

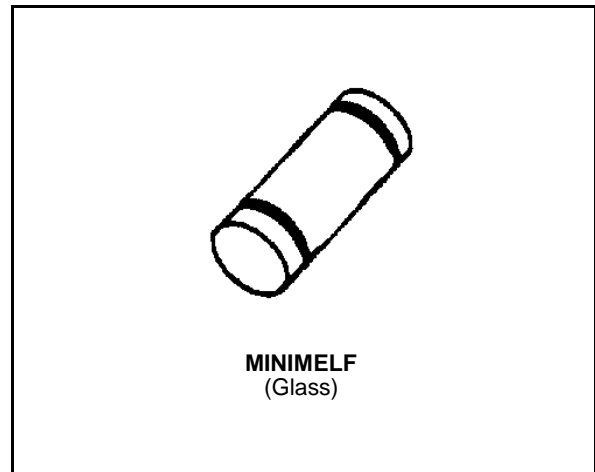


## TMMBAT 46

### SMALL SIGNAL SCHOTTKY DIODE

#### DESCRIPTION

General purpose, metal to silicon diode featuring high breakdown voltage low turn-on voltage.



#### ABSOLUTE RATINGS (limiting values)

| Symbol             | Parameter                                    |  | Value                          | Unit                                     |
|--------------------|--|--|--------------------------------|--|
| $V_{RRM}$          | Repetitive Peak Reverse Voltage              |  | 100                            | V  |
| $I_F$              | Forward Continuous Current                   | $T_I = 25\text{ }^{\circ}\text{C}$         | 150                            | mA                                       |
| $I_{FRM}$          | Repetitive Peak Forward Current              | $t_p \leq 1\text{ s}$<br>$\delta \leq 0.5$ | 350                            | mA                                       |
| $I_{FSM}$          | Surge non Repetitive Forward Current         | $t_p = 10\text{ ms}$                       | 750                            | mA                                       |
| $P_{tot}$          | Power Dissipation                            | $T_I = 80\text{ }^{\circ}\text{C}$         | 150                            | mW                                       |
| $T_{stg}$<br>$T_j$ | Storage and Junction Temperature Range       |  | - 65 to + 150<br>- 65 to + 125 | $^{\circ}\text{C}$<br>$^{\circ}\text{C}$ |
| $T_L$              | Maximum Temperature for Soldering during 15s |  | 260                            | $^{\circ}\text{C}$                       |

#### THERMAL RESISTANCE

| Symbol        | Test Conditions | Value | Unit                 |
|---------------|-----------------|-------|----------------------|
| $R_{th(j-l)}$ | Junction-leads  | 300   | $^{\circ}\text{C/W}$ |

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

| Symbol   | Test Conditions            |                        | Min. | Typ. | Max. | Unit          |
|----------|----------------------------|------------------------|------|------|------|---------------|
| $V_{BR}$ | $T_j = 25^{\circ}\text{C}$ | $I_R = 100\mu\text{A}$ | 100  |      |      | V             |
| $V_F^*$  | $T_j = 25^{\circ}\text{C}$ | $I_F = 0.1\text{mA}$   |      |      | 0.25 | V             |
|          | $T_j = 25^{\circ}\text{C}$ | $I_F = 10\text{mA}$    |      |      | 0.45 |               |
|          | $T_j = 25^{\circ}\text{C}$ | $I_F = 250\text{mA}$   |      |      | 1    |               |
| $I_R^*$  | $T_j = 25^{\circ}\text{C}$ | $V_R = 1.5\text{V}$    |      |      | 0.5  | $\mu\text{A}$ |
|          | $T_j = 60^{\circ}\text{C}$ |                        |      |      | 5    |               |
|          | $T_j = 25^{\circ}\text{C}$ | $V_R = 10\text{V}$     |      |      | 0.8  |               |
|          | $T_j = 60^{\circ}\text{C}$ |                        |      |      | 7.5  |               |
|          | $T_j = 25^{\circ}\text{C}$ | $V_R = 50\text{V}$     |      |      | 2    |               |
|          | $T_j = 60^{\circ}\text{C}$ |                        |      |      | 15   |               |
|          | $T_j = 25^{\circ}\text{C}$ | $V_R = 75\text{V}$     |      |      | 5    |               |
|          | $T_j = 60^{\circ}\text{C}$ |                        |      |      | 20   |               |

