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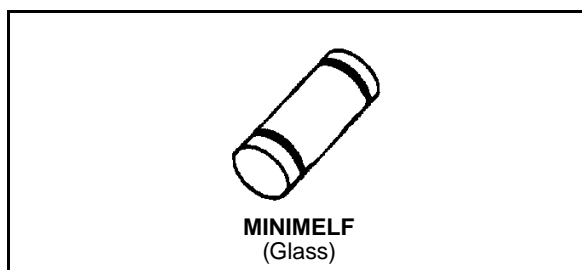
# TMMBAT 41

## SMALL SIGNAL SCHOTTKY DIODE

### DESCRIPTION

General purpose metal to silicon diode featuring very low turn-on voltage and fast switching.

This device has integrated protection against excessive voltage such as electrostatic discharges.



### ABSOLUTE RATINGS (limiting values)

| Symbol             | Parameter                                    | Value   | Unit                                 |
|--------------------|--|---|--------------------------------------|
| $V_{RRM}$          | Repetitive Peak Reverse Voltage              | 100   | V                                    |
| $I_F$              | Forward Continuous Current                   | $T_i = 25\text{ }^\circ\text{C}$<br>100           | mA                                   |
| $I_{FRM}$          | Repetitive Peak Forward Current              | $t_p \leq 1\text{ s}$<br>$\delta \leq 0.5$<br>350 | mA                                   |
| $I_{FSM}$          | Surge non Repetitive Forward Current         | $t_p = 10\text{ ms}$<br>750                       | mA                                   |
| $P_{tot}$          | Power Dissipation                            | $T_i = 95\text{ }^\circ\text{C}$<br>100           | 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          |
|----------|--|------|------|------|---------------|
| $V_{BR}$ | $T_j = 25\text{ }^\circ\text{C}$<br>$I_R = 100\text{ }\mu\text{A}$ | 100  |      |      | V             |
| $V_F^*$  | $T_j = 25\text{ }^\circ\text{C}$<br>$I_F = 1\text{ mA}$            |      | 0.4  | 0.45 | V             |
|          | $T_j = 25\text{ }^\circ\text{C}$<br>$I_F = 200\text{ mA}$          |      |      | 1    |               |
| $I_R^*$  | $T_j = 25\text{ }^\circ\text{C}$                                   |      |      | 0.1  | $\mu\text{A}$ |
|          | $T_j = 100\text{ }^\circ\text{C}$                                  |      |      | 20   |               |

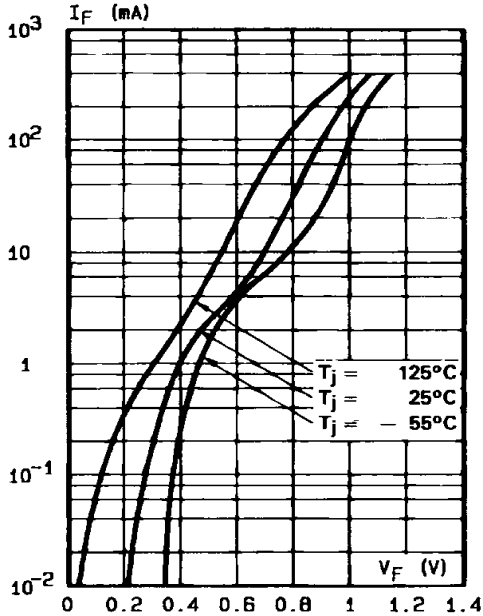
#### DYNAMIC CHARACTERISTICS

| Symbol | Test Conditions  | Min. | Typ. | Max. | Unit |
|--------|--|------|------|------|------|
| C      | $T_j = 25\text{ }^\circ\text{C}$<br>$V_R = 1\text{ V}$<br>$f = 1\text{ MHz}$ |      | 2    |      | pF   |

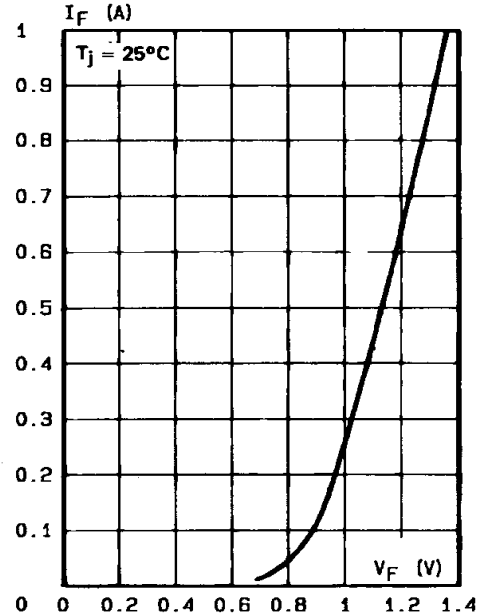
\* Pulse test:  $t_p \leq 300\text{ }\mu\text{s}$   $\delta < 2\%$ .

