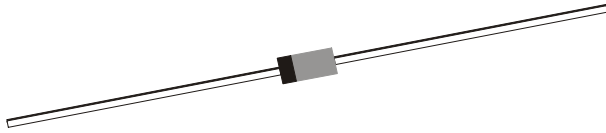


**SILICON DIAC  
BIDIRECTIONAL TRIGGER DIODES  
GLASS PASSIVATED PNPN DEVICE**

**DB3, DB4**

**DO- 35  
Glass Axial Package**



Functioning as a Trigger Diode with a Fixed Voltage Reference, DB3/DB4 can be used in Conjunction with Triacs for Simplified Gate Control Circuits or as a Starting Element in Fluorescent Lamp Ballasts

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C unless specified otherwise)**

| DESCRIPTION  | SYMBOL                | VALUE        | UNIT |
|--|-----------------------|--------------|------|
| Power Dissipation on Printed Circuit (L=10mm) (T <sub>a</sub> =50°C) | P <sub>tot</sub>      | 150          | mW   |
| Repetitive Peak on-State Current (t <sub>p</sub> =20ms, f=100Hz)     | I <sub>TRM</sub>      | 2            | A    |
| Storage Temperature Range  | T <sub>stg</sub>      | - 40 to +125 | °C   |
| Junction Temperature Range   | T <sub>j</sub>        | - 40 to +110 | °C   |
| <b>THERMAL RESISTANCE</b>  |                       |              |      |
| Junction to Ambient in free air                                      | R <sub>th (j-a)</sub> | 400          | °C/W |
| Junction to Leads  | R <sub>th (j-l)</sub> | 150          | °C/W |

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

| DESCRIPTION                 | SYMBOL                                      | TEST CONDITIONS   | MIN      | MAX      | UNIT   |
|-----------------------------|---|---|----------|----------|--------|
| * Breakover Voltage         | V <sub>BO</sub>                             | ** C = 22nF<br>see diagram 1<br><b>DB3</b><br><b>DB4</b>      | 28<br>35 | 36<br>45 | V<br>V |
| Breakover Voltage Symmetry  | [ +V <sub>BO</sub>   -  -V <sub>BO</sub>  ] | ** C = 22nF<br>see diagram 1                                  |          | ± 3      | V      |
| * Dynamic Breakover Voltage | IΔV± I                                      | Δ1=[I <sub>BO</sub> to I <sub>F</sub> =10mA]<br>see diagram 1 | 5        |          | V      |
| * Output Voltage            | V <sub>O</sub>                              | see diagram 2   | 5        |          | V      |
| * Breakover Current         | I <sub>BO</sub>                             | ** C = 22nF   |          | 50       | μA     |
| * Rise Time                 | t <sub>r</sub>                              | see diagram 3   | TYP 1.5  |          | μs     |
| * Leakage Current           | I <sub>B</sub>                              | V <sub>B</sub> = 0.5 V <sub>BO</sub> max<br>see diagram 1     |          | 10       | μA     |

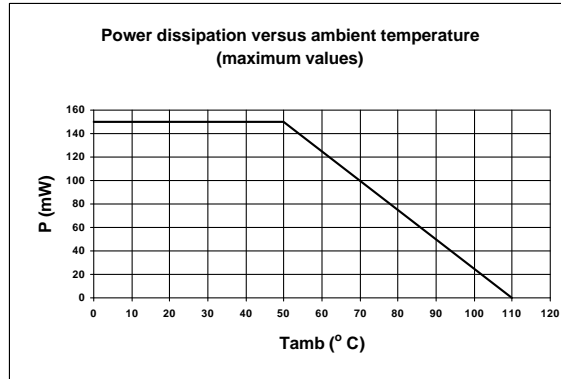
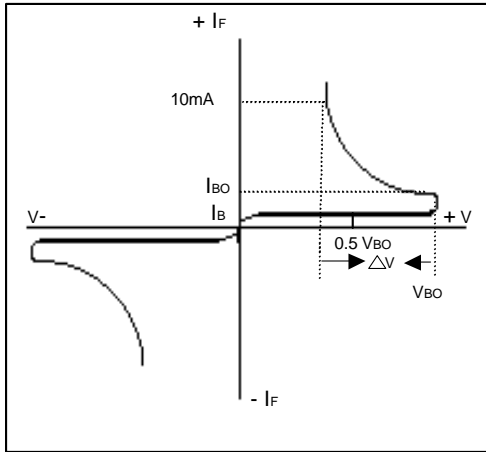
\* Electrical characteristic applicable in both forward and reverse directions

\*\* Connected in parallel with the devices.

