

# DL4728 THRU DL4761

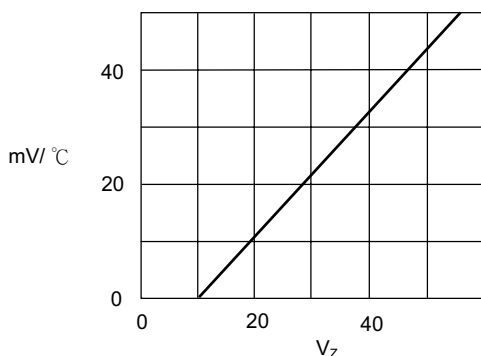
## Features

- High Reliability
- Very Sharp Reverse Characteristic
- Low Reverse Current Level
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Moisture Sensitivity Level 1

## Maximum Ratings

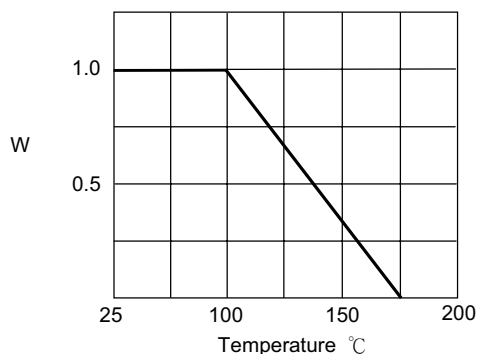
- Operating Temperature: -65 °C to +175 °C
- Storage Temperature: -65 °C to +175 °C
- 1 Watt DC Power Dissipation
- Maximum Thermal Resistance: 100K/W Junction To Ambient
- Test Conditions:  $I = 9.5\text{mm}(3/8")$ ,  $T_L = \text{constant}$
- Maximum Forward Voltage @ 200mA: 1.2 Volts

Figure 1 - Typical Temperature Coefficient



Typical Temperature Coefficient (mV/ °C) – versus – Zener Voltage ( $V_z$ )

Figure 2 - Derating Curve

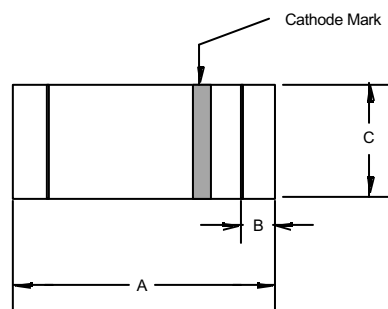


Power Dissipation (W) - Versus - Temperature °C

Notes: 1. Lead in Glass Exemption Applied, see EU Directive Annex Notes 5.

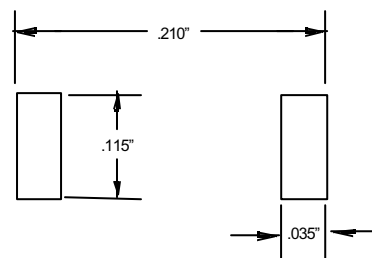
## 1 Watt Zener Diode 3.3 to 75 Volts

### GLASS MELF



| DIM | INCHES |      | MM   |      | NOTE    |
|-----|--------|------|------|------|---------|
|     | MIN    | MAX  | MIN  | MAX  |         |
| A   | .190   | .205 | 4.80 | 5.20 |         |
| B   | ---    | .022 | ---  | .55  | Nominal |
| C   | .095   | .105 | 2.40 | 2.67 | Ø       |

