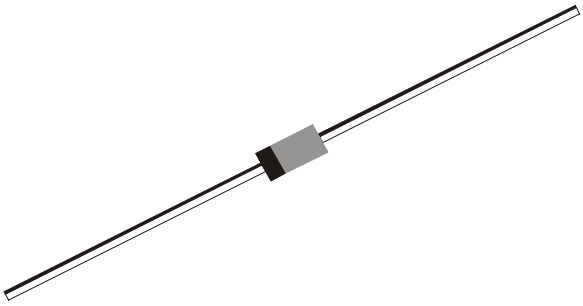
Continental Device India Limited

An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company

# SILICON GLASS PASSIVATED 2.0 WATT ZENER DIODES

**ZY7.5V to ZY47V**

**DO- 41**
**Glass Axial Package**



**For use in Stabilizing and Clipping Circuits with High Power Rating**

## ABSOLUTE MAXIMUM RATINGS

| DESCRIPTION | SYMBOL | VALUE | UNIT |
|---|---|---|---|
| Power Dissipation @ $T_a$=25ºC | *$P_D$ | 2 | W |
| Junction Temperature | $T_j$ | 150 | ºC |
| Storage Temperature Range | $T_{stg}$ | - 55 to+150 | ºC |

## THERMAL RESISTANCE

| | | | |
|---|---|---|---|
| Junction to ambient in free air | *$R_{th\ (j-a)}$ | 60 | K/W |

***Valid provided that leads are kept at ambient temperature at a distance of 10mm from case**

## ELECTRICAL CHARACTERISTICS ($T_a$=25ºC unless specified otherwise) $V_F$ <1.1V @ 1A

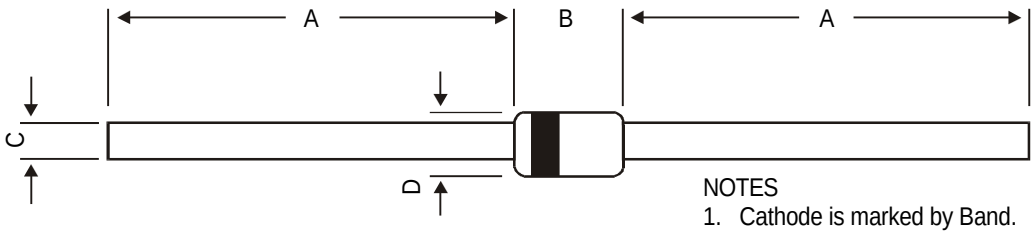
| Device # | **Zener Voltage @ $I_{ZT}$ min $V_Z$ (V) | max | Dynamic Resistance @ $I_{ZT}$ f=1KHz (max) $r_{zj}$ (W) | Temp . Coeff of Zener Voltage @ $I_Z$ test a $V_Z10^{-4/K}$ | Test Current @ $I_Z$ test $I_{ZT}$ (mA) | Reverse Voltage @ $I_{R=}$ 1 mA $V_R$ (V) | ***Admissible Zener Current @ $T_a$=45ºC $I_Z$ (mA) |
|---|---|---|---|---|---|---|---|
| **ZY7.5** | 7.0 | 7.9 | 2 | -0……+7 | 100 | >2.0 | 200 |
| **ZY8.2** | 7.7 | 8.7 | 2 | +3……+8 | 100 | >3.5 | 180 |
| **ZY9.1** | 8.5 | 9.6 | 4 | +3……+8 | 50 | >7.4 | 165 |
| **ZY10** | 9.4 | 10.6 | 4 | +5……+9 | 50 | >8.2 | 145 |
| **ZY11** | 10.4 | 11.6 | 7 | +5……+10 | 50 | >9.2 | 135 |
| **ZY12** | 11.4 | 12.7 | 7 | +5……+10 | 50 | >10 | 120 |
| **ZY13** | 12.4 | 14.1 | 10 | +5……+10 | 50 | >10.7 | 110 |
| **ZY15** | 13.8 | 15.8 | 10 | +5……+10 | 50 | >12 | 98 |
| **ZY16** | 15.3 | 17.1 | 15 | +6……+11 | 25 | >13.3 | 90 |
| **ZY18** | 16.8 | 19.1 | 15 | +6……+11 | 25 | >14.7 | 80 |
| **ZY20** | 18.8 | 21.2 | 15 | +6……+11 | 25 | >16.5 | 72 |
| **ZY22** | 20.8 | 23.3 | 15 | +6……+11 | 25 | >18.3 | 66 |
| **ZY24** | 22.8 | 25.6 | 15 | +6……+11 | 25 | >20.1 | 60 |
| **ZY27** | 25.1 | 28.9 | 15 | +6……+11 | 25 | >22.5 | 53 |
| **ZY30** | 28 | 32 | 15 | +6……+11 | 25 | >25.1 | 48 |
| **ZY33** | 31 | 35 | 15 | +6……+11 | 25 | >27.8 | 4 |
| **ZY36** | 34 | 38 | 40 | +6……+11 | 10 | >30.2 | 40 |
| **ZY39** | 37 | 41 | 40 | +6……+11 | 10 | >32.9 | 37 |
| **ZY43** | 40 | 46 | 45 | +7……+12 | 10 | >35.6 | 33 |
| **ZY47** | 44 | 50 | 45 | +7……+12 | 10 | >39.2 | 30 |

