



Micro Commercial Components



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## DL5518B THRU DL5546B

### Features

- Zener Voltage 3.3V-33V
- Low Reverse Leakage Characteristic
- Metallurgically Bonded
- High Reliability
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates Compliant. See ordering information)
- Surface Mount Application

### Mechanical Data

- Case: Double slug type, hermetically sealed glass
- Polarity: Cathode indicated by polarity band
- Moisture Sensitivity Level 1

### Maximum Ratings

|                                                   | Symbol           | Value      | Units |
|---------------------------------------------------|------------------|------------|-------|
| DC Power Dissipation<br>@T <sub>EC</sub> =125°C   | P <sub>D</sub>   | 500        | mW    |
| Junction Temperature                              | T <sub>J</sub>   | -65 to 125 | °C    |
| Storage Temperature Range                         | T <sub>STG</sub> | -65 to 125 | °C    |
| Power Dissipation<br>above T <sub>EC</sub> =125°C | P <sub>D</sub>   | 10         | mW/°C |

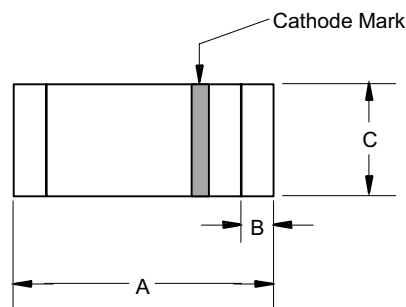
### Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                 | Symbol         | Maximum | Unit |
|-------------------------------------------------|----------------|---------|------|
| Max. Forward Voltage<br>@ I <sub>F</sub> =200mA | V <sub>F</sub> | 1.1     | V    |

Note: 1. Lead in Glass Exemption Applied, see EU Directive Annex 7(C)-I.

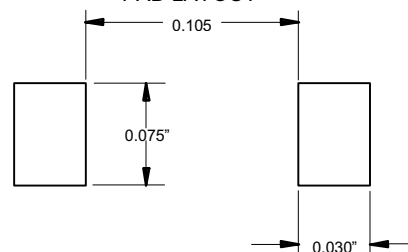
## 500mW Silicon Zener Diodes

### MINIMELF



| DIM | INCHES |      | MM   |      | NOTE |
|-----|--------|------|------|------|------|
|     | MIN    | MAX  | MIN  | MAX  |      |
| A   | .130   | .146 | 3.30 | 3.70 |      |
| B   | .008   | .016 | 0.20 | 0.40 |      |
| C   | .055   | .059 | 1.40 | 1.50 |      |