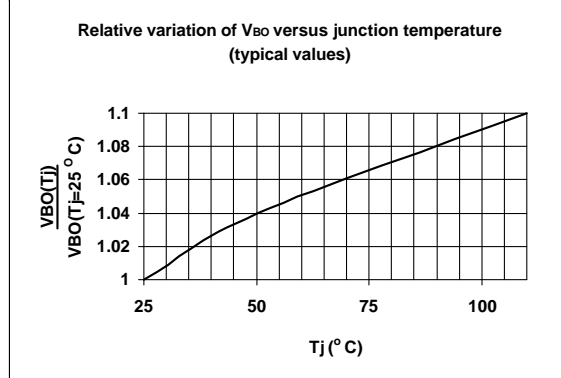
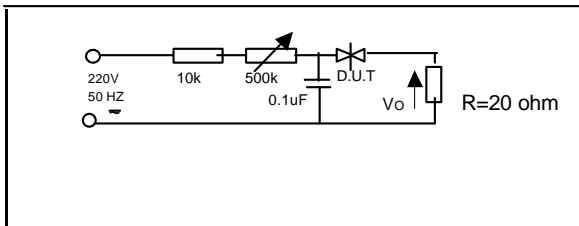
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**DB3/DB4**

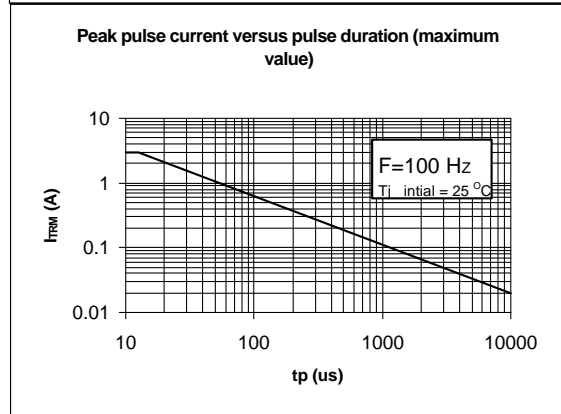
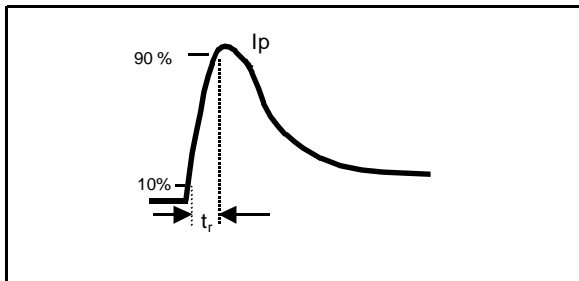
**DIAGRAM 1** :Current-voltage characteristics



