

PER MIL-PRF-19500/463

- CURRENT REGULATOR DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

and

CDLL5283 thru CDLL5314

## MAXIMUM RATINGS

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

Storage Temperature: -65°C to +175°C

DC Power Dissipation: 500mW @ +75°C @  $T_{EC} = +125^{\circ}\text{C}$

Power Derating: 10 mW / °C above  $T_{EC} = +125^{\circ}\text{C}$

Peak Operating Voltage: 100 Volts

## ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

| CDI<br>TYPE<br>NUMBER | REGULATOR CURRENT<br>I <sub>p</sub> (mA) @ V <sub>S</sub> = 25V |       |       | MINIMUM<br>DYNAMIC<br>IMPEDANCE<br>@V <sub>S</sub> = 25V<br>Z <sub>S</sub> (MΩ)<br>(Note 1) | MINIMUM<br>KNEE<br>IMPEDANCE<br>@V <sub>K</sub> = 6.0 V<br>Z <sub>K</sub> (MΩ)<br>(Note 2) | MAXIMUM<br>LIMITING<br>VOLTAGE<br>@ I <sub>L</sub> = 0.8 I <sub>p</sub> (min)<br>V <sub>L</sub> (VOLTS) |
|-----------------------|-----------------------------------------------------------------|-------|-------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|                       | NOM                                                             | MIN   | MAX   |                                                                                             |                                                                                            |                                                                                                         |
| CDLL5283              | 0.22                                                            | 0.198 | 0.242 | 25.0                                                                                        | 2.75                                                                                       | 1.00                                                                                                    |
| CDLL5284              | 0.24                                                            | 0.216 | 0.264 | 19.0                                                                                        | 2.35                                                                                       | 1.00                                                                                                    |
| CDLL5285              | 0.27                                                            | 0.243 | 0.297 | 14.0                                                                                        | 1.95                                                                                       | 1.00                                                                                                    |
| CDLL5286              | 0.30                                                            | 0.270 | 0.330 | 9.0                                                                                         | 1.60                                                                                       | 1.00                                                                                                    |
| CDLL5287              | 0.33                                                            | 0.297 | 0.363 | 6.6                                                                                         | 1.35                                                                                       | 1.00                                                                                                    |
| CDLL5288              | 0.39                                                            | 0.351 | 0.429 | 4.10                                                                                        | 1.00                                                                                       | 1.05                                                                                                    |
| CDLL5289              | 0.43                                                            | 0.387 | 0.473 | 3.30                                                                                        | 0.870                                                                                      | 1.05                                                                                                    |
| CDLL5290              | 0.47                                                            | 0.423 | 0.517 | 2.70                                                                                        | 0.750                                                                                      | 1.05                                                                                                    |
| CDLL5291              | 0.56                                                            | 0.504 | 0.616 | 1.90                                                                                        | 0.560                                                                                      | 1.10                                                                                                    |
| CDLL5292              | 0.62                                                            | 0.558 | 0.682 | 1.55                                                                                        | 0.470                                                                                      | 1.13                                                                                                    |
| CDLL5293              | 0.68                                                            | 0.612 | 0.748 | 1.35                                                                                        | 0.400                                                                                      | 1.15                                                                                                    |
| CDLL5294              | 0.75                                                            | 0.675 | 0.825 | 1.15                                                                                        | 0.335                                                                                      | 1.20                                                                                                    |
| CDLL5295              | 0.82                                                            | 0.738 | 0.902 | 1.00                                                                                        | 0.290                                                                                      | 1.25                                                                                                    |
| CDLL5296              | 0.91                                                            | 0.819 | 1.001 | 0.880                                                                                       | 0.240                                                                                      | 1.29                                                                                                    |
| CDLL5297              | 1.00                                                            | 0.900 | 1.100 | 0.800                                                                                       | 0.205                                                                                      | 1.35                                                                                                    |
| CDLL5298              | 1.10                                                            | 0.990 | 1.210 | 0.700                                                                                       | 0.180                                                                                      | 1.40                                                                                                    |
| CDLL5299              | 1.20                                                            | 1.08  | 1.32  | 0.640                                                                                       | 0.155                                                                                      | 1.45                                                                                                    |
| CDLL5300              | 1.30                                                            | 1.17  | 1.43  | 0.580                                                                                       | 0.135                                                                                      | 1.50                                                                                                    |
| CDLL5301              | 1.40                                                            | 1.26  | 1.54  | 0.540                                                                                       | 0.115                                                                                      | 1.55                                                                                                    |
| CDLL5302              | 1.50                                                            | 1.35  | 1.65  | 0.510                                                                                       | 0.105                                                                                      | 1.60                                                                                                    |
| CDLL5303              | 1.60                                                            | 1.44  | 1.76  | 0.475                                                                                       | 0.092                                                                                      | 1.65                                                                                                    |
| CDLL5304              | 1.80                                                            | 1.62  | 1.98  | 0.420                                                                                       | 0.074                                                                                      | 1.75                                                                                                    |
| CDLL5305              | 2.00                                                            | 1.80  | 2.20  | 0.395                                                                                       | 0.061                                                                                      | 1.85                                                                                                    |
| CDLL5306              | 2.20                                                            | 1.98  | 2.42  | 0.370                                                                                       | 0.052                                                                                      | 1.95                                                                                                    |
| CDLL5307              | 2.40                                                            | 2.16  | 2.64  | 0.345                                                                                       | 0.044                                                                                      | 2.00                                                                                                    |
| CDLL5308              | 2.70                                                            | 2.43  | 2.97  | 0.320                                                                                       | 0.035                                                                                      | 2.15                                                                                                    |
| CDLL5309              | 3.00                                                            | 2.70  | 3.30  | 0.300                                                                                       | 0.029                                                                                      | 2.25                                                                                                    |
| CDLL5310              | 3.30                                                            | 2.97  | 3.63  | 0.280                                                                                       | 0.024                                                                                      | 2.35                                                                                                    |
| CDLL5311              | 3.60                                                            | 3.24  | 3.96  | 0.265                                                                                       | 0.020                                                                                      | 2.50                                                                                                    |
| CDLL5312              | 3.90                                                            | 3.51  | 4.29  | 0.255                                                                                       | 0.017                                                                                      | 2.60                                                                                                    |
| CDLL5313              | 4.30                                                            | 3.87  | 4.73  | 0.245                                                                                       | 0.014                                                                                      | 2.75                                                                                                    |
| CDLL5314              | 4.70                                                            | 4.23  | 5.17  | 0.235                                                                                       | 0.012                                                                                      | 2.90                                                                                                    |

