

- ZENER DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- DOUBLE PLUG CONSTRUCTION
- METALLURGICALLY BONDED

**CDLL5221**  
thru  
**CDLL5272B**

### MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
Power Derating: 10 mW / °C above T<sub>EC</sub> = +125°C  
Forward Voltage: @ 200 mA: 1.1 Volts maximum

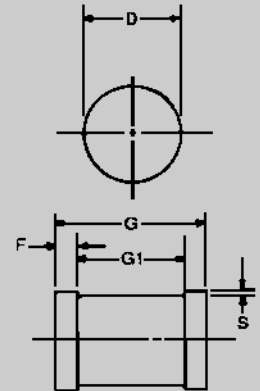
### ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

| CDI TYPE NUMBER | NOMINAL ZENER VOLTAGE V <sub>Z</sub> @ I <sub>ZT</sub> (Note 1 & 3) | TEST CURRENT I <sub>ZT</sub> | MAXIMUM ZENER IMPEDANCE (Note 2)  |   | MAXIMUM REVERSE CURRENT I <sub>R</sub> @ V <sub>R</sub> |       |
|-----------------|---|------------------------------|-----------------------------------|---|---|-------|
|                 |   |                              | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> =0.25mA | μA  | VOLTS |
|                 |   |                              | OHMS                              | OHMS                                      |   |       |
| CDLL5221B       | 2.4   | 20                           | 30                                | 1200                                      | 100   | 1.0   |
| CDLL5222B       | 2.5   | 20                           | 30                                | 1250                                      | 100   | 1.0   |
| CDLL5223B       | 2.7   | 20                           | 30                                | 1300                                      | 75  | 1.0   |
| CDLL5224B       | 2.8   | 20                           | 30                                | 1400                                      | 75  | 1.0   |
| CDLL5225B       | 3.0   | 20                           | 29                                | 1600                                      | 50  | 1.0   |
| CDLL5226B       | 3.3   | 20                           | 28                                | 1600                                      | 25  | 1.0   |
| CDLL5227B       | 3.6   | 20                           | 24                                | 1700                                      | 15  | 1.0   |
| CDLL5228B       | 3.9   | 20                           | 23                                | 1900                                      | 10  | 1.0   |
| CDLL5229B       | 4.3   | 20                           | 22                                | 2000                                      | 5.0   | 1.0   |
| CDLL5230B       | 4.7   | 20                           | 19                                | 1900                                      | 5.0   | 2.0   |
| CDLL5231B       | 5.1   | 20                           | 17                                | 1600                                      | 5.0   | 2.0   |
| CDLL5232B       | 5.6   | 20                           | 11                                | 1600                                      | 5.0   | 3.0   |
| CDLL5233B       | 6.0   | 20                           | 7.0                               | 1600                                      | 5.0   | 3.5   |
| CDLL5234B       | 6.2   | 20                           | 7.0                               | 1000                                      | 5.0   | 4.0   |
| CDLL5235B       | 6.8   | 20                           | 5.0                               | 750                                       | 3.0   | 5.0   |
| CDLL5236B       | 7.5   | 20                           | 6.0                               | 500                                       | 3.0   | 6.0   |
| CDLL5237B       | 8.2   | 20                           | 8.0                               | 500                                       | 3.0   | 6.5   |
| CDLL5238B       | 8.7   | 20                           | 8.0                               | 600                                       | 3.0   | 6.5   |
| CDLL5239B       | 9.1   | 20                           | 10                                | 600                                       | 3.0   | 7.0   |
| CDLL5240B       | 10  | 20                           | 17                                | 600                                       | 3.0   | 8.0   |
| CDLL5241B       | 11  | 20                           | 22                                | 600                                       | 2.0   | 8.4   |
| CDLL5242B       | 12  | 20                           | 30                                | 600                                       | 1.0   | 9.1   |
| CDLL5243B       | 13  | 9.5                          | 13                                | 600                                       | 0.5   | 9.9   |