****Tested with Pulse $t_p$=5ms**

***** Valid provided that leads are kept at ambient temperature at a distance of 10mm from case**

**ZY7.5_47V Rev _2 050604E**

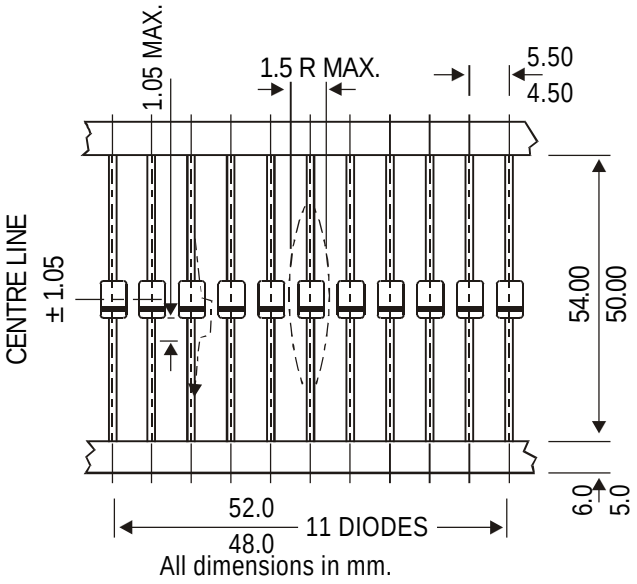
## DO- 41 Glass Axial Package




NOTES
1. Cathode is marked by Band.
2. All dimensions are in mm.

| DIM | MIN | MAX |
|---|---|---|
| A | 27.90 | — |
| B | 4.06 | 5.51 |
| C | 0.71 | 0.87 |
| D | 2.03 | 2.72 |

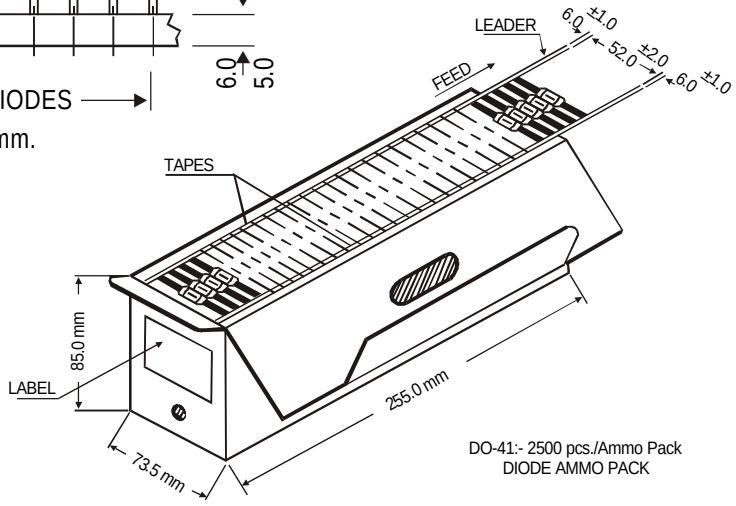
## DO-41, 52mm Taping Specification




All dimensions in mm.

**52 mm Taping Specification**

1. T & A indicates Axil Tape & Ammo packing (52 mm Tape Spacing).
2. 300 mm (min) leader tape on every spool.
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.




DO-41:- 2500 pcs./Ammo Pack
DIODE AMMO PACK

**On request also available in 26 mm Tape and Ammo Pack**

## Packing Detail

| PACKAGE | STANDARD PACK | | INNER CARTON BOX | | OUTER CARTON BOX | | |
|---|---|---|---|---|---|---|---|
| | Details | Net Weight/Qty | Size | Qty | Size | Qty | Gr Wt |
| DO-41 T&A | 2.5K/ammo box | 1.04 kg/2.5K pcs | 10" x 3.5" x 3.5" | 2.5K | 12.7" x 12.7" x 20" | 62.5K | 30 kgs |

**ZY7.5_47V Rev _2 050604E**

## Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete 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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