

- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- 9.1 VOLT NOMINAL ZENER VOLTAGE  $\pm 5\%$
- LOW CURRENT OPERATING RANGE: 0.5 and 1.0 mA
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

CDLL4765  
thru  
CDLL4774A

### 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°C &  $V_R = 6V_{dc}$

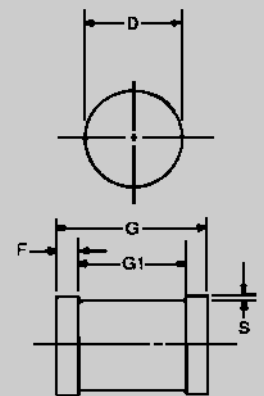
ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

| TYPE NUMBERS | ZENER VOLTAGE  | ZENER TEST CURRENT | MAXIMUM ZENER IMPEDANCE | MAXIMUM VOLTAGE TEMPERATURE STABILITY | TEMPERATURE RANGE | EFFECTIVE TEMPERATURE COEFFICIENT |
|--------------|----------------|--------------------|-------------------------|---------------------------------------|-------------------|-----------------------------------|
|              | $V_Z @ I_{ZT}$ | $I_{ZT}$           | $Z_{ZT}$                | $\Delta V_{ZT}$                       |                   |                                   |
|              | (Note 3)       |                    | (Note 1)                | (Note 2)                              |                   |                                   |
|              | VOLTS          | mA                 | OHMS                    | mV                                    | °C                | % / °C                            |
| CDLL4765     | 9.1            | 0.5                | 350                     | 68                                    | 0 to +75          | 0.01                              |
| CDLL4765A    | 9.1            | 0.5                | 350                     | 141                                   | -55 to +100       | 0.01                              |
| CDLL4766     | 9.1            | 0.5                | 350                     | 34                                    | 0 to +75          | 0.005                             |
| CDLL4766A    | 9.1            | 0.5                | 350                     | 70                                    | -55 to +100       | 0.005                             |
| CDLL4767     | 9.1            | 0.5                | 350                     | 14                                    | 0 to +75          | 0.002                             |
| CDLL4767A    | 9.1            | 0.5                | 350                     | 28                                    | -55 to +100       | 0.002                             |
| CDLL4768     | 9.1            | 0.5                | 350                     | 6.8                                   | 0 to +75          | 0.001                             |
| CDLL4768A    | 9.1            | 0.5                | 350                     | 14                                    | -55 to +100       | 0.001                             |
| CDLL4769     | 9.1            | 0.5                | 350                     | 3.4                                   | 0 to +75          | 0.0005                            |
| CDLL4769A    | 9.1            | 0.5                | 350                     | 7                                     | -55 to +100       | 0.0005                            |
| CDLL4770     | 9.1            | 1.0                | 200                     | 68                                    | 0 to +75          | 0.01                              |
| CDLL4770A    | 9.1            | 1.0                | 200                     | 141                                   | -55 to +100       | 0.01                              |
| CDLL4771     | 9.1            | 1.0                | 200                     | 34                                    | 0 to +75          | 0.005                             |
| CDLL4771A    | 9.1            | 1.0                | 200                     | 70                                    | -55 to +100       | 0.005                             |
| CDLL4772     | 9.1            | 1.0                | 200                     | 14                                    | 0 to +75          | 0.002                             |
| CDLL4772A    | 9.1            | 1.0                | 200                     | 28                                    | -55 to +100       | 0.002                             |
| CDLL4773     | 9.1            | 1.0                | 200                     | 6.8                                   | 0 to +75          | 0.001                             |
| CDLL4773A    | 9.1            | 1.0                | 200                     | 14                                    | -55 to +100       | 0.001                             |
| CDLL4774     | 9.1            | 1.0                | 200                     | 3.4                                   | 0 to +75          | 0.0005                            |
| CDLL4774A    | 9.1            | 1.0                | 200                     | 7                                     | -55 to +100       | 0.0005                            |

**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.

**NOTE 3** Zener voltage range equals 9.1 volts  $\pm 5\%$



| 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

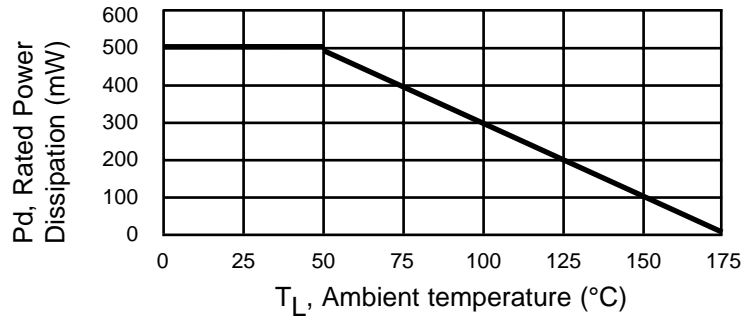
**POLARITY:** Diode to be operated with the banded (cathode) end positive.

