

• 1N3821AUR-1 thru 1N3828AUR-1 AVAILABLE IN JAN, JANTX AND JAN-TXV

PER MIL-PRF-19500/115

- LEADLESS PACKAGE FOR SURFACE MOUNT
- DOUBLE PLUG CONSTRUCTION

1N3821AUR-1  
thru  
1N3828AUR-1  
and  
CDLL3821 thru CDLL 3828A

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C

Storage Temperature: -65°C to +175°C

DC Power Dissipation: 1 watt @  $T_{EC} = 125^{\circ}\text{C}$

Power Derating: 20 mW / °C above  $T_{EC} = 125^{\circ}\text{C}$

Forward Voltage @ 200mA = 1.2 volts maximum

## ELECTRICAL CHARACTERISTICS @ 25°C

| CDI<br>TYPE<br>NUMBER<br><br>(NOTE 1) | NOMINAL<br>ZENER<br>VOLTAGE<br>$V_Z @ 1Z_T$<br>(NOTE 3) | ZENER<br>TEST<br>CURRENT<br>$1Z_T$ | MAXIMUM ZENER IMPEDANCE<br>$Z_{ZT} @ 1Z_T$ $Z_{ZK} @ 1Z_K=1\text{mA}$<br>(NOTE 2) |      | MAX. DC<br>ZENER<br>CURRENT<br>$1Z_M$ | MAX. REVERSE<br>LEAKAGE CURRENT<br>$I_R @ V_R$ |       |
|---------------------------------------|---------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------|------|---------------------------------------|------------------------------------------------|-------|
|                                       | VOLTS                                                   | mA                                 | OHMS                                                                              | OHMS | mA                                    | $\mu\text{A}$                                  | VOLTS |
| CDLL3821                              | 3.3                                                     | 76                                 | 10                                                                                | 400  | 276                                   | 100                                            | 1     |
| CDLL3821A                             | 3.3                                                     | 76                                 | 10                                                                                | 400  | 276                                   | 100                                            | 1     |
| CDLL3822                              | 3.6                                                     | 69                                 | 10                                                                                | 400  | 252                                   | 75                                             | 1     |
| CDLL3822A                             | 3.6                                                     | 69                                 | 10                                                                                | 400  | 252                                   | 75                                             | 1     |
| CDLL3823                              | 3.9                                                     | 64                                 | 9                                                                                 | 400  | 238                                   | 25                                             | 1     |
| CDLL3823A                             | 3.9                                                     | 64                                 | 9                                                                                 | 400  | 238                                   | 25                                             | 1     |
| CDLL3824                              | 4.3                                                     | 58                                 | 9                                                                                 | 400  | 213                                   | 5                                              | 1     |
| CDLL3824A                             | 4.3                                                     | 58                                 | 9                                                                                 | 400  | 213                                   | 5                                              | 1     |
| CDLL3825                              | 4.7                                                     | 53                                 | 8                                                                                 | 500  | 194                                   | 5                                              | 1     |
| CDLL3825A                             | 4.7                                                     | 53                                 | 8                                                                                 | 500  | 194                                   | 5                                              | 1     |
| CDLL3826                              | 5.1                                                     | 49                                 | 7                                                                                 | 550  | 178                                   | 3                                              | 1     |
| CDLL3826A                             | 5.1                                                     | 49                                 | 7                                                                                 | 550  | 178                                   | 3                                              | 1     |
| CDLL3827                              | 5.6                                                     | 45                                 | 5                                                                                 | 600  | 162                                   | 3                                              | 2     |
| CDLL3827A                             | 5.6                                                     | 45                                 | 5                                                                                 | 600  | 162                                   | 3                                              | 2     |
| CDLL3828                              | 6.2                                                     | 41                                 | 2                                                                                 | 700  | 146                                   | 3                                              | 3     |
| CDLL3828A                             | 6.2                                                     | 41                                 | 2                                                                                 | 700  | 146                                   | 3                                              | 3     |

**NOTE 1** No suffix =  $\pm 10\%$  tolerance on nominal Zener voltage, suffix "A" signifies  $\pm 5\%$ , "C" suffix signifies  $\pm 2\%$  and "D" suffix signifies  $\pm 1\%$ .

**NOTE 2** Zener impedance is derived by superimposing on  $1Z_T$  A 60Hz rms a.c. current equal to 10% of  $1Z_T$ .

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

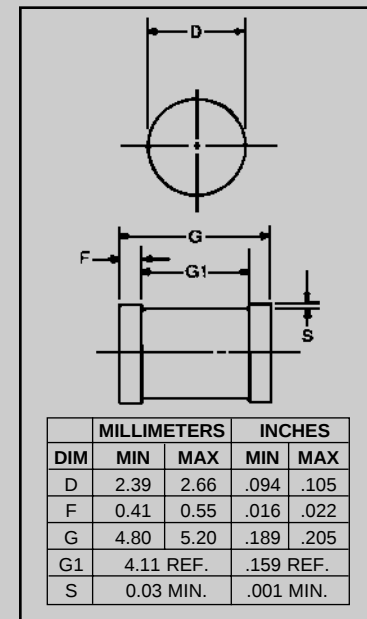


FIGURE 1

## DESIGN DATA

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

**LEAD FINISH:** Tin / Lead

**THERMAL RESISTANCE:** ( $R_{\theta JEC}$ ): 50 °C/W maximum at L = 0 inch

**THERMAL IMPEDANCE:** ( $Z_{\theta JX}$ ): 15 °C/W maximum

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

**MOUNTING POSITION:** Any.

**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.

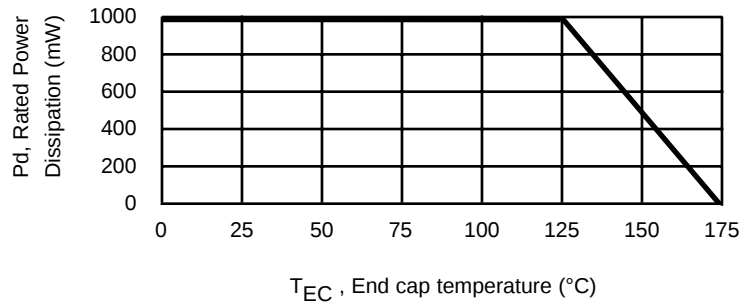


6 LAKE STREET, LAWRENCE, MASSACHUSETTS 01841  
PHONE (978) 620-2600  
WEBSITE: <http://www.microsemi.com>

FAX (978) 689-0803

# 1N3821AUR-1 thru 1N3828AUR-1 and CDLL3821A thru CDLL3828A

FIGURE 2



POWER DERATING CURVE

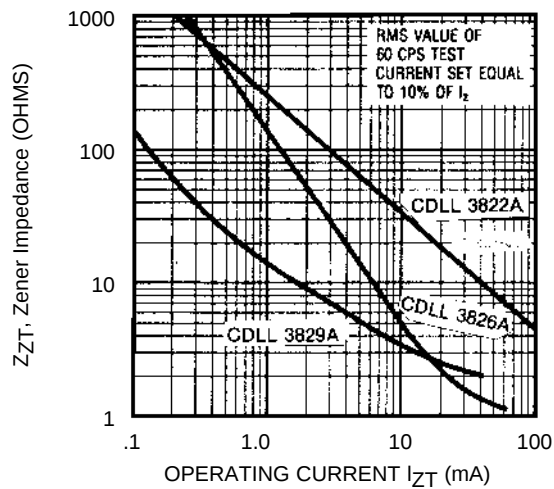


FIGURE 3  
ZENER IMPEDANCE  
VS.  
OPERATING CURRENT