**TMMBAT 41**

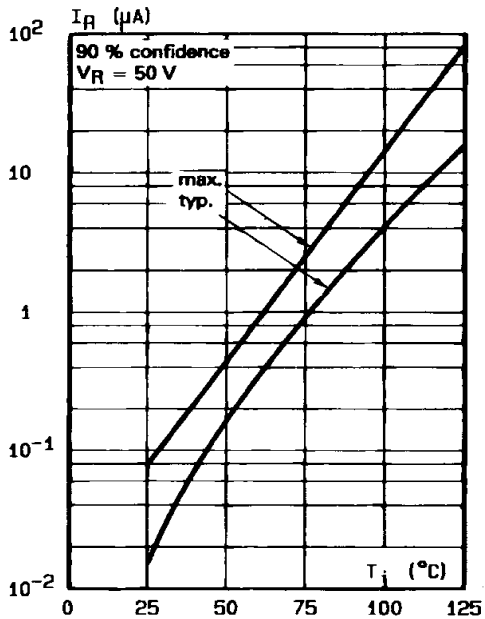
**Figure 1. Forward current versus forward voltage at different temperatures (typical values).**



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



**Figure 3. Reverse current versus junction temperature.**



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

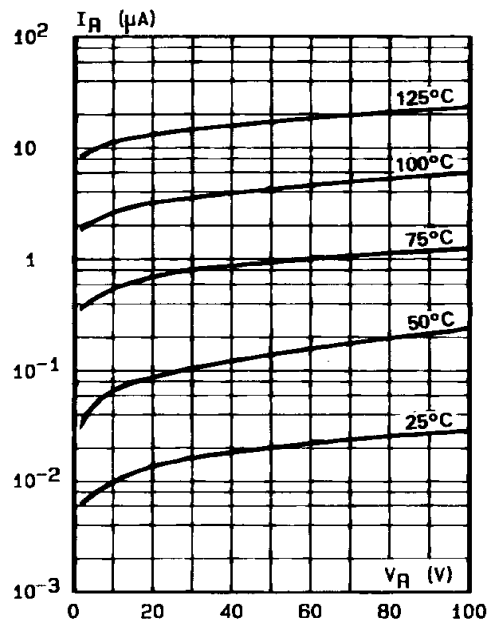
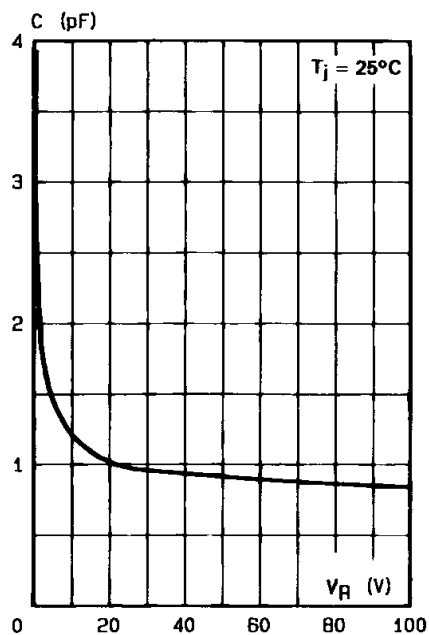


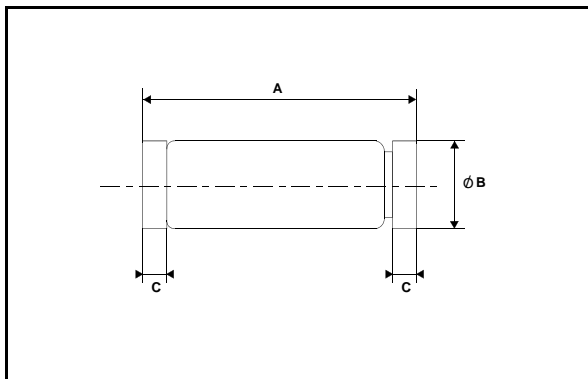
Figure 5. Capacitance C versus reverse applied voltage  $V_R$  (typical values).



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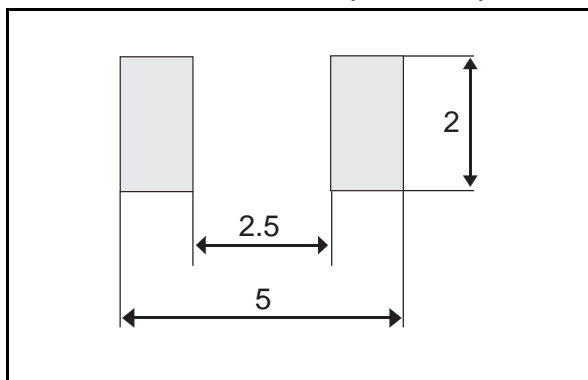
### PACKAGE MECHANICAL DATA

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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