

• 1N4099UR-1 THRU 1N4135UR-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS

PER MIL-PRF-19500/435

- LEADLESS PACKAGE FOR SURFACE MOUNT
- LOW CURRENT OPERATION AT 250 μ A
- METALLURGICALLY BONDED

1N4099UR-1
thru
1N4135UR-1
and
CDLL4099 thru CDLL4135

MAXIMUM RATINGS

Junction and Storage Temperature: -65°C to +175°C
DC Power Dissipation: 500mW @ $T_{EC} = +125^\circ\text{C}$
Power Derating: 10mW/°C above $T_{EC} = +125^\circ\text{C}$
Forward Derating @ 200 mA: 1.1 Volts maximum

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

| CDI TYPE NUMBER | NOMINAL ZENER VOLTAGE $V_Z @ I_{ZT}$ (Note 1) | ZENER TEST CURRENT I_{ZT} | MAXIMUM ZENER IMPEDANCE Z_{ZT} (Note 2) | MAXIMUM REVERSE LEAKAGE CURRENT $I_R @ V_R$ | | MAXIMUM ZENER CURRENT I_{ZM} |
|-----------------|---|-----------------------------|---|---|-------|--------------------------------|
| | VOLTS | μ A | OHMS | μ A | VOLTS | mA |
| CDLL4099 | 6.8 | 250 | 200 | 10 | 5.17 | 56 |
| CDLL4100 | 7.5 | 250 | 200 | 10 | 5.70 | 51 |
| CDLL4101 | 8.2 | 250 | 200 | 1.0 | 6.24 | 46 |
| CDLL4102 | 8.7 | 250 | 200 | 1.0 | 6.61 | 44 |
| CDLL4103 | 9.1 | 250 | 200 | 1.0 | 6.92 | 42 |
| CDLL4104 | 10 | 250 | 200 | 1.0 | 7.60 | 38 |
| CDLL4105 | 11 | 250 | 200 | .05 | 8.44 | 35 |
| CDLL4106 | 12 | 250 | 200 | .05 | 9.12 | 32 |
| CDLL4107 | 13 | 250 | 200 | .05 | 9.87 | 29 |
| CDLL4108 | 14 | 250 | 200 | .05 | 10.65 | 27 |
| CDLL4109 | 15 | 250 | 100 | .05 | 11.40 | 25 |
| CDLL4110 | 16 | 250 | 100 | .05 | 12.15 | 24 |
| CDLL4111 | 17 | 250 | 100 | .05 | 12.92 | 22 |
| CDLL4112 | 18 | 250 | 100 | .05 | 13.67 | 21 |
| CDLL4113 | 19 | 250 | 150 | .05 | 14.44 | 20 |
| CDLL4114 | 20 | 250 | 150 | .01 | 15.20 | 19 |
| CDLL4115 | 22 | 250 | 150 | .01 | 16.72 | 17 |
| CDLL4116 | 24 | 250 | 150 | .01 | 18.25 | 16 |
| CDLL4117 | 25 | 250 | 150 | .01 | 19.00 | 15 |
| CDLL4118 | 27 | 250 | 150 | .01 | 20.46 | 14 |
| CDLL4119 | 28 | 250 | 200 | .01 | 21.28 | 14 |
| CDLL4120 | 30 | 250 | 200 | .01 | 22.80 | 13 |
| CDLL4121 | 33 | 250 | 200 | .01 | 25.08 | 12 |
| CDLL4122 | 36 | 250 | 200 | .01 | 27.38 | 11 |
| CDLL4123 | 39 | 250 | 200 | .01 | 29.65 | 9.8 |
| CDLL4124 | 43 | 250 | 250 | .01 | 32.65 | 8.9 |
| CDLL4125 | 47 | 250 | 250 | .01 | 35.75 | 8.1 |
| CDLL4126 | 51 | 250 | 300 | .01 | 38.76 | 7.5 |
| CDLL4127 | 56 | 250 | 300 | .01 | 42.60 | 6.7 |
| CDLL4128 | 60 | 250 | 400 | .01 | 45.60 | 6.4 |
| CDLL4129 | 62 | 250 | 500 | .01 | 47.10 | 6.1 |
| CDLL4130 | 68 | 250 | 700 | .01 | 51.68 | 5.6 |
| CDLL4131 | 75 | 250 | 700 | .01 | 57.00 | 5.1 |
| CDLL4132 | 82 | 250 | 800 | .01 | 62.32 | 4.6 |
| CDLL4133 | 87 | 250 | 1000 | .01 | 66.12 | 4.4 |
| CDLL4134 | 91 | 250 | 1200 | .01 | 69.16 | 4.2 |
| CDLL4135 | 100 | 250 | 1500 | .01 | 76.00 | 3.8 |

NOTE 1 The CDI type numbers shown above have a Zener voltage tolerance of $\pm 5\%$ of the nominal Zener voltage. Nominal Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of $25^\circ\text{C} \pm 3^\circ\text{C}$. A "C" suffix denotes a $\pm 2\%$ tolerance and a "D" suffix denotes a $\pm 1\%$ tolerance.

NOTE 2 Zener impedance is derived by superimposing on I_{ZT} , A 60 Hz rms a.c. current equal to 10% of I_{ZT} (25 μ A a.c.).