| CDLL5244B       | 14  | 9.0                          | 15                                | 600                                       | 0.1   | 10    |
| CDLL5245B       | 15  | 8.5                          | 16                                | 600                                       | 0.1   | 11    |
| CDLL5246B       | 16  | 7.8                          | 17                                | 600                                       | 0.1   | 12    |
| CDLL5247B       | 17  | 7.4                          | 19                                | 600                                       | 0.1   | 13    |
| CDLL5248B       | 18  | 7.0                          | 21                                | 600                                       | 0.1   | 14    |
| CDLL5249B       | 19  | 6.6                          | 23                                | 600                                       | 0.1   | 14    |
| CDLL5250B       | 20  | 6.2                          | 25                                | 600                                       | 0.1   | 15    |
| CDLL5251B       | 22  | 5.6                          | 29                                | 600                                       | 0.1   | 17    |
| CDLL5252B       | 24  | 5.2                          | 33                                | 600                                       | 0.1   | 18    |
| CDLL5253B       | 25  | 5.0                          | 35                                | 600                                       | 0.1   | 19    |
| CDLL5254B       | 27  | 4.6                          | 41                                | 600                                       | 0.1   | 21    |
| CDLL5255B       | 28  | 4.5                          | 44                                | 600                                       | 0.1   | 21    |
| CDLL5256B       | 30  | 4.2                          | 49                                | 600                                       | 0.1   | 23    |
| CDLL5257B       | 33  | 3.8                          | 58                                | 700                                       | 0.1   | 25    |
| CDLL5258B       | 36  | 3.4                          | 70                                | 700                                       | 0.1   | 27    |
| CDLL5259B       | 39  | 3.2                          | 80                                | 800                                       | 0.1   | 30    |
| CDLL5260B       | 43  | 3.0                          | 93                                | 900                                       | 0.1   | 33    |
| CDLL5261B       | 47  | 2.7                          | 105                               | 1000                                      | 0.1   | 36    |
| CDLL5262B       | 51  | 2.5                          | 125                               | 1100                                      | 0.1   | 39    |
| CDLL5263B       | 56  | 2.2                          | 150                               | 1300                                      | 0.1   | 43    |
| CDLL5264B       | 60  | 2.1                          | 170                               | 1400                                      | 0.1   | 46    |
| CDLL5265B       | 62  | 2.0                          | 185                               | 1400                                      | 0.1   | 47    |
| CDLL5266B       | 68  | 1.8                          | 230                               | 1600                                      | 0.1   | 52    |
| CDLL5267B       | 75  | 1.7                          | 270                               | 1700                                      | 0.1   | 56    |
| CDLL5268B       | 82  | 1.5                          | 330                               | 2000                                      | 0.1   | 62    |
| CDLL5269B       | 87  | 1.4                          | 370                               | 2200                                      | 0.1   | 68    |
| CDLL5270B       | 91  | 1.4                          | 400                               | 2300                                      | 0.1   | 69    |
| CDLL5271B       | 100   | 1.3                          | 500                               | 2600                                      | 0.1   | 76    |
| CDLL5272B       | 110   | 1.1                          | 750                               | 3000                                      | 0.1   | 84    |

**NOTE 1** "B" suffix = ±5.0%, "A" suffix = ±10%, no suffix = ± 20%, "C" suffix = ± 2% and "D" suffix = ± 1%.

**NOTE 2** Zener impedance is derived by superimposing on I<sub>ZT</sub> A 60Hz rms a.c. current equal to 10% of I<sub>ZT</sub>.

