

# DB3A

## SILICON BIDIRECTIONAL DIAC

### Features

- The three layer, two terminal, axial lead, hermetically sealed diacs are designed specifically for triggering thyristors.
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
- High temperature soldering guaranteed
- 250 C/10 seconds, 0.375" (9.5mm) lead length,
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Maximum Ratings

- Operating Temperature: -40°C to +110°C
- Storage Temperature: -40°C to +125°C

### Electrical Characteristics @ 25°C Unless Otherwise Specified

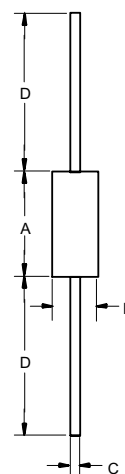
|   |                            |                          |                                     |
|---|----------------------------|--------------------------|-------------------------------------|
| Power dissipation on Printed Circuit (l=10mm)     | $P_C$                      | 150mW                    | $T_A=65^\circ\text{C}$              |
| Repetitive Peak on-state Current DB3,DC34,DB4 DB6 | $I_{TRM}$                  | 2.0A<br>16A              | $t_p=10\mu\text{s}, f=100\text{Hz}$ |
| Breakover Voltage                                 | $V_{BO}$                   | Min Typ Max<br>28 32 36V | $C=22\text{nF}$ (Note 3)            |
| Breakover Voltage Symmetry                        | $ +V_{BO} $<br>$ -V_{BO} $ | $\pm 3\text{V}$          | $C=22\text{nF}$ (Note 3)            |
| Output Voltage(Note 2)                            | $V_{o(\text{min})}$        | 5V                       |                                     |
| Breakover Current(Note 2)                         | $I_{BO(\text{max})}$       | 100uA                    | $C=22\text{nF}$                     |
| Rise Time(Note 2)                                 | $T_r$                      | 1.5us                    |                                     |
| Leakage Current(Note 2)                           | $I_{B(\text{max})}$        | 10uA                     | $V_B=0.5V_{BO(\text{max})}$         |

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

2. Electrical characteristics applicable in both forward and reverse directions.

3. Connected in parallel with the devices.

### A-405



| DIM | DIMENSIONS |      |       |      | NOTE |
|-----|------------|------|-------|------|------|
|     | INCHES     |      | MM    |      |      |
| A   | .166       | .205 | 4.10  | 5.20 |      |
| B   | .080       | .107 | 2.00  | 2.70 |      |
| C   | ---        | .024 | ---   | .60  |      |
| D   | 1.000      | ---  | 25.40 | ---  |      |

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DIAGRAM 1:CURRENT-VOLTAGE CHARACTERISTICS

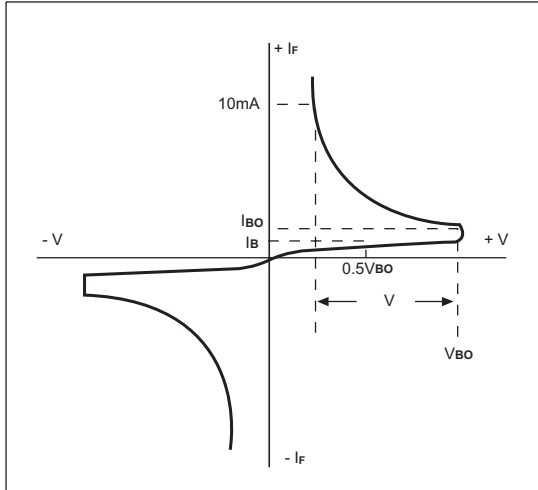


DIAGRAM 2:TEST CIRCUIT OUTPUT VOLTAGE

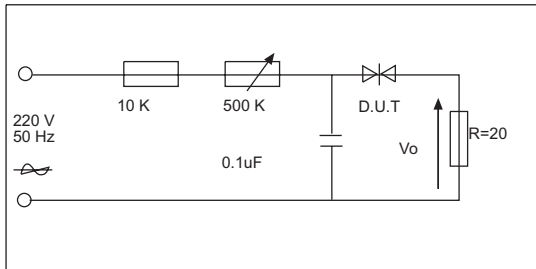


DIAGRAM 3:TEST CIRCUIT SEE DIAGRAM 2.ADJUST R FOR  $I_f=0.5A$

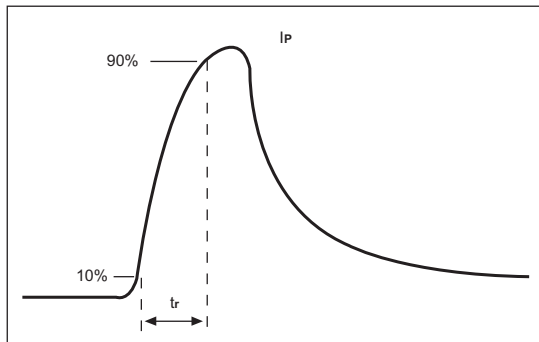


FIG. 1-POWER DISSIPATION VERSUS AMBIENT TEMPERATURE(MAXIMUM VALUES)

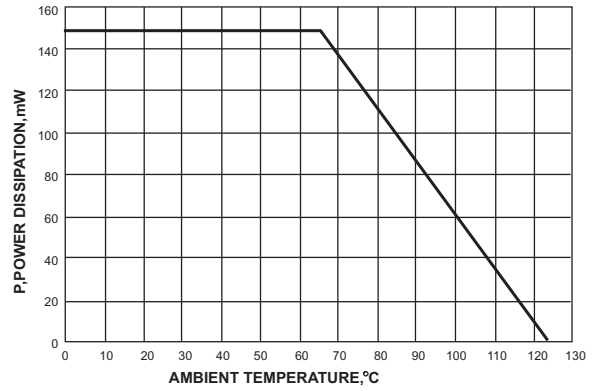


FIG. 2-PEAK PULSE CURRENT VERSUS PULSE DURATION (MAXIMUM VALUES)

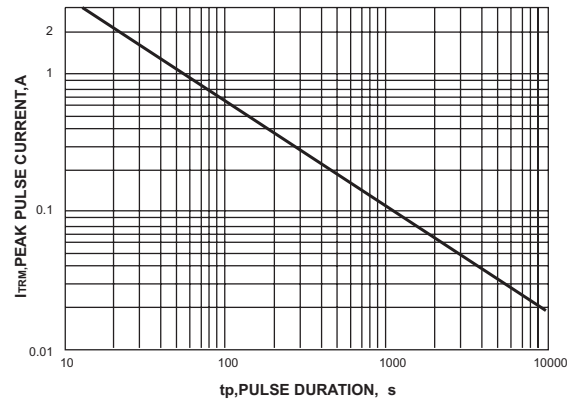


FIG. 3-RELATIVE VARIATION OF  $V_{Bo}$  VERSUS JUNCTION TEMPERATURE(TYPICAL VALUES)

