

- 1 WATT ZENER DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- DOUBLE PLUG CONSTRUCTION

# CDLL3016

thru

# CDLL3045B

## MAXIMUM RATINGS

Operating Temperature:  $-65^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$   
 Storage Temperature:  $-65^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$   
 DC Power Dissipation: 1 watt @  $25^{\circ}\text{C}$   
 Power Derating: 6.67 mW/ $^{\circ}\text{C}$  above  $25^{\circ}\text{C}$   
 Forward Voltage at 200mA = 1.5 volts maximum

## ELECTRIAL CHARACTERISTICS @ $25^{\circ}\text{C}$

| CDI<br>TYPE<br>NUMBER<br>(Note 1) | NOMINAL<br>ZENER<br>VOLTAGE<br>$V_Z @ I_{ZT}$<br>(Note 2) | ZENER<br>TEST<br>CURRENT<br>$I_{ZT}$ | MAXIMUM ZENER IMPEDANCE<br>(Note 3) |                   |     | MAXIMUM<br>ZENER<br>CURRENT<br>$I_{ZT}$ | MAXIMUM REVERSE<br>LEAKAGE CURRENT<br>$I_R @ V_R$ |       |
|-----------------------------------|-----------------------------------------------------------|--------------------------------------|-------------------------------------|-------------------|-----|-----------------------------------------|---------------------------------------------------|-------|
|                                   |                                                           |                                      | $Z_{ZT} @ I_{ZT}$                   | $Z_{ZT} @ I_{ZT}$ |     |                                         |                                                   |       |
|                                   | VOLTS                                                     | mA                                   | OHMS                                | OHMS              | mA  | mA                                      | $\mu A$                                           | Volts |
| CDLL3016B                         | 6.8                                                       | 37                                   | 3.5                                 | 700               | 1.0 | 140                                     | 150                                               | 5.2   |
| CDLL3017B                         | 7.5                                                       | 34                                   | 4.0                                 | 700               | .5  | 125                                     | 100                                               | 5.7   |
| CDLL3018B                         | 8.2                                                       | 31                                   | 4.5                                 | 700               | .5  | 115                                     | 50                                                | 6.2   |
| CDLL3019B                         | 9.1                                                       | 28                                   | 5                                   | 700               | .5  | 105                                     | 25                                                | 6.9   |
| CDLL3020B                         | 10                                                        | 25                                   | 7                                   | 700               | .25 | 95                                      | 25                                                | 7.6   |
| CDLL3021B                         | 11                                                        | 23                                   | 8                                   | 700               | .25 | 85                                      | 10                                                | 8.4   |
| CDLL3022B                         | 12                                                        | 21                                   | 9                                   | 700               | .25 | 80                                      | 10                                                | 9.1   |
| CDLL3023B                         | 13                                                        | 19                                   | 10                                  | 700               | .25 | 74                                      | 10                                                | 9.9   |
| CDLL3024B                         | 15                                                        | 17                                   | 14                                  | 700               | .25 | 63                                      | 10                                                | 11.4  |
| CDLL3025B                         | 16                                                        | 15.5                                 | 16                                  | 700               | .25 | 60                                      | 10                                                | 12.2  |
| CDLL3026B                         | 18                                                        | 14                                   | 20                                  | 750               | .25 | 52                                      | 10                                                | 13.7  |
| CDLL3027B                         | 20                                                        | 12.5                                 | 22                                  | 750               | .25 | 47                                      | 10                                                | 15.2  |
| CDLL3028B                         | 22                                                        | 11.5                                 | 23                                  | 750               | .25 | 43                                      | 10                                                | 16.7  |
| CDLL3029B                         | 24                                                        | 10.5                                 | 25                                  | 750               | .25 | 40                                      | 10                                                | 18.2  |
| CDLL3030B                         | 27                                                        | 9.5                                  | 35                                  | 750               | .25 | 34                                      | 10                                                | 20.6  |
| CDLL3031B                         | 30                                                        | 8.5                                  | 40                                  | 1000              | .25 | 31                                      | 10                                                | 22.8  |
| CDLL3032B                         | 33                                                        | 7.5                                  | 45                                  | 1000              | .25 | 28                                      | 10                                                | 25.1  |
| CDLL3033B                         | 36                                                        | 7.0                                  | 50                                  | 1000              | .25 | 26                                      | 10                                                | 27.4  |
| CDLL3034B                         | 39                                                        | 6.5                                  | 60                                  | 1000              | .25 | 23                                      | 10                                                | 29.7  |
| CDLL3035B                         | 43                                                        | 6.0                                  | 70                                  | 1500              | .25 | 21                                      | 10                                                | 32.7  |
| CDLL3036B                         | 47                                                        | 5.5                                  | 80                                  | 1500              | .25 | 19                                      | 10                                                | 35.8  |
| CDLL3037B                         | 51                                                        | 5.0                                  | 95                                  | 1500              | .25 | 18                                      | 10                                                | 38.8  |
| CDLL3038B                         | 56                                                        | 4.5                                  | 110                                 | 2000              | .25 | 17                                      | 10                                                | 42.6  |
| CDLL3039B                         | 62                                                        | 4.0                                  | 125                                 | 2000              | .25 | 15                                      | 10                                                | 47.1  |
| CDLL3040B                         | 68                                                        | 3.7                                  | 150                                 | 2000              | .25 | 14                                      | 10                                                | 51.7  |
| CDLL3041B                         | 75                                                        | 3.3                                  | 175                                 | 2000              | .25 | 12                                      | 10                                                | 56.0  |
| CDLL3042B                         | 82                                                        | 3.0                                  | 200                                 | 3000              | .25 | 11                                      | 10                                                | 62.2  |
| CDLL3043B                         | 91                                                        | 2.8                                  | 250                                 | 3000              | .25 | 10                                      | 10                                                | 69.2  |
| CDLL3044B                         | 100                                                       | 2.5                                  | 350                                 | 3000              | .25 | 9.0                                     | 10                                                | 76.0  |
| CDLL3045B                         | 110                                                       | 2.3                                  | 450                                 | 4000              | .25 | 8.3                                     | 10                                                | 83.6  |