NOTE 1 Z<sub>S</sub> is derived by superimposing A 90Hz RMS signal equal to 10% of V<sub>S</sub> on V<sub>S</sub>

NOTE 2 Z<sub>K</sub> is derived by superimposing A 90Hz RMS signal equal to 10% of V<sub>K</sub> on V<sub>K</sub>

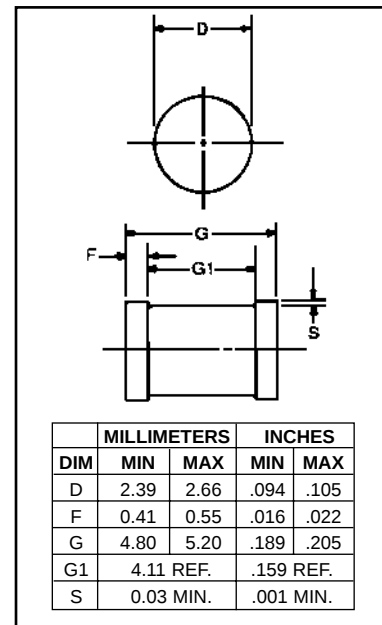


FIGURE 1

## DESIGN DATA

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

**LEAD FINISH:** Tin / Lead

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

**THERMAL IMPEDANCE:** ( $Z_{\theta JX}$ ): 25 °C/W maximum

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

## 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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# CDLL5283 thru CDLL5314

