

- 1N5518BUR-1 THRU 1N5546BUR-1 AVAILABLE IN JAN, JANTX AND JANTXV PER MIL-PRF-19500/437
- ZENER DIODE, 500mW
- LEADLESS PACKAGE FOR SURFACE MOUNT
- LOW REVERSE LEAKAGE CHARACTERISTICS
- METALLURGICALLY BONDED

1N5518BUR-1
thru
1N5546BUR-1
and
CDLL5518 thru CDLL5546D

MAXIMUM RATINGS

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

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

| CDI TYPE NUMBER (NOTE 1) | NOMINAL ZENER VOLTAGE $V_Z @ 1Z_T$ (NOTE 2) | ZENER TEST CURRENT $1Z_T$ | MAX. ZENER IMPEDANCE B-C-D SUFFIX $Z_{ZT} @ 1Z_T$ (NOTE 3) | MAXIMUM REVERSE LEAKAGE CURRENT | | | B-C-D SUFFIX MAXIMUM DC ZENER $1Z_M$ | REGULATION FACTOR CURRENT ΔV_Z (NOTE 5) | LOW V_Z CURRENT $1Z_L$ |
|---------------------------------------|---|--|--|------------------------------------|----------------------|--------------------|--|---|---------------------------------------|
| | | | | I_R (NOTE 4) | $V_R = \text{VOLTS}$ | | | | |
| | | | | | μA_{dc} | NON & A- SUFFIX | | | |
| CDLL5518B | 3.3 | 20 | 26 | 5.0 | 0.90 | 1.0 | 115 | 0.90 | 2.0 |
| CDLL5519B | 3.6 | 20 | 24 | 3.0 | 0.90 | 1.0 | 105 | 0.90 | 2.0 |
| CDLL5520B | 3.9 | 20 | 22 | 1.0 | 0.90 | 1.0 | 98 | 0.85 | 2.0 |
| CDLL5521B | 4.3 | 20 | 18 | 3.0 | 1.0 | 1.5 | 88 | 0.75 | 2.0 |
| CDLL5522B | 4.7 | 10 | 22 | 2.0 | 1.5 | 2.0 | 81 | 0.60 | 1.0 |
| CDLL5523B | 5.1 | 5.0 | 26 | 2.0 | 2.0 | 2.5 | 75 | 0.65 | 0.25 |
| CDLL5524B | 5.6 | 3.0 | 30 | 2.0 | 3.0 | 3.5 | 68 | 0.30 | 0.25 |
| CDLL5525B | 6.2 | 1.0 | 30 | 1.0 | 4.5 | 5.0 | 61 | 0.20 | 0.01 |
| CDLL5526B | 6.8 | 1.0 | 30 | 1.0 | 5.5 | 6.2 | 56 | 0.10 | 0.01 |
| CDLL5527B | 7.5 | 1.0 | 35 | 0.5 | 6.0 | 6.8 | 51 | 0.05 | 0.01 |
| CDLL5528B | 8.2 | 1.0 | 40 | 0.5 | 6.5 | 7.5 | 46 | 0.05 | 0.01 |
| CDLL5529B | 9.1 | 1.0 | 45 | 0.1 | 7.0 | 8.2 | 42 | 0.05 | 0.01 |
| CDLL5530B | 10.0 | 1.0 | 60 | 0.05 | 8.0 | 9.1 | 38 | 0.10 | 0.01 |
| CDLL5531B | 11.0 | 1.0 | 80 | 0.05 | 9.0 | 9.9 | 35 | 0.20 | 0.01 |
| CDLL5532B | 12.0 | 1.0 | 90 | 0.05 | 9.5 | 10.8 | 32 | 0.20 | 0.01 |
| CDLL5533B | 13.0 | 1.0 | 90 | 0.01 | 10.5 | 11.7 | 29 | 0.20 | 0.01 |
| CDLL5534B | 14.0 | 1.0 | 100 | 0.01 | 11.5 | 12.6 | 27 | 0.20 | 0.01 |
| CDLL5535B | 15.0 | 1.0 | 100 | 0.01 | 12.5 | 13.5 | 25 | 0.20 | 0.01 |
| CDLL5536B | 16.0 | 1.0 | 100 | 0.01 | 13.0 | 14.4 | 24 | 0.20 | 0.01 |
| CDLL5537B | 17.0 | 1.0 | 100 | 0.01 | 14.0 | 15.3 | 22 | 0.20 | 0.01 |
| CDLL5538B | 18.0 | 1.0 | 100 | 0.01 | 15.0 | 16.2 | 21 | 0.20 | 0.01 |
| CDLL5539B | 19.0 | 1.0 | 100 | 0.01 | 16.0 | 17.1 | 20 | 0.20 | 0.01 |
| CDLL5540B | 20.0 | 1.0 | 100 | 0.01 | 17.0 | 18.0 | 19 | 0.20 | 0.01 |
| CDLL5541B | 22.0 | 1.0 | 100 | 0.01 | 18.0 | 19.8 | 17 | 0.25 | 0.01 |
| CDLL5542B | 24.0 | 1.0 | 100 | 0.01 | 20.0 | 21.6 | 16 | 0.30 | 0.01 |
| CDLL5543B | 25.0 | 1.0 | 100 | 0.01 | 21.0 | 22.4 | 15 | 0.35 | 0.01 |
| CDLL5544B | 28.0 | 1.0 | 100 | 0.01 | 23.0 | 25.2 | 14 | 0.40 | 0.01 |
| CDLL5545B | 30.0 | 1.0 | 100 | 0.01 | 24.0 | 27.0 | 13 | 0.45 | 0.01 |
| CDLL5546B | 33.0 | 1.0 | 100 | 0.01 | 28.0 | 29.7 | 12 | 0.50 | 0.01 |

