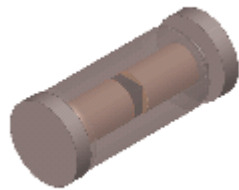


DIAC

**SOD80C
MINIMELF**


- Silicon bi-directional trigger device intended for use in thyristor (SCR and TRIAC) trigger circuits, energy saving lighting circuits and other switching functions.

| | |
|-------------------|------------------|
| BREAKOVER VOLTAGE | ON-STATE CURRENT |
| 32 V | 2.0 Amps |

SPECIAL FEATURES:

- Low breakover
- Excellent symmetry.
- Very low leakage current.

MARKING CODE

Absolute Maximum Ratings, according to IEC publication No. 134

| | PARAMETER | CONDITIONS | Min. | Typ. | Max. | Unit |
|-----------|----------------------------------|---|------|------|------|------------------|
| P_{tot} | Total Power Dissipation | $T_a = 50^\circ\text{C}$ | | | 150 | mW |
| I_{TRM} | Repetitive peak on-state current | $t_p = 20 \mu\text{s}$, $f = 100 \text{ Hz}$ | | | 2 | A |
| T_{stg} | Storage Temperature Range | | -40 | | +125 | $^\circ\text{C}$ |
| T_j | Operating Junction Temperature | | -40 | | +110 | $^\circ\text{C}$ |
| T_{sld} | Soldering Temperature | $10 \leq \text{max.}$ | | | 260 | $^\circ\text{C}$ |

Thermal Resistance

| | PARAMETER | CONDITIONS | Min. | Typ. | Max. | Unit |
|---------------|---------------------|------------|------|------|------|--------------------|
| $R_{th(j-a)}$ | Junction to Ambient | | | | 400 | $^\circ\text{C/W}$ |
| $R_{th(j-l)}$ | Junction to leads | | | | 150 | $^\circ\text{C/W}$ |

Electrical Characteristics at $T_{amb} = 25^\circ\text{C}$

| | PARAMETER | CONDITIONS | Min. | Typ. | Max. | Unit |
|-----------------------|-----------------------------|---|------|------|---------|---------------|
| V_{BO} | Breakover Voltage * | I_{BO} , $C = 22\text{nF}$ ** (see Figure 1) | 28 | 32 | 36 | V |
| $ V_{BO+} - V_{BO-} $ | Breakover Voltage Symmetry | I_{BO} , $C = 22\text{nF}$ ** (see Figure 1) | | | ± 3 | V |
| $ \Delta V_{\pm} $ | Dynamic breakover voltage * | $\Delta I = [I_{BO} \text{ to } I_F = 10 \text{ mA}]$ (see Figure 2) | 5 | | | V |
| V_O | Output Voltage * | (see Figure 3) | 5 | | | V |
| I_{BO} | Breakover Current * | $C = 22 \text{ nF}$ ** | | | 50 | μA |
| t_r | Rise Time * | (see Figure 4) | | | 2 | μs |
| I_B | Leakage Current * | $V_B = 0.5 V_{BO} \text{ max}$ (see Figure 1) | | | 10 | μA |
| I_P | Peak Current * | see Figure 3 (Gate) | 0.3 | | | A |

* Applicable to both forward and reverse

** Connected in parallel with the devices.

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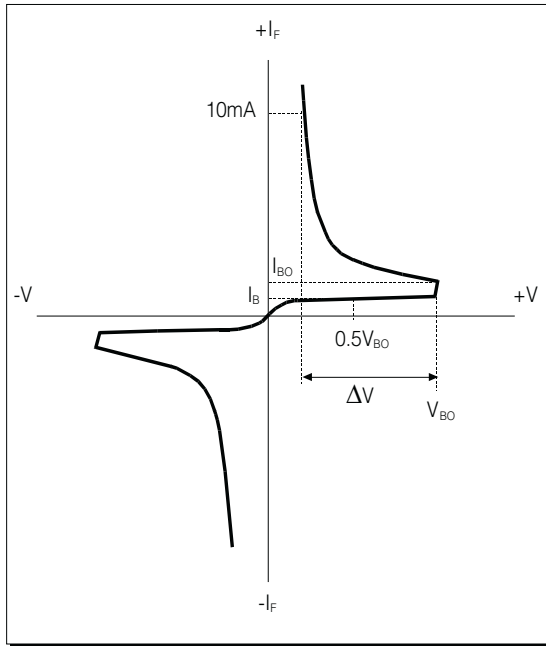


