



# TMMDB3TG

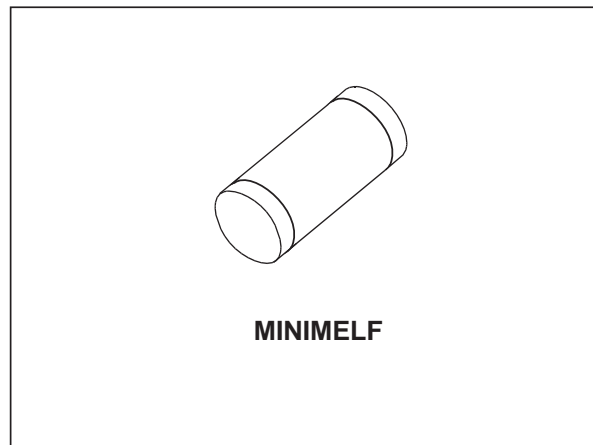
## DIAC

### FEATURES

- $V_{BO}$  : 32V
- Low breakover current: 15 $\mu$ A max
- Breakover voltage range: 30 to 34V

### DESCRIPTION

Functioning as a trigger diode with a fixed voltage reference, the TMMDB3TG can be used in conjunction with triacs for simplified gate control circuits or as a starting element in fluorescent lamp ballasts.



### ABSOLUTE MAXIMUM RATINGS (limiting values)

| Symbol             | Parameter   | Value         | Unit        |
|--------------------|---|---------------|-------------|
| $I_{TRM}$          | Repetitive peak on-state current<br>$t_p = 20 \mu s$ $F = 120 \text{ Hz}$ | 2             | A           |
| $T_{stg}$<br>$T_j$ | Storage temperature range<br>Operating junction temperature range         | - 40 to + 125 | $^{\circ}C$ |

## TMMDB3TG

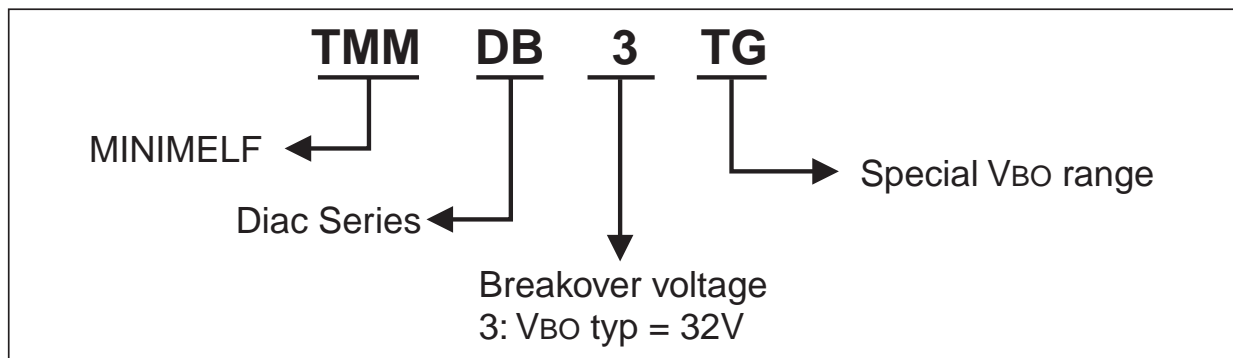
### ELECTRICAL CHARACTERISTICS (T<sub>j</sub> = 25°C unless otherwise specified)

| Symbol                              | Parameter                   | Test Conditions                            | Value | Unit |    |
|-------------------------------------|-----------------------------|--|-------|------|----|
| V <sub>BO</sub>                     | Breakover voltage *         | C = 22nF **                                | MIN.  | 30   | V  |
|                                     |                             |  | TYP.  | 32   |    |
|                                     |                             |  | MAX.  | 34   |    |
| V <sub>BO1</sub> - V <sub>BO2</sub> | Breakover voltage symmetry  | C = 22nF **                                | MAX.  | ± 2  | V  |
| ΔV                                  | Dynamic breakover voltage * | V <sub>BO</sub> and V <sub>F</sub> at 10mA | MIN.  | 9    | V  |
| V <sub>O</sub>                      | Output voltage *            | see diagram 2 (R=20Ω)                      | MIN.  | 5    | V  |
| I <sub>BO</sub>                     | Breakover current *         | C = 22nF **                                | MAX.  | 15   | μA |
| t <sub>r</sub>                      | Rise time *                 | see diagram 3                              | MAX.  | 2    | μs |
| I <sub>R</sub>                      | Leakage current *           | V <sub>R</sub> = 0.5 V <sub>BO</sub> max   | MAX.  | 10   | μA |

\* Applicable to both forward and reverse directions.