- NOTE 1** No Suffix type numbers are $\pm 20\%$ with guaranteed limits for only V_Z , I_R , and V_F . Units with "A" suffix are $\pm 10\%$ with guaranteed limits for V_Z , I_R , and V_F . Units with guaranteed limits for all six parameters are indicated by a "B" suffix for $\pm 5.0\%$ units, "C" suffix for $\pm 2.0\%$ and "D" suffix for $\pm 1.0\%$.
- NOTE 2** Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$.
- NOTE 3** Zener impedance is derived by superimposing on $1Z_T$ A 60Hz rms a.c. current equal to 10% of $1Z_T$.
- NOTE 4** Reverse leakage currents are measured at V_R as shown on the table.
- NOTE 5** ΔV_Z is the maximum difference between V_Z at $1Z_T$ and V_Z at $1Z_L$ measured with the device junction in thermal equilibrium.

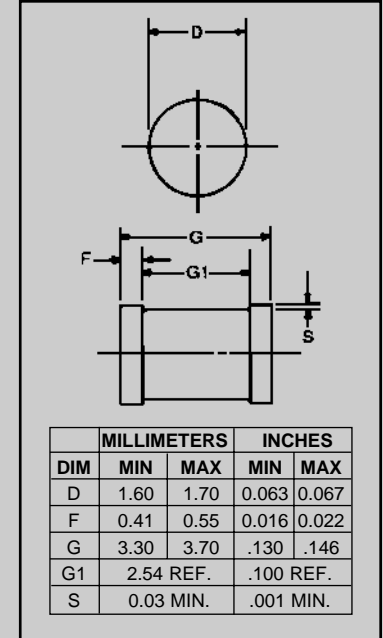


FIGURE 1

DESIGN DATA

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

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ($R_{\theta JEC}$): 100 °C/W maximum at L = 0 inch

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

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

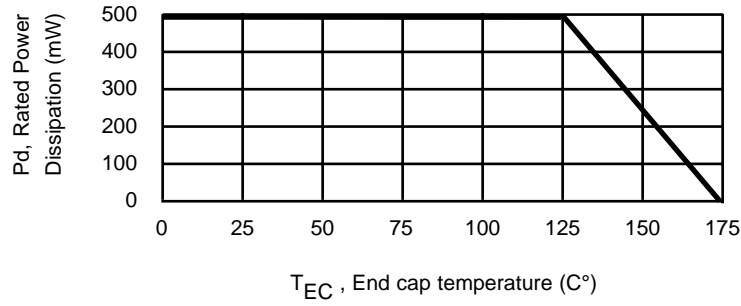
MOUNTING SURFACE SELECTION: The Axial Coefficient of Expansion (COE) Of this Device is Approximately +6PPM/°C. The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.