### SUGGESTED SOLDER PAD LAYOUT



# DL4728 thru DL4761

## ELECTRICAL CHARACTERISTICS @25°C

| MCC<br>PART<br>NUMBER | ZENER<br>VOLTAGE<br>V <sub>Z</sub><br><br>VOLTS | TEST<br>CURRENT<br>I <sub>ZT</sub><br><br>mA | MAXIMUM<br>DYNAMIC<br>IMPEDANCE<br>Z <sub>ZT</sub> @ I <sub>ZT</sub><br><br>OHMS | MAXIMUM<br>REVERSE<br>CURRENT<br>I <sub>R</sub> @ V <sub>R</sub><br><br>μA | TEST<br>VOLTAGE<br>V <sub>R</sub><br><br>VOLTS | MAXIMUM<br>REGULATOR<br>CURRENT<br>I <sub>ZM</sub><br>TA = 50°C<br>mA | MAXIMUM<br>KNEE<br>IMPEDANCE<br>Z <sub>ZK</sub> @ I <sub>ZK</sub><br><br>OHMS | TEST<br>CURRENT<br>I <sub>ZK</sub><br><br>mA | MAXIMUM<br>SURGE<br>CURRENT<br>I <sub>S</sub><br><br>mA |
|-----------------------|-------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|
| DL4728                | 3.3                                             | 76                                           | 10                                                                               | 100                                                                        | 1                                              | 276                                                                   | 400                                                                           | 1.0                                          | 1280                                                    |
| DL4729                | 3.6                                             | 69                                           | 10                                                                               | 100                                                                        | 1                                              | 252                                                                   | 400                                                                           | 1.0                                          | 1260                                                    |
| DL4730                | 3.9                                             | 64                                           | 9                                                                                | 50                                                                         | 1                                              | 234                                                                   | 400                                                                           | 1.0                                          | 1190                                                    |
| DL4731                | 4.3                                             | 58                                           | 9                                                                                | 10                                                                         | 1                                              | 217                                                                   | 400                                                                           | 1.0                                          | 1070                                                    |
| DL4732                | 4.7                                             | 53                                           | 8                                                                                | 10                                                                         | 1                                              | 193                                                                   | 500                                                                           | 1.0                                          | 970                                                     |
| DL4733                | 5.1                                             | 49                                           | 7                                                                                | 10                                                                         | 1                                              | 178                                                                   | 550                                                                           | 1.0                                          | 890                                                     |
| DL4734                | 5.6                                             | 45                                           | 5                                                                                | 10                                                                         | 2                                              | 162                                                                   | 600                                                                           | 1.0                                          | 810                                                     |
| DL4735                | 6.2                                             | 41                                           | 2                                                                                | 10                                                                         | 3                                              | 146                                                                   | 700                                                                           | 1.0                                          | 730                                                     |
| DL4736                | 6.8                                             | 37                                           | 3.5                                                                              | 10                                                                         | 4                                              | 133                                                                   | 700                                                                           | 1.0                                          | 660                                                     |
| DL4737                | 7.5                                             | 34                                           | 4.0                                                                              | 10                                                                         | 5                                              | 121                                                                   | 700                                                                           | 0.5                                          | 605                                                     |
| DL4738                | 8.2                                             | 31                                           | 4.5                                                                              | 10                                                                         | 6                                              | 110                                                                   | 700                                                                           | 0.5                                          | 550                                                     |
| DL4739                | 9.1                                             | 28                                           | 5.0                                                                              | 10                                                                         | 7                                              | 100                                                                   | 700                                                                           | 0.5                                          | 500                                                     |
| DL4740                | 10                                              | 25                                           | 7                                                                                | 10                                                                         | 7.6                                            | 91                                                                    | 700                                                                           | 0.25                                         | 454                                                     |
| DL4741                | 11                                              | 23                                           | 8                                                                                | 5                                                                          | 8.4                                            | 83                                                                    | 700                                                                           | 0.25                                         | 414                                                     |
| DL4742                | 12                                              | 21                                           | 9                                                                                | 5                                                                          | 9.1                                            | 76                                                                    | 700                                                                           | 0.25                                         | 380                                                     |
| DL4743                | 13                                              | 19                                           | 10                                                                               | 5                                                                          | 9.9                                            | 69                                                                    | 700                                                                           | 0.25                                         | 344                                                     |
| DL4744                | 15                                              | 17                                           | 14                                                                               | 5                                                                          | 11.4                                           | 61                                                                    | 700                                                                           | 0.25                                         | 304                                                     |