\*\* Connected in parallel to the device.

### ORDERING INFORMATION



### OTHER INFORMATION

| Part Number | Marking | Weight | Base Quantity | Packing Mode |
|-------------|---------|--------|---------------|--------------|
| TMMDB3TG    | (None)  | 0.04 g | 2500          | Tape & Reel  |

Diagram 1: Voltage - current characteristic curve.

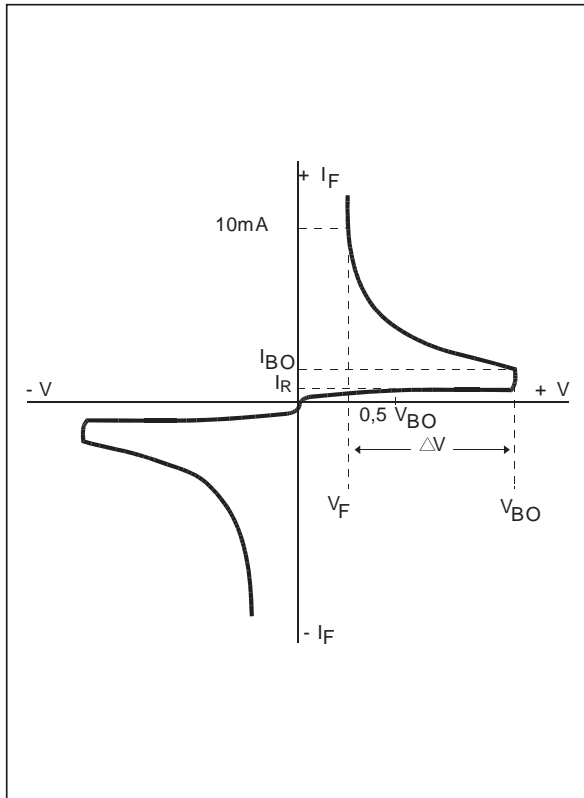


Diagram 2: Test circuit.

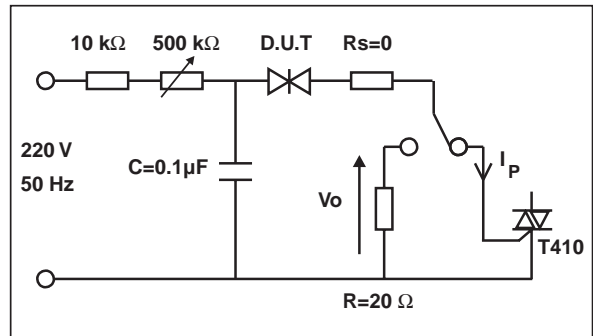


Diagram 3: Rise time measurement.

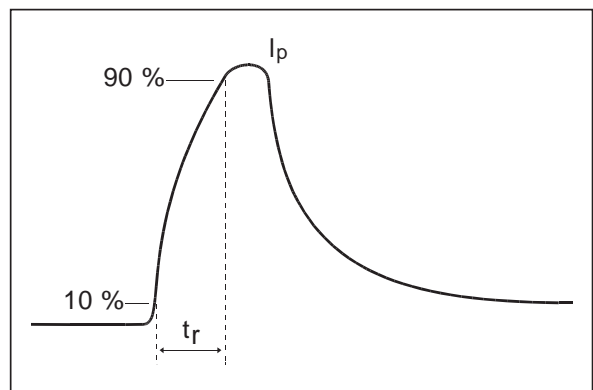


Fig. 1: Relative variation of VBO versus junction temperature (typical values)