**DIAGRAM 2** :Test circuit for output voltage

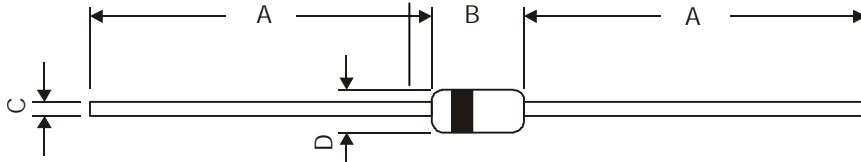


**DIAGRAM 3** : Test circuit see diagram 2.  
Adjust R for I<sub>p</sub>=0.5A



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DO-35 Glass Axial Package

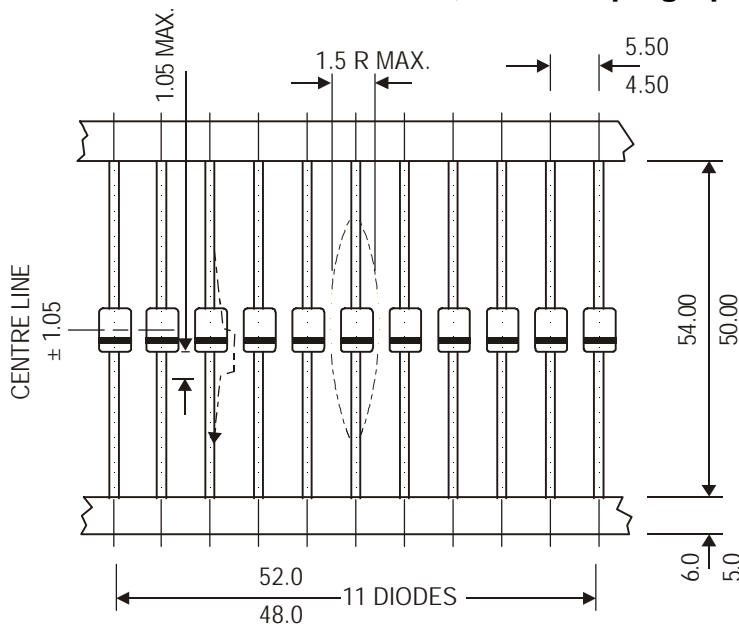


NOTE: Cathode is marked by Band.

| DIM | MIN   | MAX  |
|-----|-------|------|
| A   | 25.40 | —    |
| B   | 3.05  | 4.15 |
| C   | 0.46  | 0.56 |
| D   | 1.70  | 2.29 |

All dimensions are in mm.

DO-35, 52mm Taping Specification

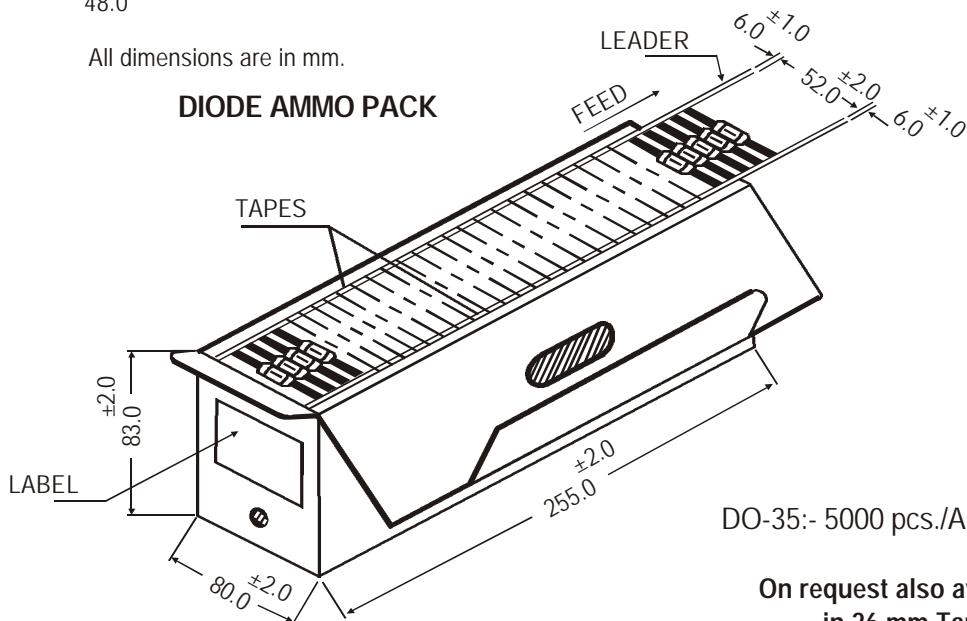


All dimensions are in mm.

52 mm Taping Specification

1. T & A indicates Axial Tape and Ammo Packing (52 mm Tape Spacing).
2. 300 mm (min) leader tape on every tape.
3. No. of empty places allowed 0.25% without consecutive empty places.
4. Ends of leads shall preferably not protrude beyond the tapes.
5. Components shall be held sufficiently in the tape or tapes so that they can not come free in normal handling.

DIODE AMMO PACK



DO-35:- 5000 pcs./Ammo Pack

On request also available  
in 26 mm Tape

Packing Detail

| PACKAGE   | STANDARD PACK |                | INNER CARTON BOX  |     | OUTER CARTON BOX    |      |        |
|-----------|---------------|----------------|-------------------|-----|---------------------|------|--------|
|           | Details       | Net Weight/Qty | Size              | Qty | Size                | Qty  | Gr Wt  |
| DO-35 T&A | 5K/ammo box   | 0.88 kg/5K pcs | 10" x 3.2" x 3.2" | 5K  | 12.7" x 12.7" x 20" | 125K | 25 kgs |

### **Component Disposal Instructions**

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

### **Customer Notes**

### **Disclaimer**

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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