DYNAMIC CHARACTERISTICS

| Symbol | Test Conditions            |                   |                   | Min. | Typ. | Max. | Unit |
|--------|----------------------------|-------------------|-------------------|------|------|------|------|
| C      | $T_j = 25^{\circ}\text{C}$ | $V_R = 0\text{V}$ | $f = 1\text{MHz}$ |      | 10   |      | pF   |
|        | $T_j = 25^{\circ}\text{C}$ | $V_R = 1\text{V}$ |                   |      | 6    |      |      |

\* Pulse test:  $t_p \leq 300\mu\text{s}$   $\delta < 2\%$ .

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

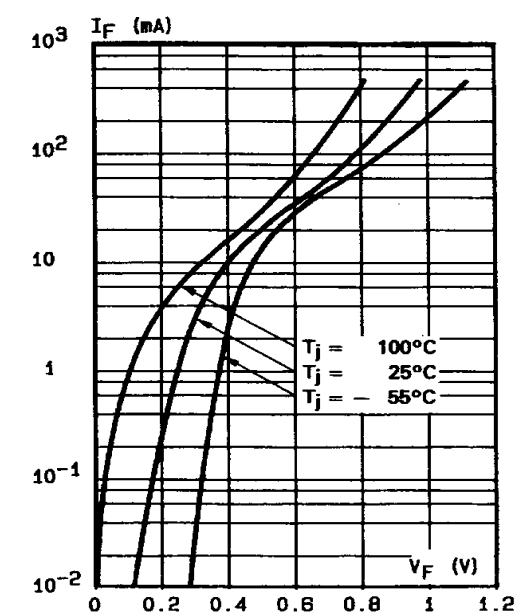


Figure 2. Forward current versus forward voltage (typical values).

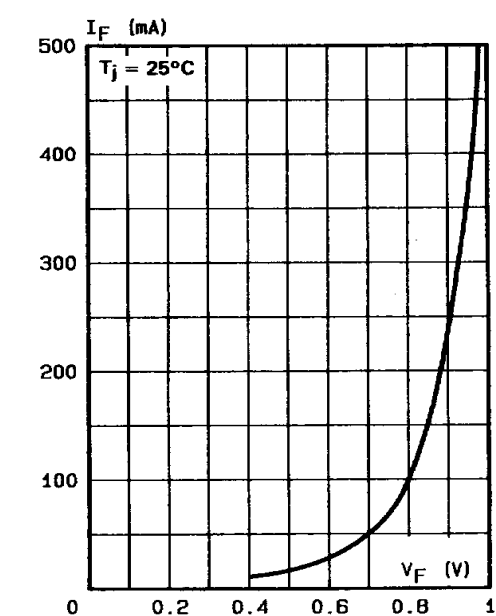


Figure 3. Reverse current versus junction temperature (typical values).

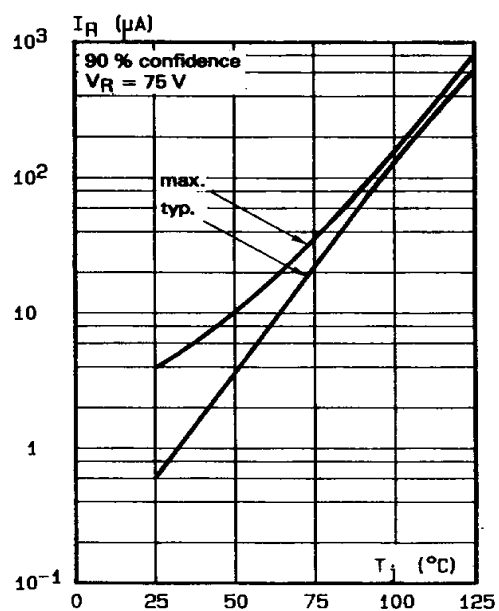


Figure 4. Reverse current versus continuous reverse voltage.

