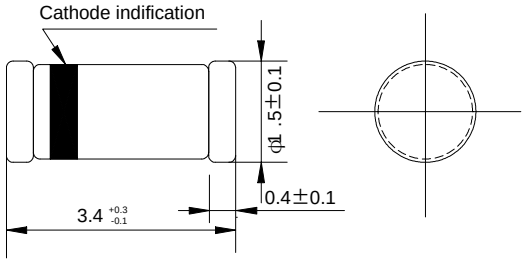
# SILICON BIDIRECTIONAL DIACS

**VOLTAGE RANGE: 28-45 V**

## FEATURES

◇ The three layer,two termnal,hermetically sealed diacs are designed specifically for triggering thyristors. They demonstrate low break over current at break over voltage as they withstand peak pulse current, The breakover symmetry is within three volts(DB6). These diacs are intended for use in thyrisitors phase control,circuits for lamp dimming,universal motor speed control,and heat control.

## MINI-MELF




Dimensions in millimeters

## ABSOLUTE RATINGS

| Parameters | Symbols | DB3M,DB4M | UNITS |
|---|---|---|---|
| Power dissipation on printed $T_A$=50°C | Pc | 150.0 | mW |
| Repetitive peak on-state current tp=20 μ S f=120Hz | $I_{TRM}$ | 2.0 | A |
| Operating junction temperature | $T_J$ | -40--- +125 | °C |
| Storage temperature | $T_{STG}$ | -40--- +125 | °C |

## ELECTRICAL CHARACTERISTICS

| Parameters | | Test Conditions | | DB3M | DB4M | UNITS |
|---|---|---|---|---|---|---|
| Breakover voltage (NOTE 1) | $V_{BO}$ | C=22nf(NOTE 2) See FIG.1 | Min | 28 | 35 | V |
| | | | Typ | 32 | 40 | |
| | | | Max | 36 | 45 | |
| Breakover voltage symmetry | I+$V_{BO}$ I- I-$V_{BO}$I | C=22nf(NOTE 2) See FIG.1 | Max | ±3.0 | | V |
| Dynamic breakover voltage (NOTE 1) | I± Δ VI | Δ I=($I_{BO}$ to $I_F$=10mA) See FIG.1 | Min | 5.0 | | V |
| Output voltage (NOTE 1) | $V_o$ | See FIG.2 | Min | 5.0 | | V |
| Breakover current (NOTE 1) | $I_{BO}$ | C=22nf(NOTE 2) | Max | 100.0 | | μ A |
| Rise time (NOTE 1) | $t_r$ | See FIG.3 | Typ | 1.5 | | μ S |
| Leakage current (NOTE 1) | $I_R$ | $V_R$=0.5 $V_{BO}$ See FIG.1 | Max | 10.0 | | μ A |

NOTE: 1. Electrical characteristics applicable in both forw ard and reverse dirctions.

2. Connected in parallel w ith the devices

**FIG.1--VOLTAGE-CURRENT CHARACTERISTIC CURVE**

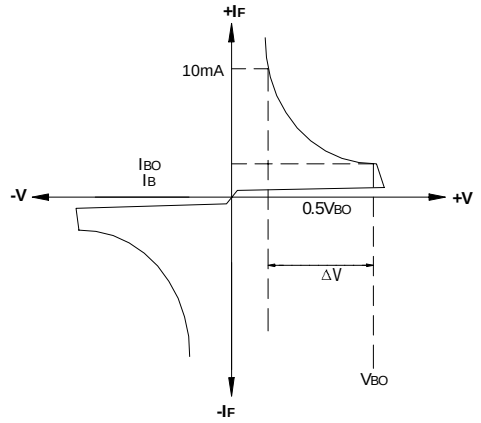



**FIG.2--TEST CIRCUIT FOR OUTPUT VOLTAGE**

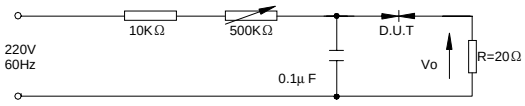
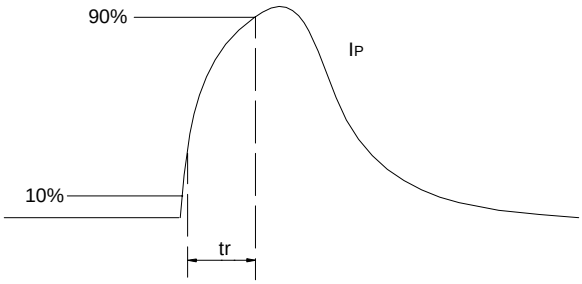



**FIG.3-- TEST CIRCUIT SEE FIG.2 ADJUST R FOR $I_P$=0.5A**

**FIG.4--POWER DISSIPATION VERSUS AMBIENT TEMPERATURE (MAXIMUM VALUES)**



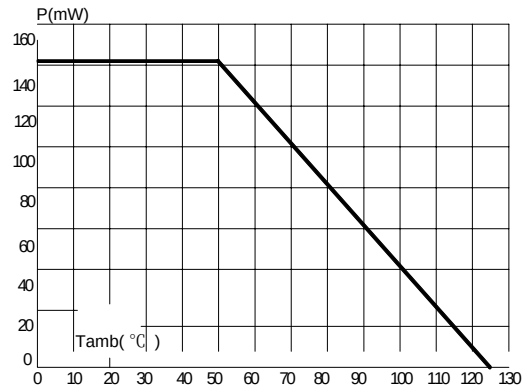




**FIG.5--RELATIVE VARIATION OF $V_{BO}$ VERSUS JUNCTION TEMPERATURE(TYPICAL VALUES)**

**FIG.6--PEAK PULSEE CURRENT VERENT VERSUS PULSE DURATION(MAXIMUM VALUES)**

