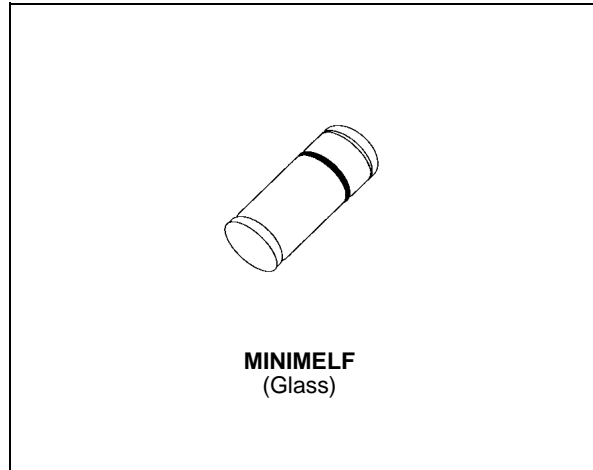


SMALL SIGNAL SCHOTTKY DIODE



DESCRIPTION

Metal to silicon junction diode primarily intended for UHF mixers and ultrafast switching applications.

ABSOLUTE RATINGS (limiting values)

| Symbol | Parameter | Value | Unit |
|--------------------|--|--|--------------------------------------|
| V_{RRM} | Repetitive Peak Reverse Voltage | 15 | V |
| I_F | Forward Continuous Current | $T_I = 25\text{ }^\circ\text{C}$ 30 | mA |
| I_{FSM} | Surge non Repetitive Forward Current | $t_p \leq 1\text{ s}$ 60 | mA |
| T_{stg} T_j | Storage and Junction Temperature Range | - 65 to +150 - 65 to +125 | $^\circ\text{C}$ $^\circ\text{C}$ |
| T_L | Maximum Temperature for Soldering during 15s | 260 | $^\circ\text{C}$ |

THERMAL RESISTANCE

| Symbol | Test Conditions | Value | Unit |
|---------------|-----------------|-------|--------------------|
| $R_{th(j-l)}$ | Junction-leads | 400 | $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

| Symbol | Test Conditions | | Min. | Typ. | Max. | Unit |
|-----------|-------------------------|-----------------|------|------|------|---------|
| V_{BR} | $T_{amb} = 25^{\circ}C$ | $I_R = 10\mu A$ | 15 | | | V |
| V_F (1) | $T_{amb} = 25^{\circ}C$ | $I_F = 1mA$ | | | 0.38 | V |
| | $T_{amb} = 25^{\circ}C$ | $I_F = 10mA$ | | | 0.5 | |
| | $T_{amb} = 25^{\circ}C$ | $I_F = 30mA$ | | | 1 | |
| I_R (1) | $T_{amb} = 25^{\circ}C$ | $V_R = 6V$ | | | 0.1 | μA |

DYNAMIC CHARACTERISTICS

| Symbol | Test Conditions | | | Min. | Typ. | Max. | Unit |
|--------|-------------------------|--------------|-----------------|------|------|------|------|
| C | $T_{amb} = 25^{\circ}C$ | $V_R = 1V$ | $f = 1MHz$ | | | 1.1 | pF |
| τ | $T_{amb} = 25^{\circ}C$ | $I_F = 20mA$ | Krakauer Method | | | 100 | ps |
| F (2) | $T_{amb} = 25^{\circ}C$ | $f = 1GHz$ | | | 6 | 7 | dB |

(1) Pulse test: $t_p \leq 300\mu s$ $\delta < 2\%$.

(2) Noise figure test :

- diode is inserted in a tuned stripline circuit
- local oscillator frequency 1GHz
- local oscillator power 1mW
- intermediate frequency amplifier, tuned on 30MHz, has a noise figure 1.5dB

Matched batches available on request. Test conditions (forward voltage and/or capacitance) according to customer specification.

Figure 1. Forward current versus forward voltage (typical values).

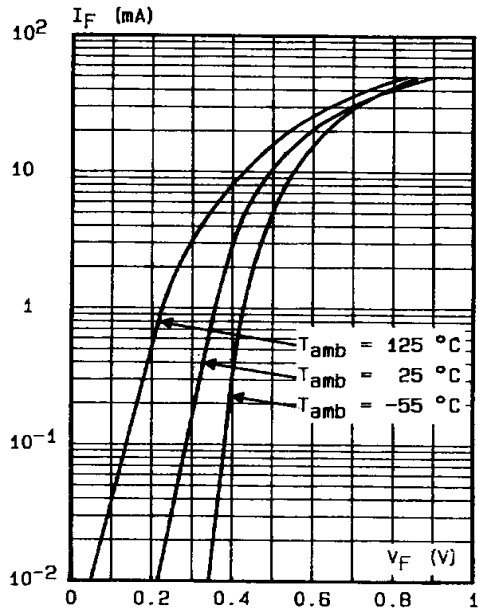


Figure 2. Capacitance C versus reverse applied voltage V_R (typical values).