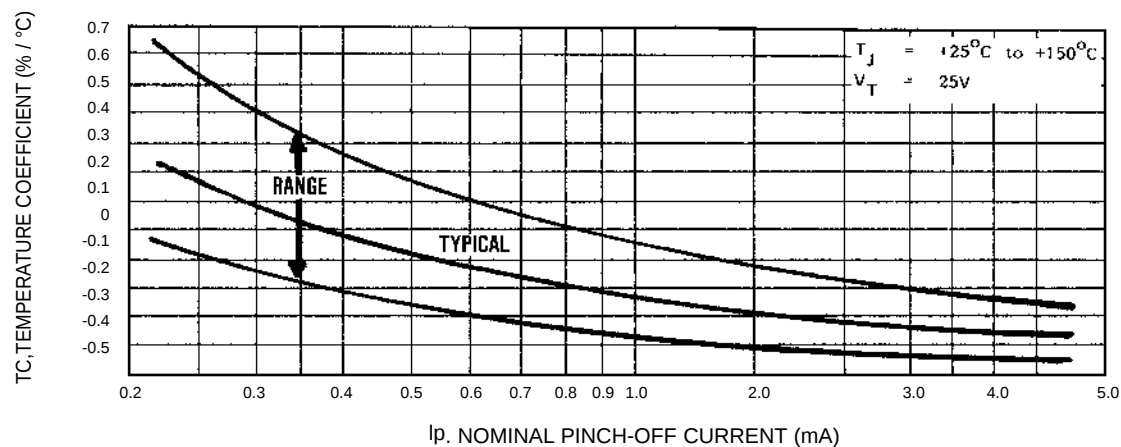


FIGURE 2 TEMPERATURE COEFFICIENT

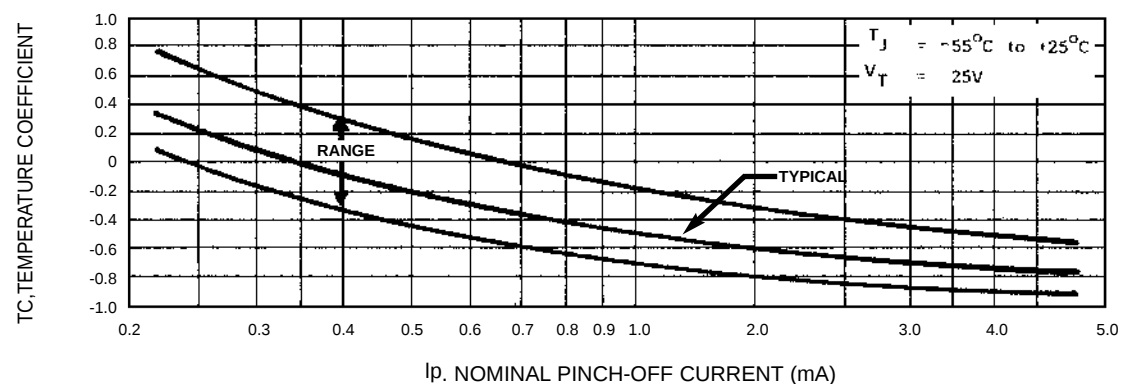


FIGURE 3 TEMPERATURE COEFFICIENT

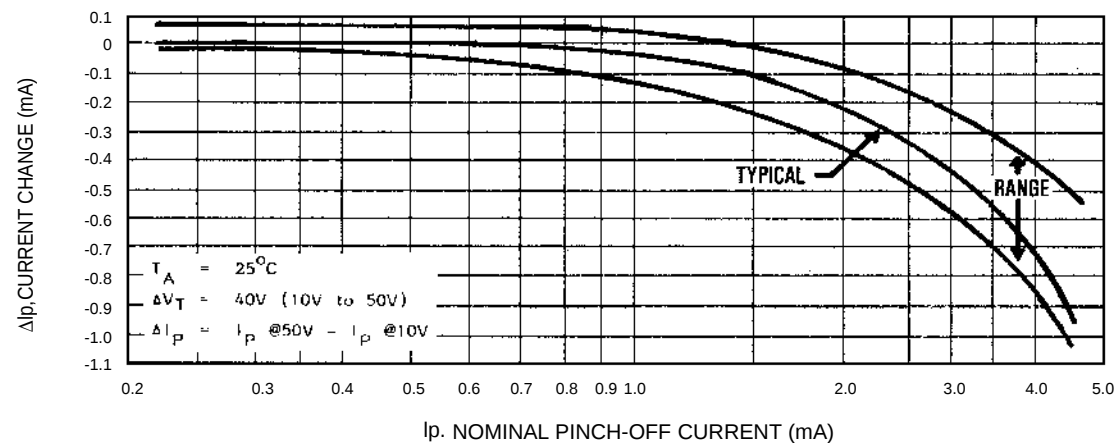


FIGURE 4 CURRENT REGULATION FACTOR