**NOTE 3** Nominal Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of 25°C ± 3°C.



| DIM | MILLIMETERS |      | INCHES    |       |
|-----|-------------|------|-----------|-------|
|     | MIN         | MAX  | MIN       | MAX   |
| D   | 1.60        | 1.70 | 0.063     | 0.067 |
| F   | 0.41        | 0.55 | 0.016     | 0.022 |
| G   | 3.30        | 3.70 | .130      | .146  |
| G1  | 2.54 REF.   |      | .100 REF. |       |
| S   | 0.03 MIN.   |      | .001 MIN. |       |

**FIGURE 1**

### DESIGN DATA

**CASE:** DO-213AA, Hermetically sealed glass case. (MELF, SOD-80, LL34)

**LEAD FINISH:** Tin / Lead

**THERMAL RESISTANCE: (R<sub>ΘJEC</sub>):** 100 °C/W maximum at L = 0 inch

**THERMAL IMPEDANCE: (Z<sub>ΘJX</sub>):** 35 °C/W maximum

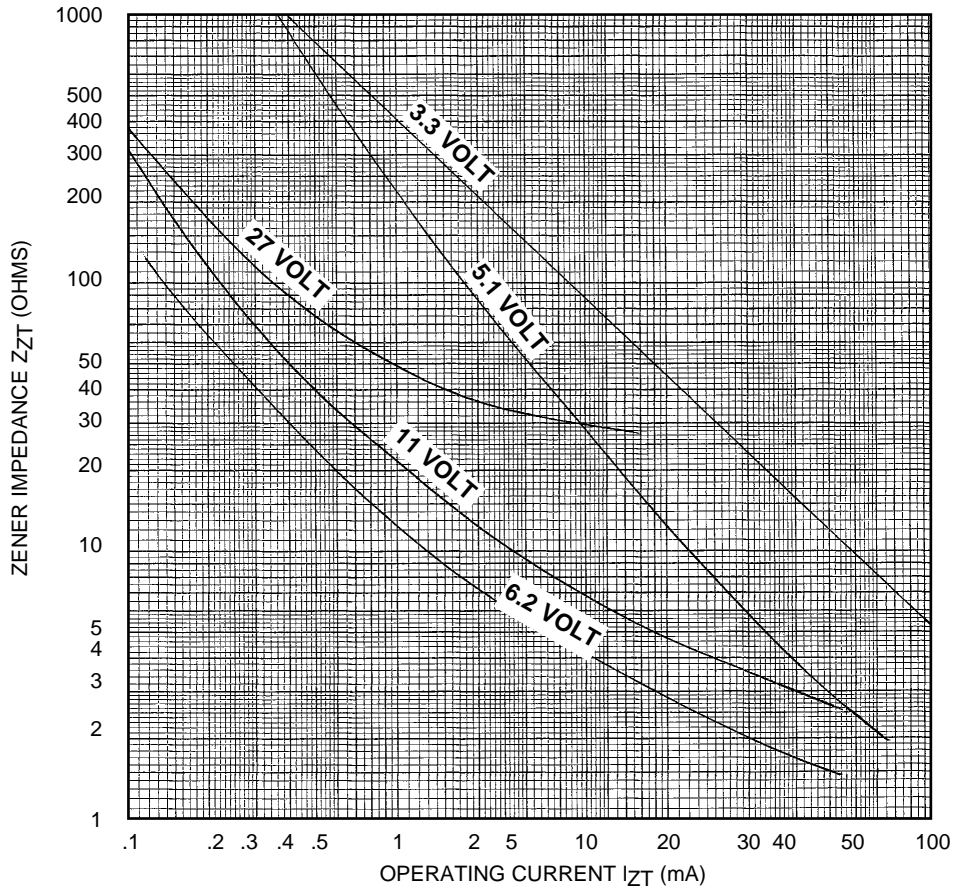
**POLARITY:** Diode to be operated with the banded (cathode) end positive.

**MOUNTING SURFACE SELECTION:** The Axial Coefficient of Expansion (COE) of this Device is Approximately +6PPM/°C. The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.



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# CDLL5221B thru CDLL5272B



**FIGURE 3**  
**ZENER IMPEDANCE VS. OPERATING CURRENT**