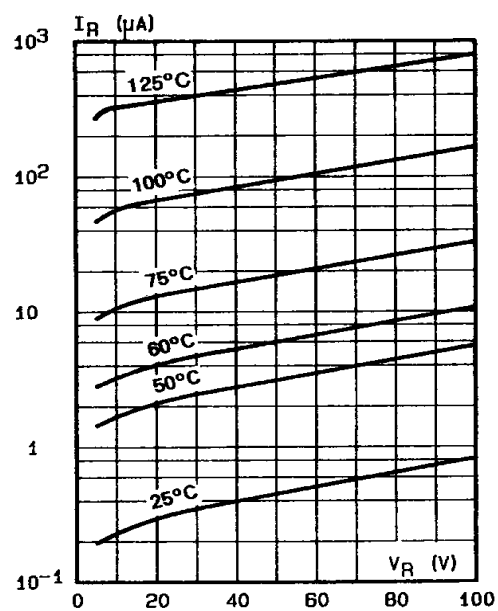
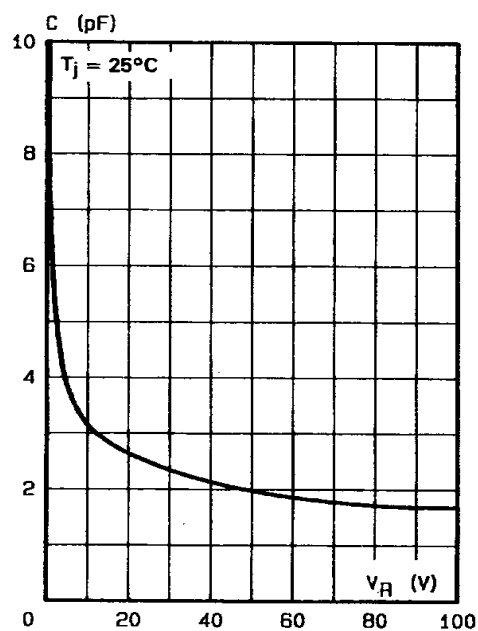
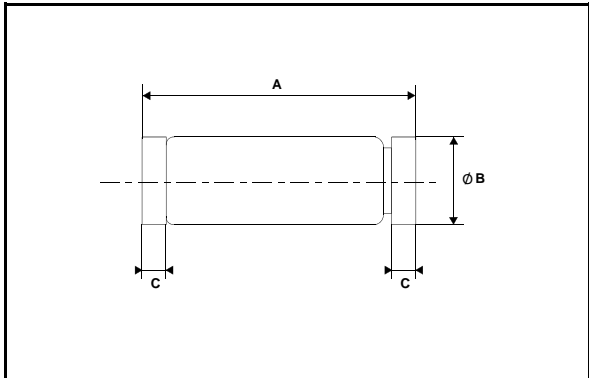


Figure 5. Forward current versus forward voltage (typical values).



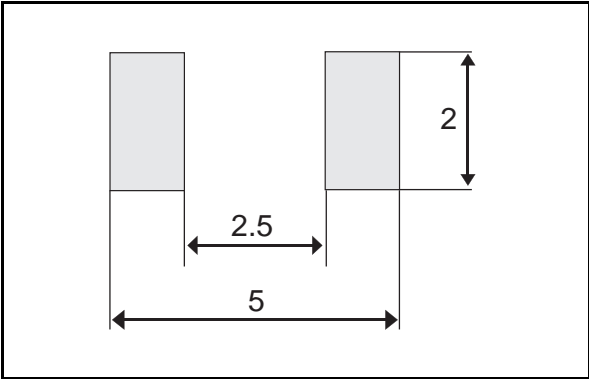
PACKAGE MECHANICAL DATA

MINIMELF Glass



| REF. | DIMENSIONS  |      |      |        |       |       |
|------|-------------|------|------|--------|-------|-------|
|      | Millimeters |      |      | Inches |       |       |
|      | Min.        | Typ. | Max. | Min.   | Typ.  | Max.  |
| A    | 3.30        | 3.40 | 3.6  | 0.130  | 0.134 | 0.142 |
| B    | 1.59        | 1.60 | 1.62 | 0.063  | 0.063 | 0.064 |
| C    | 0.40        | 0.45 | 0.50 | 0.016  | 0.018 | 0.020 |
| D    |             | 1.50 |      |        | 0.059 |       |

FOOT PRINT DIMENSIONS (Millimeter)



Marking: ring at cathode end.  
Weight: 0.05g

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