

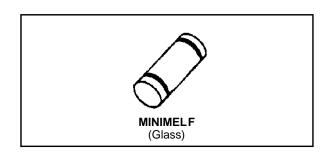
# **TMMBAT 41**

# SMALL SIGNAL SCHOTTKY DIODE



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              | titive Peak Reverse Voltage                                   |                                | V        |
| l <sub>F</sub>         | Forward Continuous Current                   | T <sub>i</sub> = 25 °C  | 100                            | mA       |
| I <sub>FRM</sub>       | Repetitive Peak Forward Current              | $\begin{array}{l} t_p \leq 1s \\ \delta \leq 0.5 \end{array}$ | 350                            | mA       |
| I <sub>FSM</sub>       | Surge non Repetitive Forward Current         | t <sub>p</sub> = 10ms   | 750                            | mA       |
| P <sub>tot</sub>       | Power Dissipation                            | T <sub>i</sub> = 95 °C  | 100                            | mW       |
| T <sub>stg</sub><br>Tj | Storage and Junction Temperature Range       |   | - 65 to + 150<br>- 65 to + 125 | °C<br>°C |
| TL                     | Maximum Temperature for Soldering during 15s |   | 260                            | °C       |

### THERMAL RESISTANCE

| Symbol               | Test Conditions | Value | Unit |
|----------------------|-----------------|-------|------|
| R <sub>th(j-l)</sub> | Junction-leads  | 300   | °C/W |

### **ELECTRICAL CHARACTERISTICS**

# STATIC CHARACTERISTICS

| Symbol           | Test Conditions                      |                      | Min. | Тур. | Max. | Unit |
|------------------|--------------------------------------|----------------------|------|------|------|------|
| $V_{BR}$         | $T_j = 25^{\circ}C$ $I_R = 100\mu A$ |                      | 100  |      |      | V    |
| V <sub>F</sub> * | $T_j = 25^{\circ}C$ $I_F = 1mA$      |                      | ·    | 0.4  | 0.45 | V    |
|                  | $T_j = 25^{\circ}C$ $I_F = 200mA$    |                      |      |      | 1    |      |
| I <sub>R</sub> * | T <sub>j</sub> = 25°C                | V <sub>R</sub> = 50V |      |      | 0.1  | μΑ   |
|                  | $T_j = 100^{\circ}C$                 |                      |      |      | 20   |      |

## DYNAMIC CHARACTERISTICS

| Symbol | Test Conditions                     |  | Тур. | Max. | Unit |
|--------|-------------------------------------|--|------|------|------|
| С      | $T_j = 25$ °C $V_R = 1V$ $f = 1MHz$ |  | 2    |      | pF   |

<sup>\*</sup> Pulse test:  $t_p \le 300 \mu s \ \delta < 2\%$ .

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

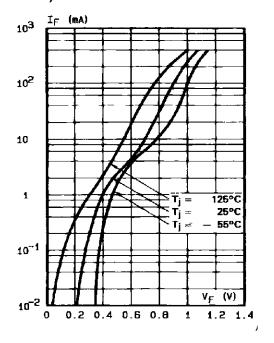


Figure 2. Forward current versus forward voltage (typical values).

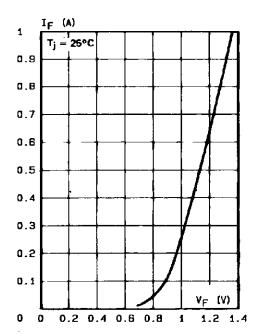


Figure 3. Reverse current versus junction temperature.

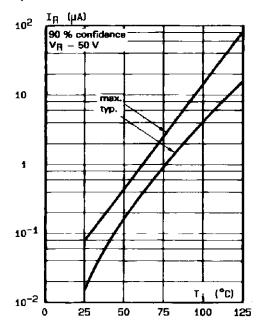
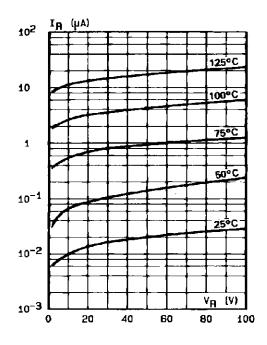


Figure 4. Reverse current versus continuous reverse voltage (typical values).



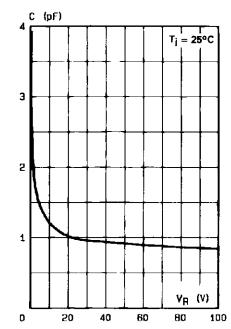
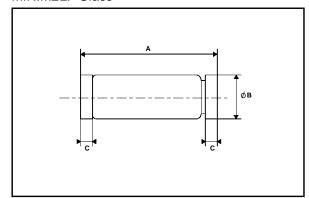


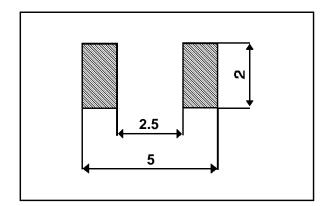
Figure 5. Capacitance C versus reverse applied voltage  $V_{\mbox{\scriptsize R}}$  (typical values).

#### PACKAGE MECHANICAL DATA

### **FOOT PRINT DIMENSIONS** (Millimeter)

# MINIMELF Glass





|      | DIMENSIONS  |      |        |       |  |
|------|-------------|------|--------|-------|--|
| REF. | Millimeters |      | Inches |       |  |
|      | Min.        | Max. | Min.   | Max.  |  |
| Α    | 3.3         | 3.6  | 0.130  | 0.142 |  |
| В    | 1.59        | 1.62 | 0.063  | 0.064 |  |
| С    | 0.4         | 0.5  | 0.016  | 0.020 |  |

Marking: ring at cathode end. Weight: 0.05g

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