• DOU-

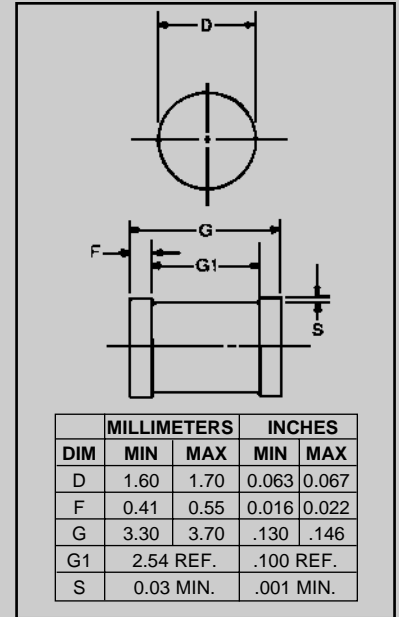


FIGURE 1

DESIGN DATA

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

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ($R_{\theta JC}$): 100 $^\circ\text{C}/\text{W}$ maximum at $L = 0$ inch

THERMAL IMPEDANCE: ($Z_{\theta JX}$): 35 $^\circ\text{C}/\text{W}$ maximum

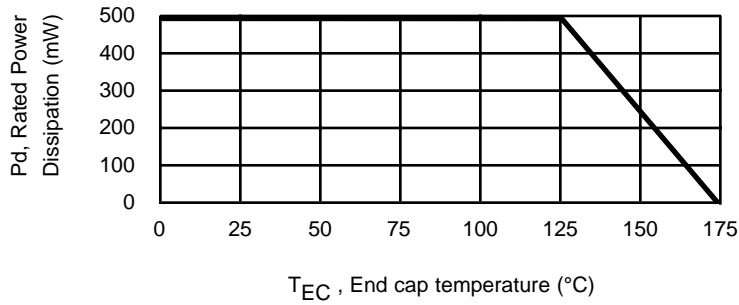
POLARITY: Diode to be operated with the banded (cathode) end positive.

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



1N4099UR-1 thru 1N4135UR-1 CDLL4099 thru CDLL4135

FIGURE 2



POWER DERATING CURVE

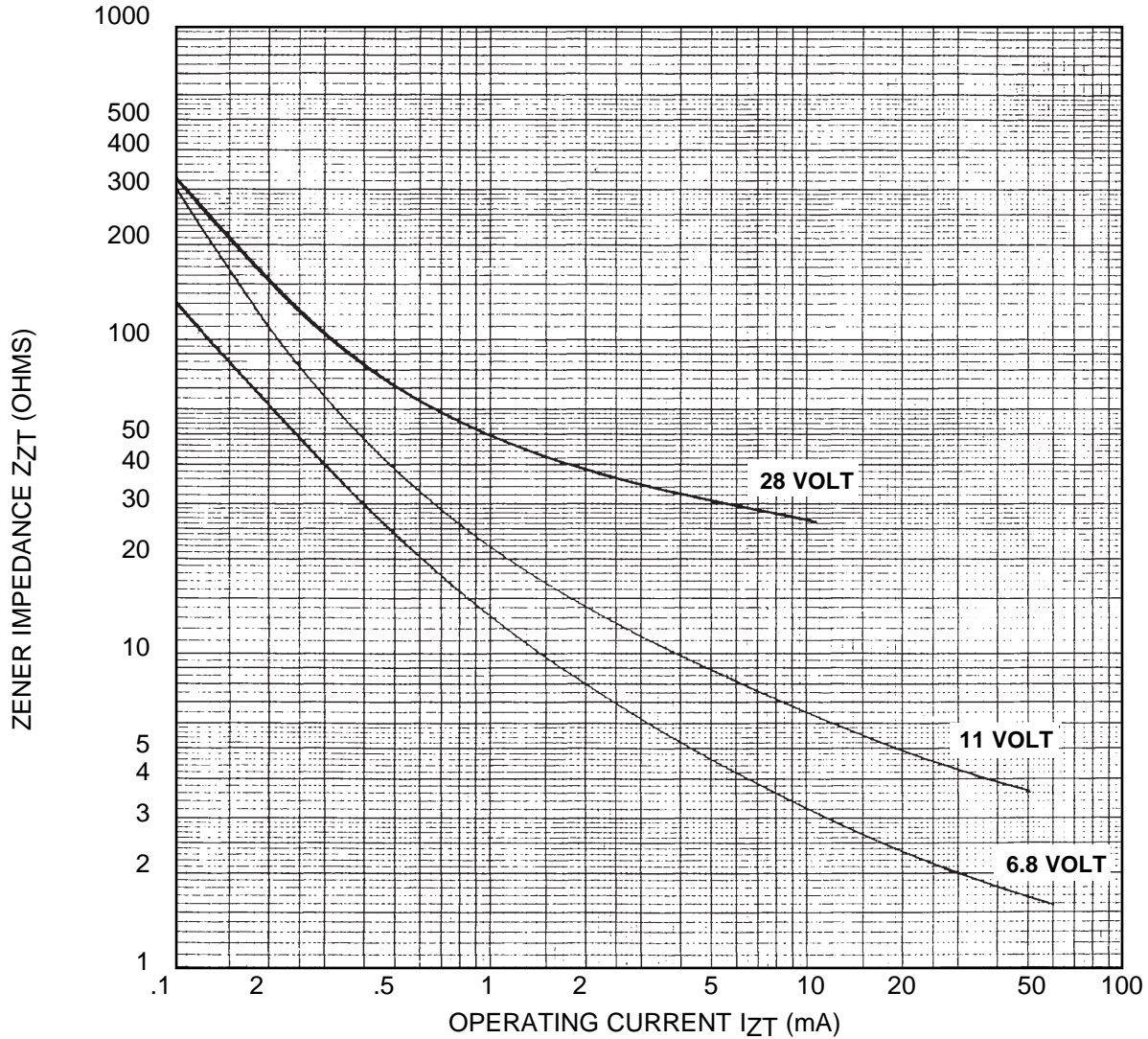


FIGURE 3
ZENER IMPEDANCE VS. OPERATING CURRENT