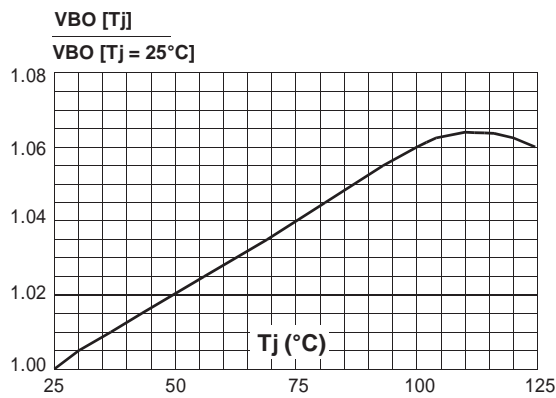
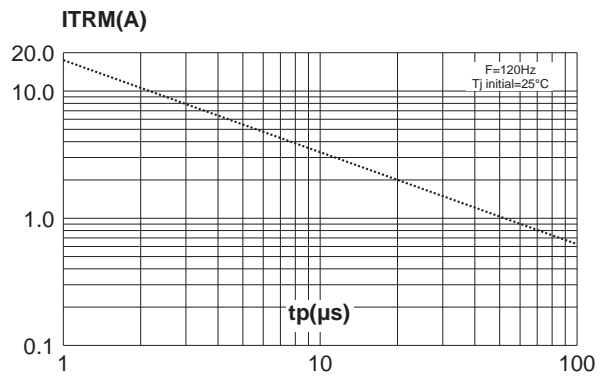
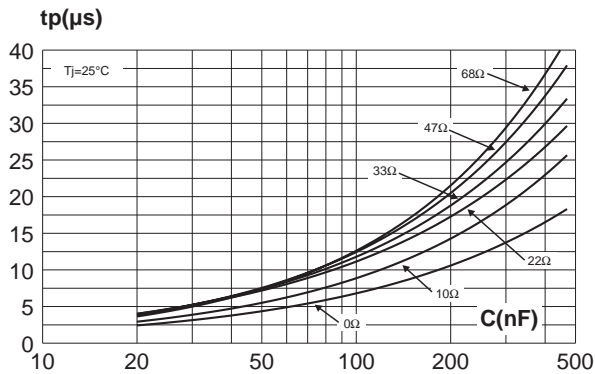


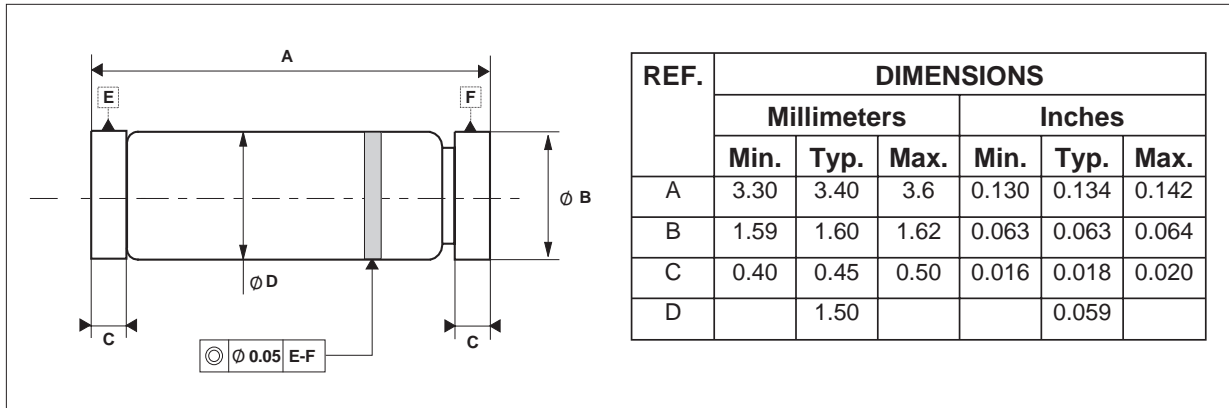
Fig. 2: Repetitive peak pulse current versus pulse duration (maximum values).



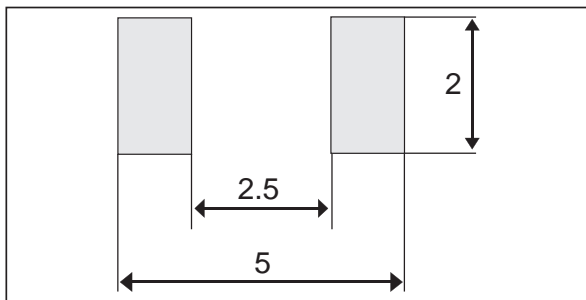
**Fig. 3:** Time duration while current pulse is higher 50mA versus C and Rs (typical values).



**PACKAGE MECHANICAL DATA** (in millimeters)  
MINIMELF



**FOOTPRINT**



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