### SUGGESTED SOLDER PAD LAYOUT



# DL5518B-DL5546B

| Type<br>Number<br>(Note 1) | Nominal Zener<br>Voltage Vz@Izt<br>(Note 2) | Zener Test<br>Current Izt | Max. Zener<br>Impedence B-C-D<br>Suffix Zzt@Izt<br>(Note 3) | Max. Reverse Leakage Current |          |              | B-C-D Suffix<br>Max. DC Zener<br>Current Izm | Regulation<br>Factor<br>Current DVz<br>(Note5) | Low Vz<br>Current Izl |
|----------------------------|---------------------------------------------|---------------------------|-------------------------------------------------------------|------------------------------|----------|--------------|----------------------------------------------|------------------------------------------------|-----------------------|
|                            |                                             |                           |                                                             | IR(Note 4)                   | VR=Volts |              |                                              |                                                |                       |
|                            | Volts                                       | mA                        | Ohms                                                        |                              |          | Non&A-Suffix | B-C-D Suffix                                 | mA                                             | Volts                 |
| DL5518B                    | 3.3                                         | 20                        | 26                                                          | 5                            | 0.9      | 1            | 115                                          | 0.9                                            | 2                     |
| DL5519B                    | 3.6                                         | 20                        | 24                                                          | 3                            | 0.9      | 1            | 105                                          | 0.9                                            | 2                     |
| DL5520B                    | 3.9                                         | 20                        | 22                                                          | 1                            | 0.9      | 1            | 98                                           | 0.85                                           | 2                     |
| DL5521B                    | 4.3                                         | 20                        | 18                                                          | 3                            | 1        | 1.5          | 88                                           | 0.75                                           | 2                     |
| DL5522B                    | 4.7                                         | 10                        | 22                                                          | 2                            | 1.5      | 2            | 81                                           | 0.6                                            | 1                     |
| DL5523B                    | 5.1                                         | 5                         | 26                                                          | 2                            | 2        | 2.5          | 75                                           | 0.65                                           | 0.25                  |
| DL5524B                    | 5.6                                         | 3                         | 30                                                          | 2                            | 3        | 3.5          | 68                                           | 0.3                                            | 0.25                  |
| DL5525B                    | 6.2                                         | 1                         | 30                                                          | 1                            | 4.5      | 5            | 61                                           | 0.2                                            | 0.01                  |
| DL5526B                    | 6.8                                         | 1                         | 30                                                          | 1                            | 5.5      | 6.2          | 56                                           | 0.1                                            | 0.01                  |
| DL5527B                    | 7.5                                         | 1                         | 35                                                          | 0.5                          | 6        | 6.8          | 51                                           | 0.05                                           | 0.01                  |
| DL5528B                    | 8.2                                         | 1                         | 40                                                          | 0.5                          | 6.5      | 7.5          | 46                                           | 0.05                                           | 0.01                  |
| DL5529B                    | 9.1                                         | 1                         | 45                                                          | 0.1                          | 7        | 8.2          | 42                                           | 0.05                                           | 0.01                  |
| DL5530B                    | 10                                          | 1                         | 60                                                          | 0.05                         | 8        | 9.1          | 38                                           | 0.1                                            | 0.01                  |
| DL5531B                    | 11                                          | 1                         | 80                                                          | 0.05                         | 9        | 9.9          | 35                                           | 0.2                                            | 0.01                  |
| DL5532B                    | 12                                          | 1                         | 90                                                          | 0.05                         | 9.5      | 10.8         | 32                                           | 0.2                                            | 0.01                  |
| DL5533B                    | 13                                          | 1                         | 90                                                          | 0.01                         | 10.5     | 11.7         | 29                                           | 0.2                                            | 0.01                  |
| DL5534B                    | 14                                          | 1                         | 100                                                         | 0.01                         | 11.5     | 12.6         | 27                                           | 0.2                                            | 0.01                  |
| DL5535B                    | 15                                          | 1                         | 100                                                         | 0.01                         | 12.5     | 13.5         | 25                                           | 0.2                                            | 0.01                  |
| DL5536B                    | 16                                          | 1                         | 100                                                         | 0.01                         | 13       | 14.4         | 24                                           | 0.2                                            | 0.01                  |
| DL5537B                    | 17                                          | 1                         | 100                                                         | 0.01                         | 14       | 15.3         | 22                                           | 0.2                                            | 0.01                  |
| DL5538B                    | 18                                          | 1                         | 100                                                         | 0.01                         | 15       | 16.2         | 21                                           | 0.2                                            | 0.01                  |
| DL5539B                    | 19                                          | 1                         | 100                                                         | 0.01                         | 16       | 17.1         | 20                                           | 0.2                                            | 0.01                  |
| DL5540B                    | 20                                          | 1                         | 100                                                         | 0.01                         | 17       | 18           | 19                                           | 0.2                                            | 0.01                  |
| DL5541B                    | 22                                          | 1                         | 100                                                         | 0.01                         | 18       | 19.8         | 17                                           | 0.25                                           | 0.01                  |
| DL5542B                    | 24                                          | 1                         | 100                                                         | 0.01                         | 20       | 21.6         | 16                                           | 0.3                                            | 0.01                  |
| DL5543B                    | 25                                          | 1                         | 100                                                         | 0.01                         | 21       | 22.4         | 15                                           | 0.35                                           | 0.01                  |
| DL5544B                    | 28                                          | 1                         | 100                                                         | 0.01                         | 23       | 25.2         | 14                                           | 0.4                                            | 0.01                  |
| DL5545B                    | 30                                          | 1                         | 100                                                         | 0.01                         | 24       | 27           | 13                                           | 0.45                                           | 0.01                  |
| DL5546B                    | 33                                          | 1                         | 100                                                         | 0.01                         | 28       | 29.7         | 12                                           | 0.5                                            | 0.01                  |

**NOTE 1** Suffix "B" = 5% tolerance on nominal Zener voltage, suffix "C" signifies 2%.

**NOTE 2** Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of  $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$  temperature of  $25^{\circ}\text{C} +$

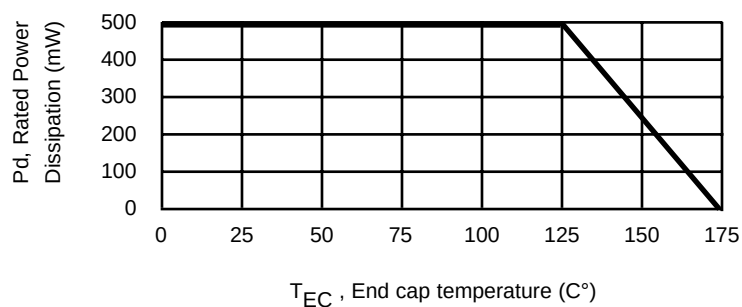
**NOTE 3** Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$ .

