

## Small Signal Schottky Diode



### FEATURES

- Integrated protection ring against static discharge
- Very low forward voltage
- AEC-Q101 qualified
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### 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

### APPLICATIONS

- Applications where a very low forward voltage is required

### PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	INTERNAL CONSTRUCTION	REMARKS
BAS386	$V_R = 50\text{ V}$	BAS386-TR3 or BAS386-TR	Single diode	Tape and reel

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	50	V
Peak forward surge current	$t_p = 10\text{ ms}$	$I_{FSM}$	5	A
Repetitive peak forward current	$t_p \leq 1\text{ s}$	$I_{FRM}$	500	mA
Forward continuous current		$I_F$	200	mA
Average forward current		$I_{FAV}$	200	mA

### THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , 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	$R_{thJA}$	320	K/W
Junction temperature		$T_j$	125	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 0.1\text{ mA}$	$V_F$			300	mV
	$I_F = 1\text{ mA}$	$V_F$			380	mV
	$I_F = 10\text{ mA}$	$V_F$			450	mV
	$I_F = 30\text{ mA}$	$V_F$			600	mV
	$I_F = 100\text{ mA}$	$V_F$			900	mV
Reverse current	$V_R = 40\text{ V}$	$I_R$			5	$\mu\text{A}$
Diode capacitance	$V_R = 1\text{ V}, f = 1\text{ MHz}$	$C_D$			8	pF

**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

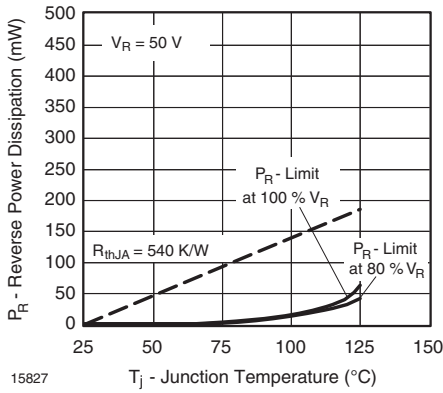


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

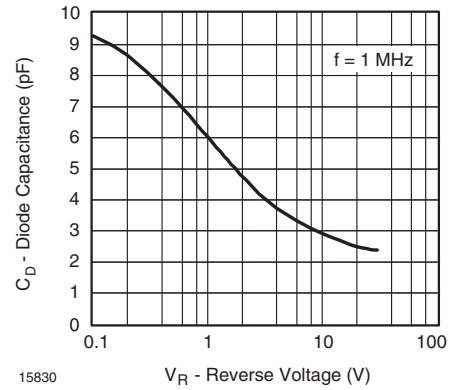


Fig. 4 - Diode Capacitance vs. Reverse Voltage

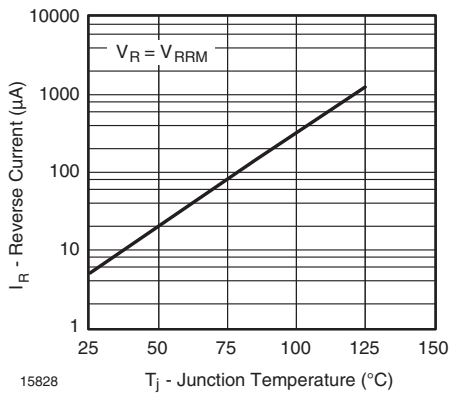


Fig. 2 - Reverse Current vs. Junction Temperature

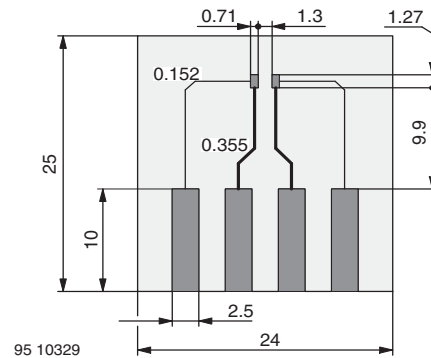


Fig. 5 - Board for  $R_{thJA}$  Definition (in mm)

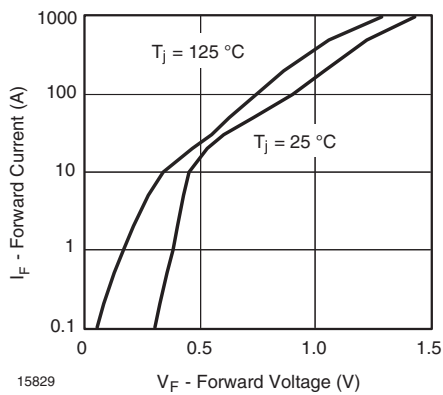
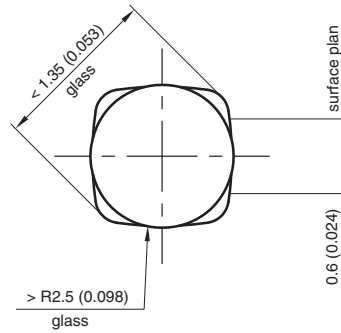
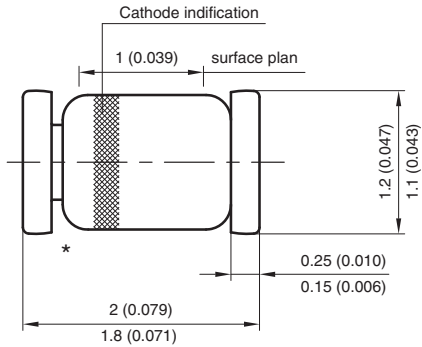


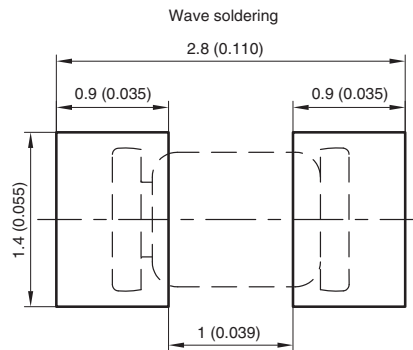
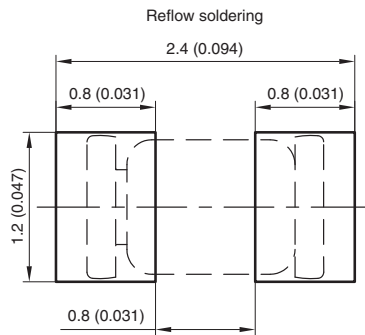
Fig. 3 - Forward Current vs. Forward Voltage

**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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 96 12072



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