**NOTE 1** No suffix signifies  $\pm 20\%$  tolerance on nominal zener voltage, suffix A signifies  $\pm 10\%$  and suffix "B" signifies  $\pm 5\%$  tolerance.

**NOTE 2** Zener voltage is measured with the device in thermal equilibrium at an ambient 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  $I_{ZT}$ .

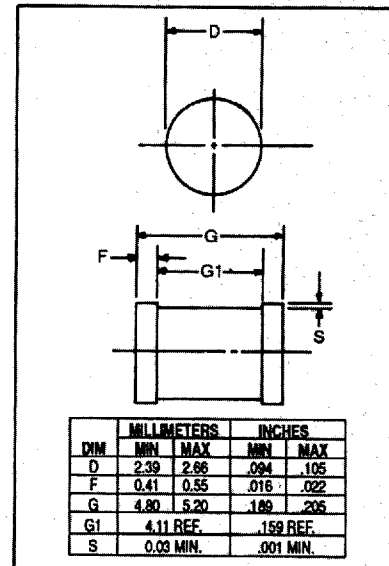


FIGURE 1

## DESIGN DATA

CASE: DO-213AB, Hermetically sealed glass case. (MELF, LL41)

LEAD FINISH: Tin/Lead

THERMAL RESISTANCE: Junction to END CAP =  $50^{\circ}\text{C/W}$  maximum

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

WEIGHT: 0.2 grams (Typical)

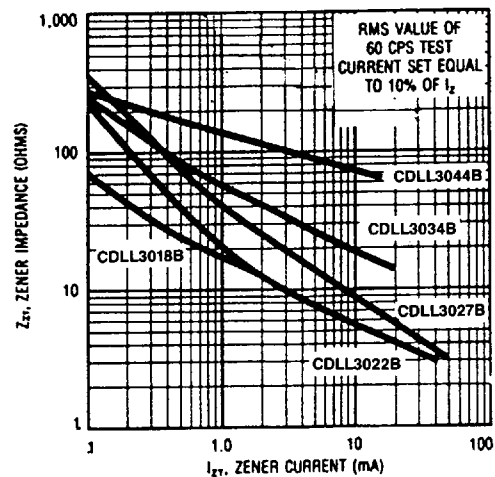
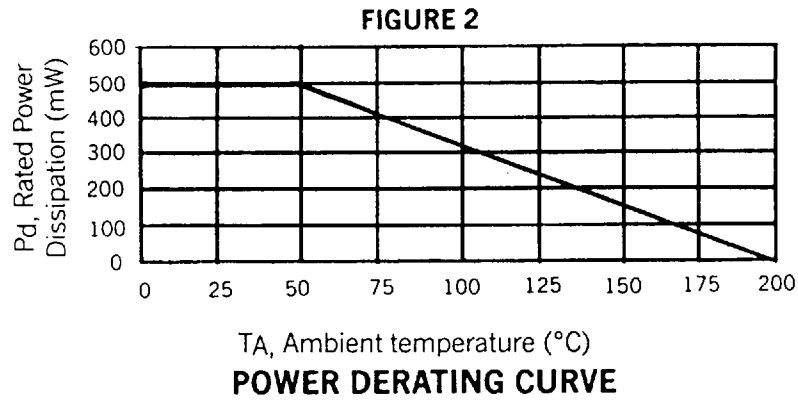
MOUNTING POSITION: Any.

MOUNTING SURFACE SELECTION: The Axial Coefficient Of Expansion (COE) Of this Device is Approximately  $+6\text{PPM}/^{\circ}\text{C}$ . The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.



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**CDLL3016 thru CDLL3045B**

**FIGURE 3**  
TYPICAL ZENER IMPEDANCE vs. ZENER  
CURRENT FOR TYPES SHOWN