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CDLL5518 thru CDLL5546D

FIGURE 2



POWER DERATING CURVE

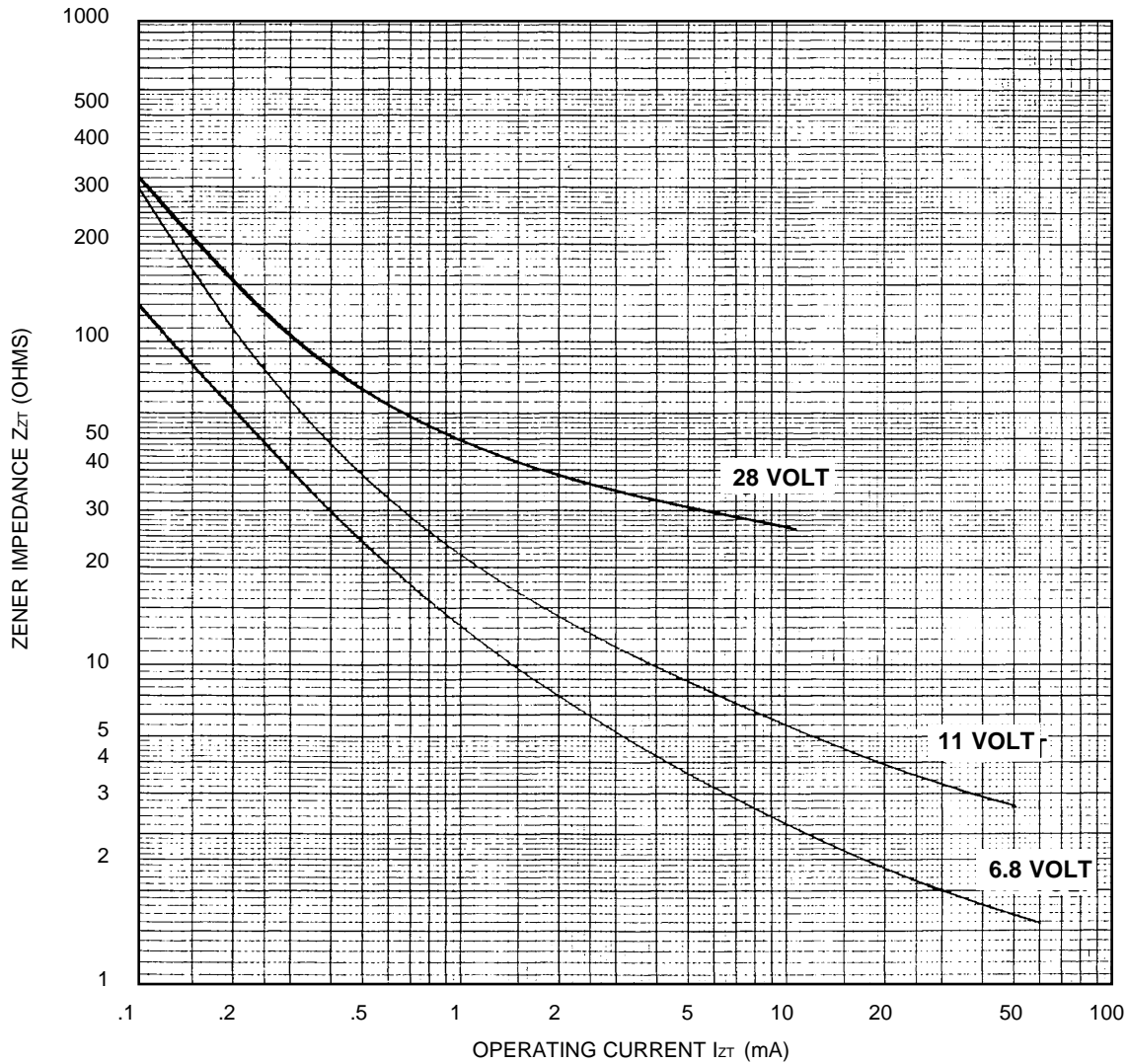


FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT