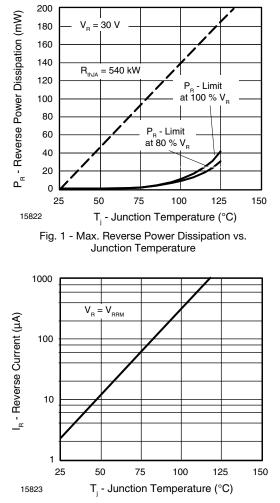


Fig. 2 - Reverse Current vs. Junction Temperature

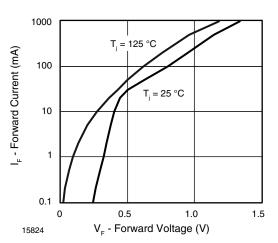


Fig. 3 - Forward Current vs. Forward Voltage

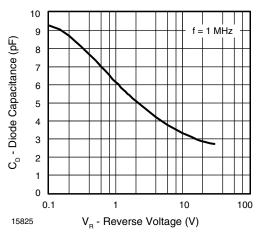


Fig. 4 - Diode Capacitance vs. Reverse Voltage

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## **Vishay Semiconductors**

surface plan

0.6 (0.024)

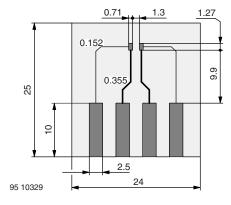
10.0<u>F</u>

> R2.5 (0.098)

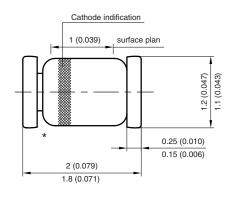
glass

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Fig. 5 - Board for R<sub>thJA</sub> Definition (in mm)

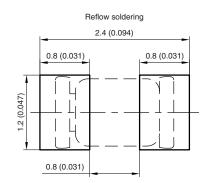


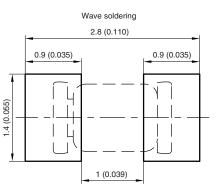
#### PACKAGE DIMENSIONS in millimeters (inches): MicroMELF



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

Foot print recommendation:





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