**MOUNTING POSITION:** Any.

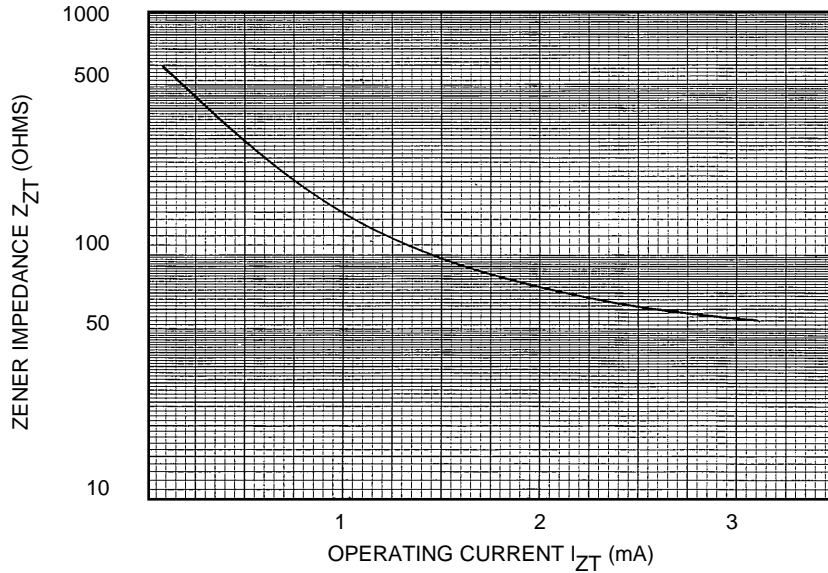
**MOUNTING SURFACE SELECTION:**  
The Axial Coefficient of Expansion (COE) Of this Device is Approximately +6PPM/°C. The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.



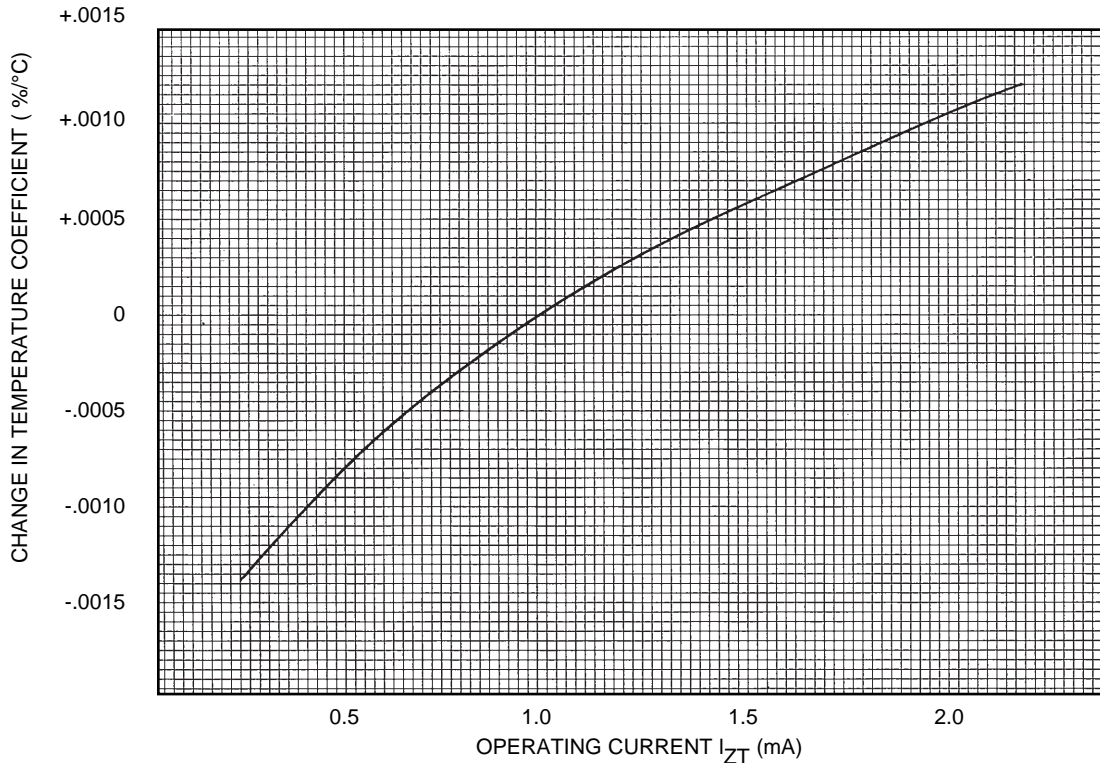
# CDLL4765 thru CDLL4774A



**FIGURE 2  
POWER DERATING CURVE**



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



**FIGURE 3  
TYPICAL CHANGE OF TEMPERATURE COEFFICIENT  
WITH CHANGE IN OPERATING CURRENT**



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