FIGURE 1: Current-Voltage Characteristics

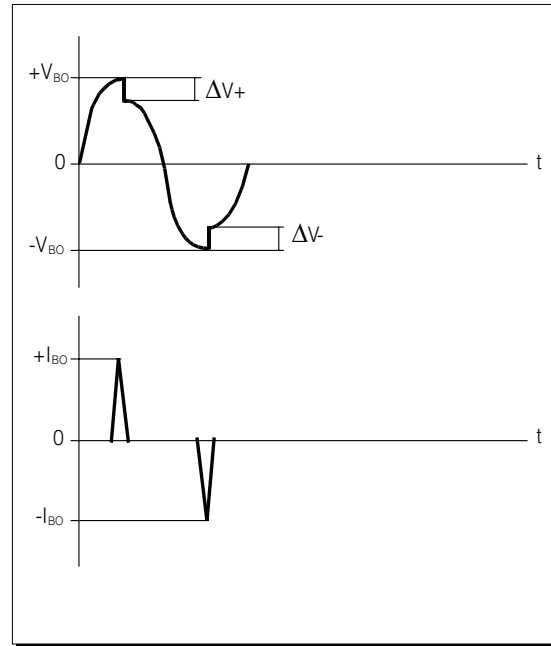


FIGURE 2

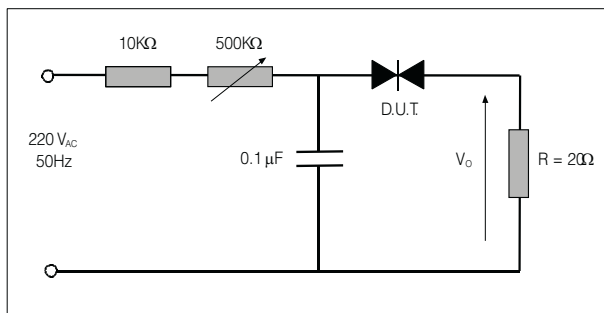


FIGURE 3: Test Circuit for Output Voltage.

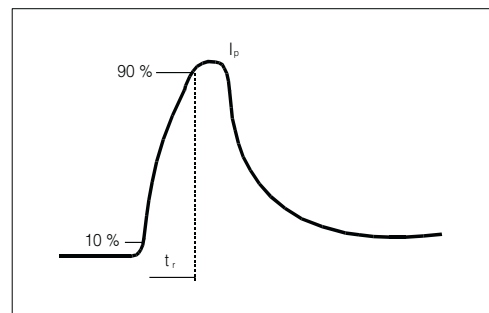
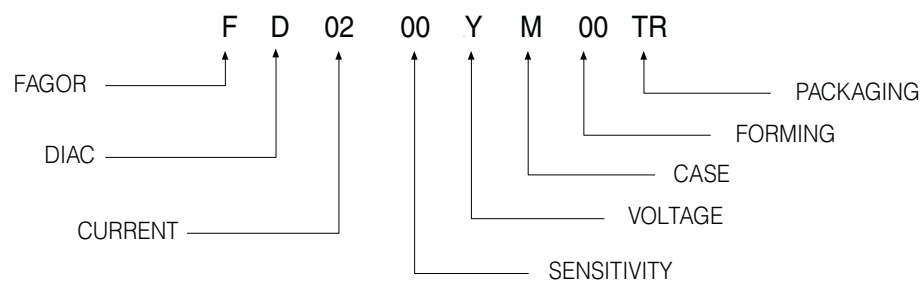


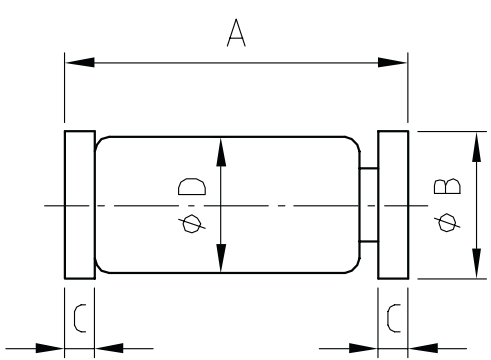
FIGURE 4: Test circuit see Figure 3. Adjust R for $I_p \pm 0.5 A$

PART NUMBER INFORMATION



DIAC

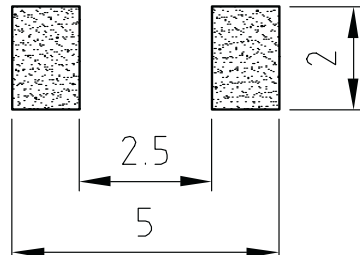
PACKAGE MECHANICAL DATA SOD80C MINIMELF



The drawing shows a side view of the package with dimensions: A (total length), B (height), C (lead length), and D (body diameter). The package has a central body with rounded ends and two leads on either side.

| REF. | DIMENSIONS | | |
|------|------------|------|------|
| | Milimeters | | |
| | Min. | Typ. | Max. |
| A | 3.30 | 3.50 | 3.70 |
| B | 1.46 | 1.50 | 1.54 |
| C | 0.30 | 0.35 | 0.40 |
| D | 1.37 | 1.40 | 1.43 |

FOOTPRINT



The footprint shows two rectangular leads. The distance between the inner edges of the leads is 2.5 mm, and the total distance between the outer edges is 5 mm. The height of each lead is 2 mm.

NOTE: LIMITING VALUES AND LIFE SUPPORT APPLICATIONS (SEE WEB PAGE).