

- 1N3154UR-1 THRU 1N3157UR-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/158
- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- 8.4 VOLT NOMINAL ZENER VOLTAGE
- METALLURGICALLY BONDED, DOUBLE PLUG CONSTRUCTION

1N3154UR-1  
thru  
1N3157UR-1  
and  
CDLL3154  
thru  
CDLL3157A

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
DC Power Dissipation: 500mW @ +50°C  
Power Derating: 4 mW / °C above +50°C

## REVERSE LEAKAGE CURRENT

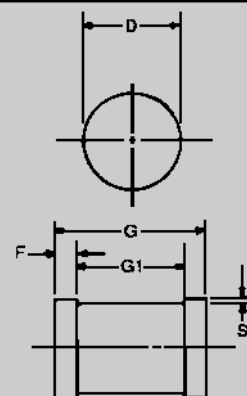
$I_R = 10 \mu A @ 25^\circ C \ \& \ V_R = 5.5V_{dc}$

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

| CDI<br>TYPE<br>NUMBER | ZENER<br>VOLTAGE<br>$V_Z @ I_{ZT}$ | ZENER<br>TEST<br>CURRENT<br>$I_{ZT}$ | MAXIMUM<br>ZENER<br>IMPEDANCE<br>$Z_{ZT}$<br><br>(Note 1) | VOLTAGE<br>TEMPERATURE<br>STABILITY<br>$\Delta V_{ZT}$<br>MAXIMUM<br>(Note 2) | TEMPERATURE<br>RANGE       | EFFECTIVE<br>TEMPERATURE<br>COEFFICIENT |
|-----------------------|------------------------------------|--------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------|-----------------------------------------|
|                       | VOLTS                              | mA                                   | OHMS                                                      | mV                                                                            | °C                         | % / °C                                  |
| CDLL3154<br>CDLL3154A | 8.00 - 8.80<br>8.00 - 8.80         | 10<br>10                             | 15<br>15                                                  | 130<br>172                                                                    | -55 to +100<br>-55 to +150 | .01<br>.01                              |
| CDLL3155<br>CDLL3155A | 8.00 - 8.80<br>8.00 - 8.80         | 10<br>10                             | 15<br>15                                                  | 65<br>86                                                                      | -55 to +100<br>-55 to +150 | .005<br>.005                            |
| CDLL3156<br>CDLL3156A | 8.00 - 8.80<br>8.00 - 8.80         | 10<br>10                             | 15<br>15                                                  | 26<br>34                                                                      | -55 to +100<br>-55 to +150 | .002<br>.002                            |
| CDLL3157<br>CDLL3157A | 8.00 - 8.80<br>8.00 - 8.80         | 10<br>10                             | 15<br>15                                                  | 13<br>17                                                                      | -55 to +100<br>-55 to +150 | .001<br>.001                            |

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

**NOTE 2** The maximum allowable change observed over the entire temperature range i.e., the diode voltage will not exceed the specified mV at any discrete temperature between the established limits, per JEDEC standard No.5.



| 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

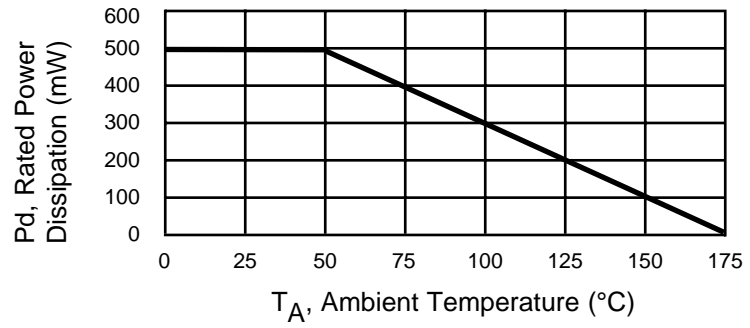
**POLARITY:** Diode to be operated with the banded (cathode) end positive.

