

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



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 | μA |
| 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)

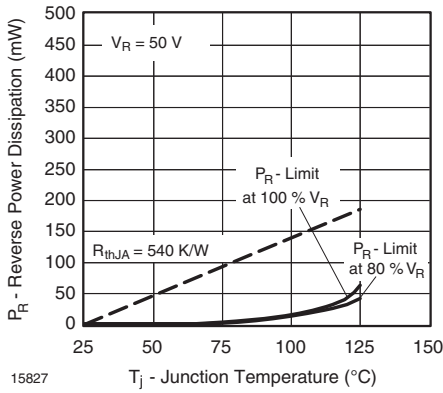


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

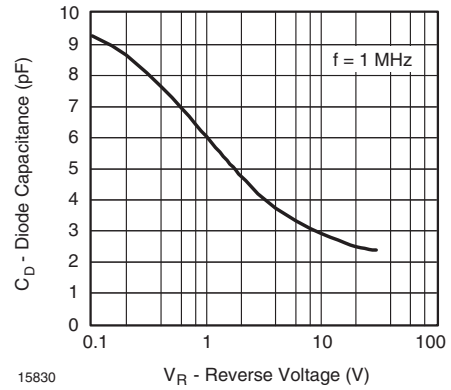


Fig. 4 - Diode Capacitance vs. Reverse Voltage

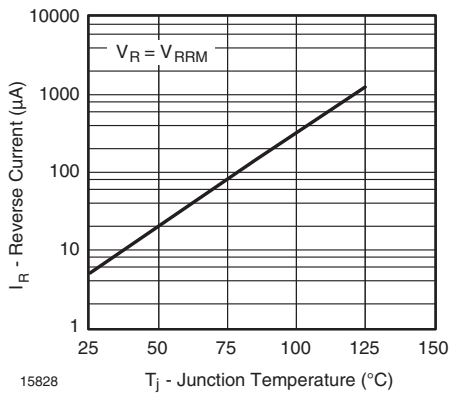


Fig. 2 - Reverse Current vs. Junction Temperature

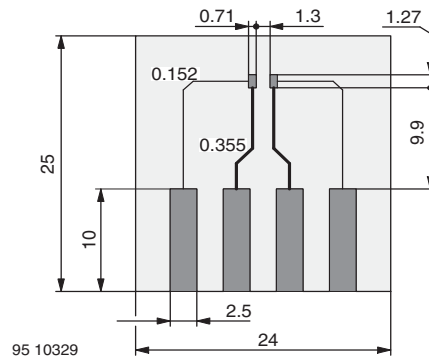


Fig. 5 - Board for R_{thJA} Definition (in mm)

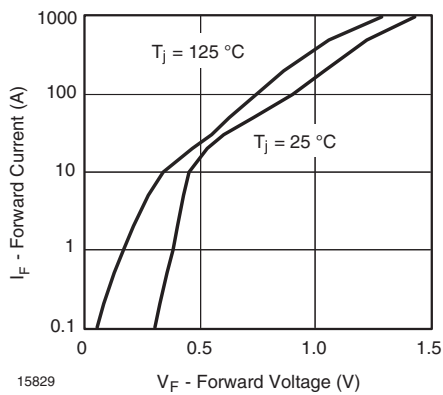
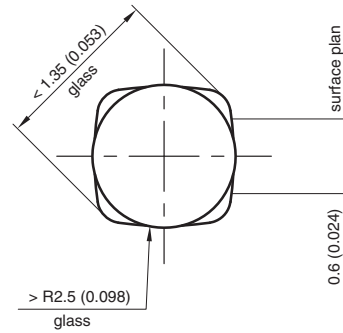
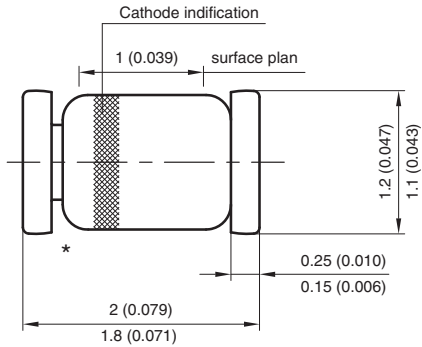


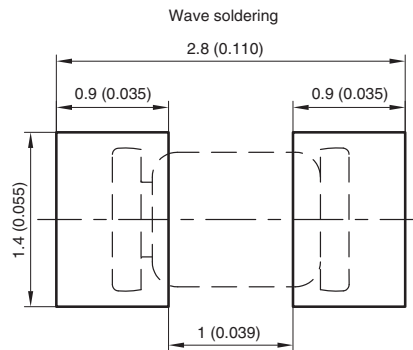
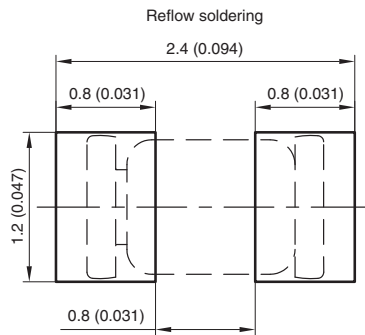
Fig. 3 - Forward Current vs. Forward Voltage

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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