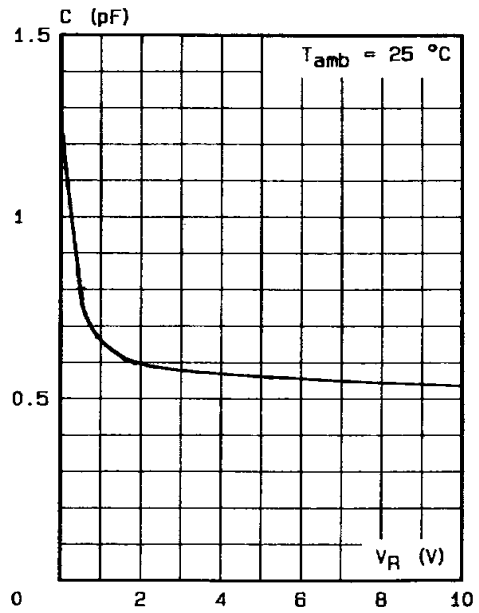


Figure 3. Reverse current versus ambient temperature.

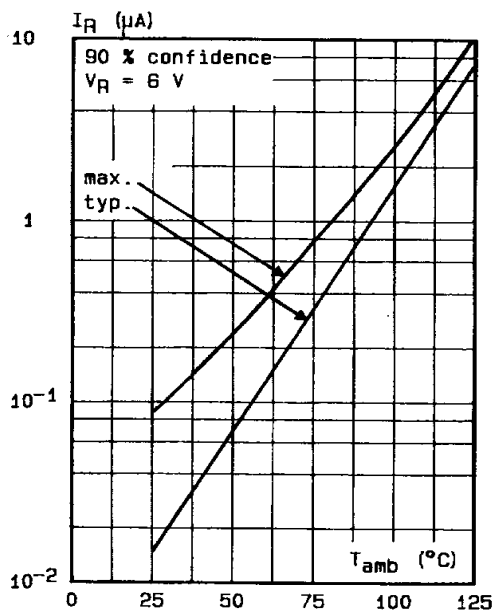
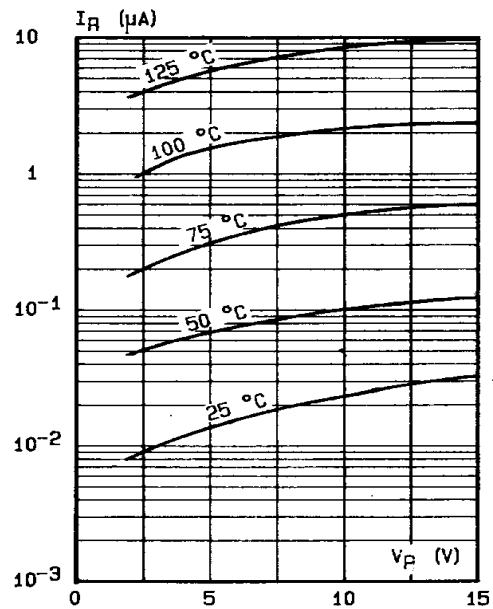


Figure 4. Reverse current versus continuous reverse voltage (typical values).

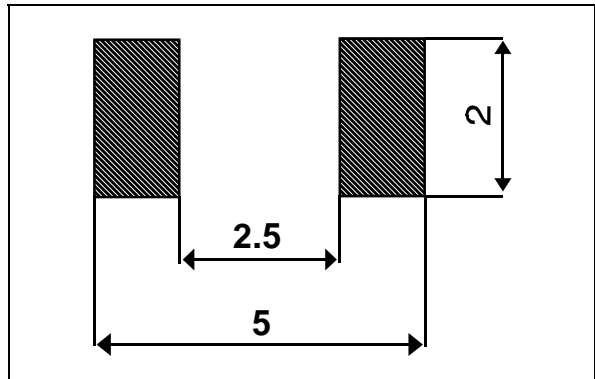
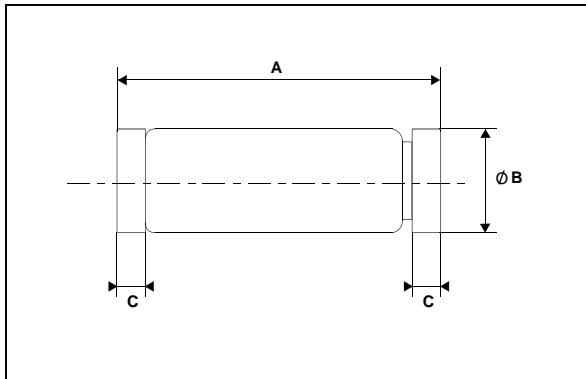


TMMBAT 45

PACKAGE MECHANICAL DATA

FOOT PRINT DIMENSIONS (Millimeter)

MINIMELF Glass



| REF. | DIMENSIONS | | | |
|------|-------------|------|--------|-------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 3.3 | 3.6 | 0.130 | 0.142 |
| B | 1.59 | 1.62 | 0.063 | 0.064 |
| C | 0.4 | 0.5 | 0.016 | 0.020 |

Marking: ring at cathode end.
Weight: 0.05g

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