**MOUNTING POSITION:** Any.

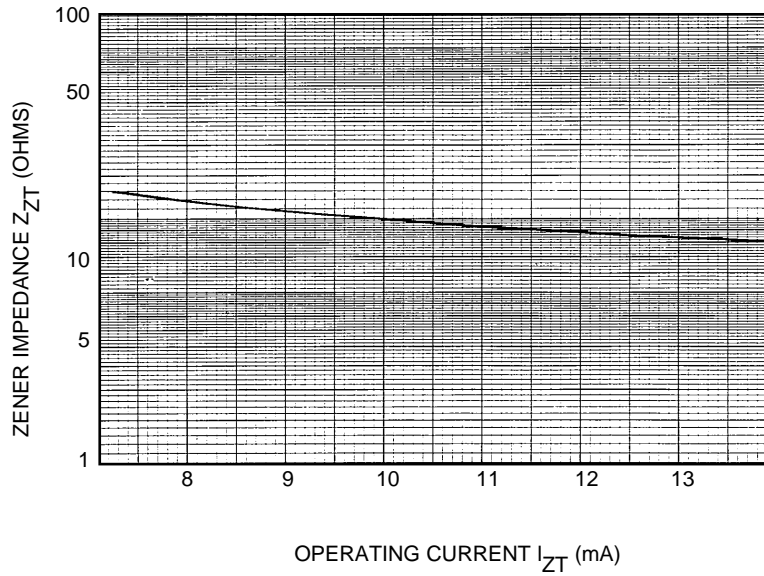
**MOUNTING SURFACE SELECTION:**  
The Axial Coefficient of Expansion (COE) Of this Device is Approximately +6PPM/°C. The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.



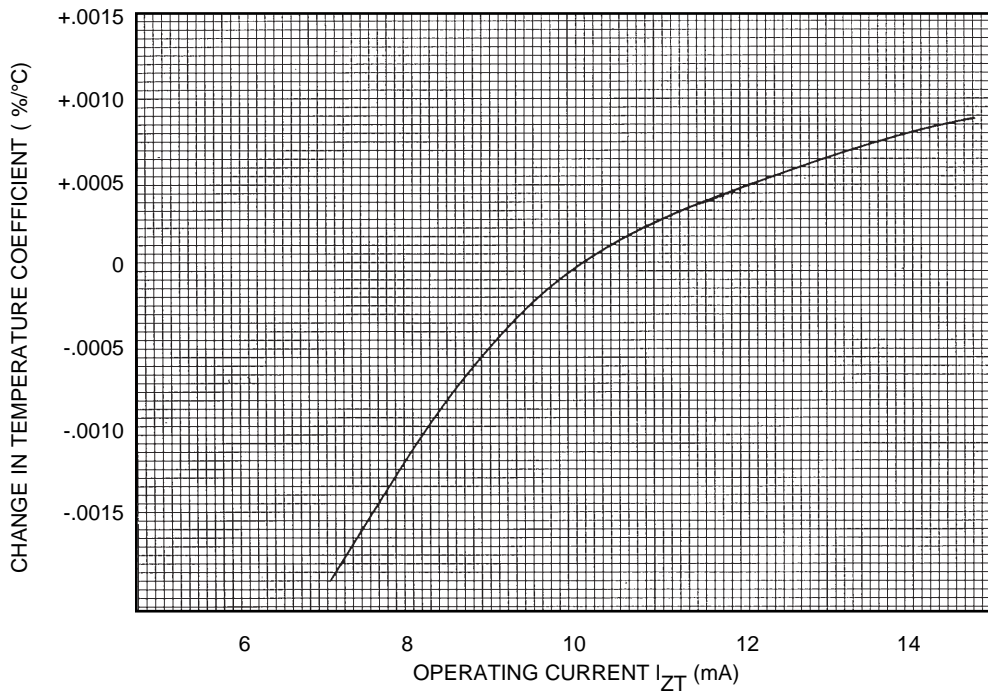
# CDLL3154 thru CDLL3157A



**FIGURE 2  
POWER DERATING CURVE**



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



**FIGURE 4  
TYPICAL CHANGE OF TEMPERATURE COEFFICIENT  
WITH CHANGE IN OPERATING CURRENT**