

## 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<br>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            |

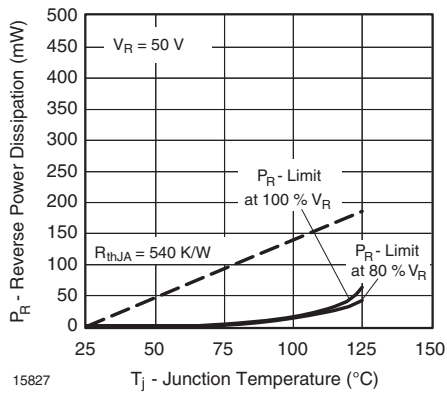
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

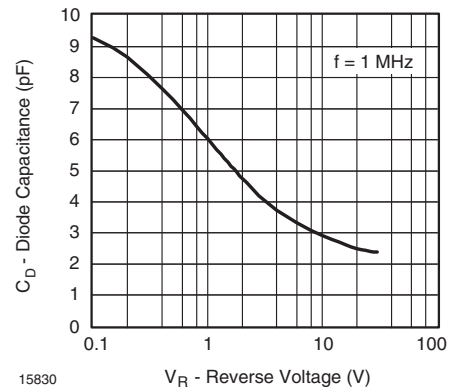


Fig. 4 - Diode Capacitance vs. Reverse Voltage

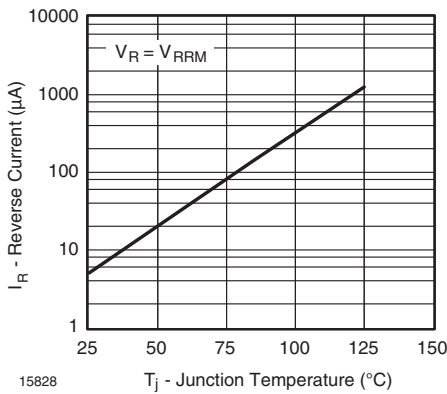


Fig. 2 - Reverse Current vs. Junction Temperature

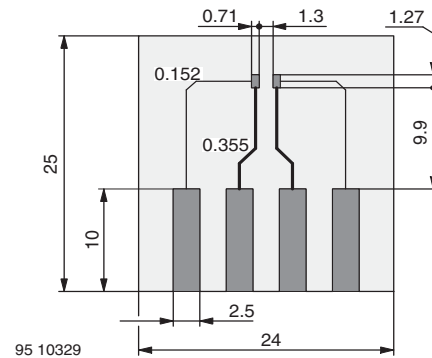
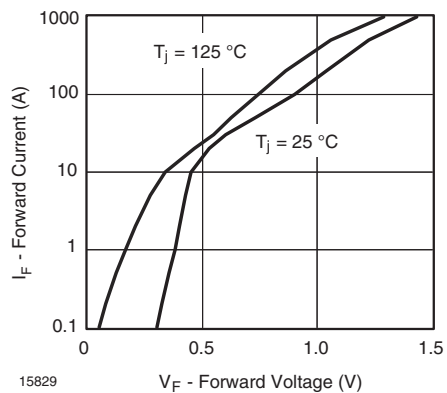
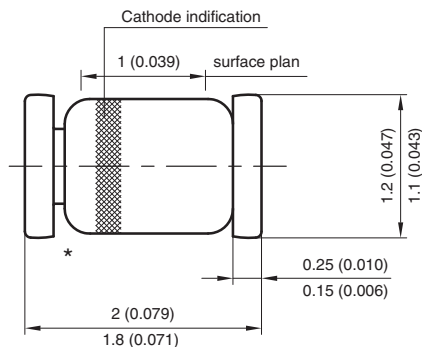
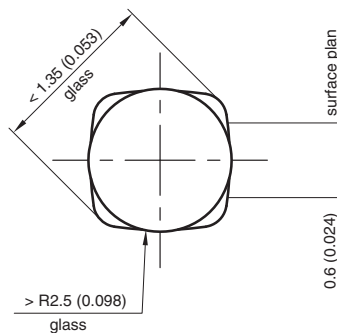

Fig. 5 - Board for  $R_{thJA}$  Definition (in mm)


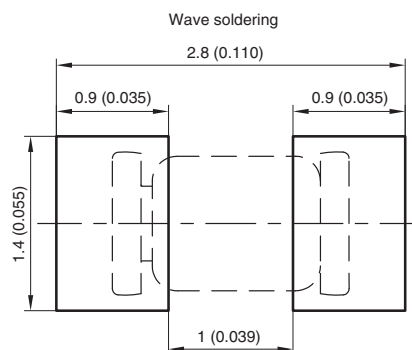
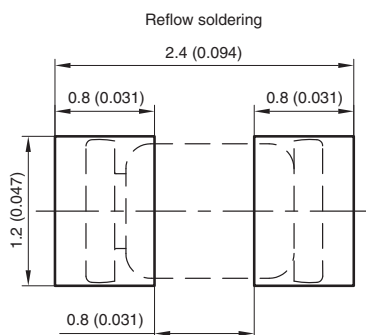
Fig. 3 - Forward Current vs. Forward Voltage

**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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