**NOTE 4** Reverse leakage currents are measured at  $V_R$  as shown on the table.

**NOTE 5**  $\Delta V_Z$  is the maximum difference between  $V_Z$  at  $I_{ZT}$  and  $V_Z$  at  $I_{ZL}$  measured with the device junction in thermal equilibrium.

# DL5518B-DL5546B

FIGURE 1



POWER DERATING CURVE

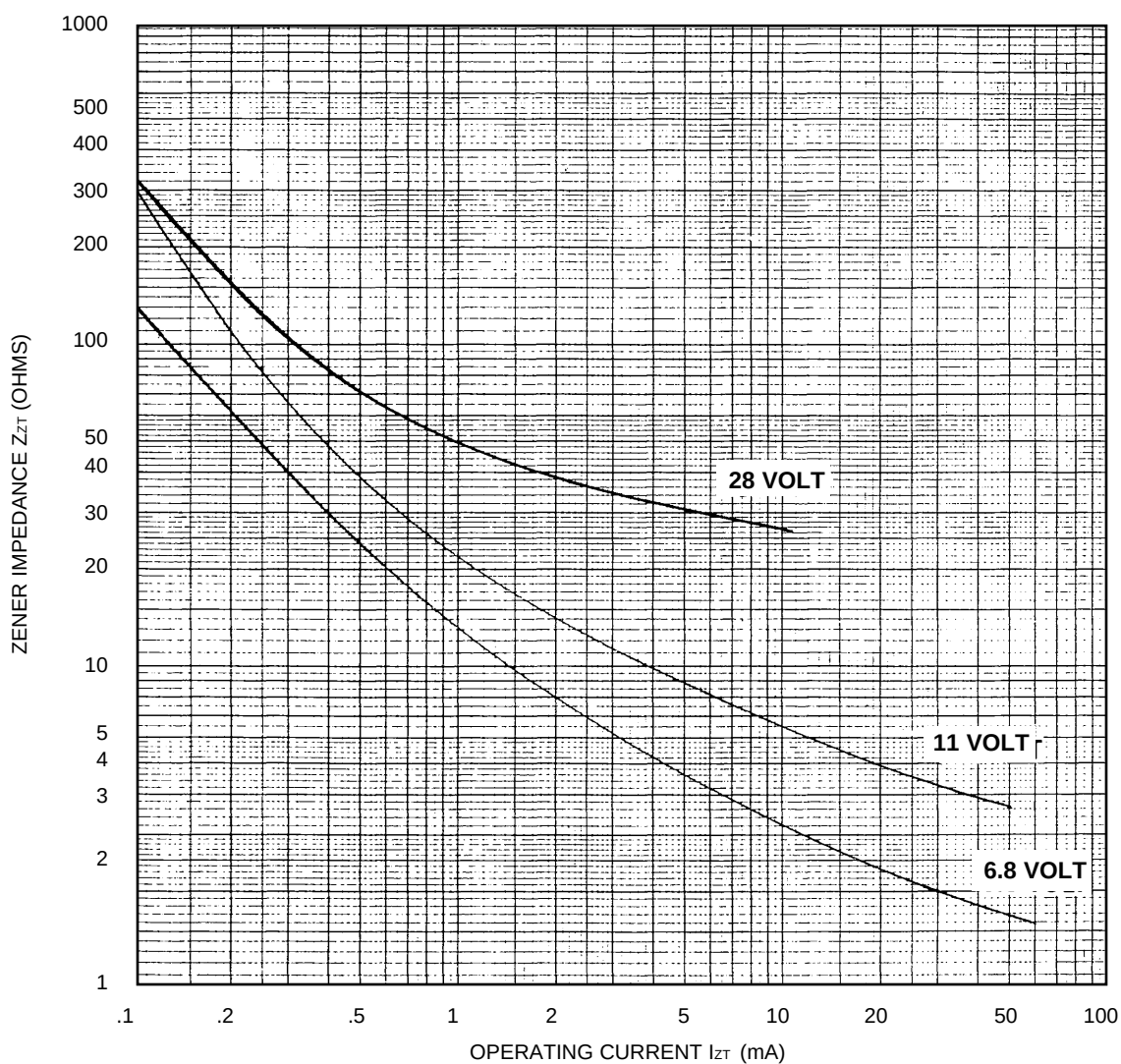


FIGURE 2

ZENER IMPEDANCE VS. OPERATING CURRENT

## Ordering Information :

| Device         | Packing                 |
|----------------|-------------------------|
| Part Number-TP | Tape&Reel: 2.5Kpcs/Reel |

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