| DL4745                | 16                                              | 15.5                                         | 16                                                                               | 5                                                                          | 12.2                                           | 57                                                                    | 700                                                                           | 0.25                                         | 285                                                     |
| DL4746                | 18                                              | 14                                           | 20                                                                               | 5                                                                          | 13.7                                           | 50                                                                    | 750                                                                           | 0.25                                         | 250                                                     |
| DL4747                | 20                                              | 12.5                                         | 22                                                                               | 5                                                                          | 15.2                                           | 45                                                                    | 750                                                                           | 0.25                                         | 225                                                     |
| DL4748                | 22                                              | 11.5                                         | 23                                                                               | 5                                                                          | 16.7                                           | 41                                                                    | 750                                                                           | 0.25                                         | 205                                                     |
| DL4749                | 24                                              | 10.5                                         | 25                                                                               | 5                                                                          | 18.2                                           | 38                                                                    | 750                                                                           | 0.25                                         | 190                                                     |
| DL4750                | 27                                              | 9.5                                          | 35                                                                               | 5                                                                          | 20.6                                           | 34                                                                    | 750                                                                           | 0.25                                         | 170                                                     |
| DL4751                | 30                                              | 8.5                                          | 40                                                                               | 5                                                                          | 22.8                                           | 30                                                                    | 1000                                                                          | 0.25                                         | 150                                                     |
| DL4752                | 33                                              | 7.5                                          | 45                                                                               | 5                                                                          | 25.1                                           | 27                                                                    | 1000                                                                          | 0.25                                         | 135                                                     |
| DL4753                | 36                                              | 7.0                                          | 50                                                                               | 5                                                                          | 27.4                                           | 25                                                                    | 1000                                                                          | 0.25                                         | 125                                                     |
| DL4754                | 39                                              | 6.5                                          | 60                                                                               | 5                                                                          | 29.7                                           | 23                                                                    | 1000                                                                          | 0.25                                         | 115                                                     |
| DL4755                | 43                                              | 6.0                                          | 70                                                                               | 5                                                                          | 32.7                                           | 22                                                                    | 1500                                                                          | 0.25                                         | 110                                                     |
| DL4756                | 47                                              | 5.5                                          | 80                                                                               | 5                                                                          | 35.8                                           | 19                                                                    | 1500                                                                          | 0.25                                         | 95                                                      |
| DL4757                | 51                                              | 5.0                                          | 95                                                                               | 5                                                                          | 38.8                                           | 18                                                                    | 1500                                                                          | 0.25                                         | 90                                                      |
| DL4758                | 56                                              | 4.5                                          | 110                                                                              | 5                                                                          | 42.6                                           | 16                                                                    | 2000                                                                          | 0.25                                         | 80                                                      |
| DL4759                | 62                                              | 4.0                                          | 125                                                                              | 5                                                                          | 47.1                                           | 14                                                                    | 2000                                                                          | 0.25                                         | 70                                                      |
| DL4760                | 68                                              | 3.7                                          | 150                                                                              | 5                                                                          | 51.7                                           | 13                                                                    | 2000                                                                          | 0.25                                         | 65                                                      |
| DL4761                | 75                                              | 3.3                                          | 175                                                                              | 5                                                                          | 56.0                                           | 12                                                                    | 2000                                                                          | 0.25                                         | 60                                                      |

NOTE 1 The JEDEC type numbers shown have A 5% tolerance on nominal zener voltage.

No suffix signifies 10% tolerance, A signifies 5% tolerance, C signifies 2% tolerance.

NOTE 2 The zener impedance is derived from the 60Hz AC voltage, which results when an AC current having an rms value equal to 10% of the DC zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and eliminate unstable units.

NOTE 3 The reverse surge current is measured at 25°C ambient using a 1/2 square wave or equivalent sine wave pulse 1/120 second duration superimposed on I<sub>ZT</sub>

NOTE 4 Voltage measurements to be performed 90 seconds after application of DC current.



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**Ordering Information :**

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 5Kpcs/Reel |

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