

• 1N5283UR-1 THRU 1N5314UR-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS

PER MIL-PRF-19500/463

- CURRENT REGULATOR DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- METALLURGICALLY BONDED

1N5283UR-1 thru 1N5314UR-1  
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 @  $T_{EC} = +125^{\circ}C$   
Power Derating: 10 mW / °C above  $T_{EC} = +125^{\circ}C$   
Peak Operating Voltage: 100 Volts

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

| CDI TYPE NUMBER | REGULATOR CURRENT<br>$I_p$ (mA) @ $V_S = 25V$ |       |       | MINIMUM DYNAMIC IMPEDANCE<br>@ $V_S = 25V$<br>$Z_S$ (M)<br>(Note 1) | MINIMUM KNEE IMPEDANCE<br>@ $V_K = 6.0V$<br>$Z_K$ (M)<br>(Note 2) | MAXIMUM LIMITING VOLTAGE<br>@ $I_L = 0.8 I_p$ (min)<br>$V_L$ (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  $Z_S$  is derived by superimposing A 90Hz RMS signal equal to 10% of  $V_S$  on  $V_S$

NOTE 2  $Z_K$  is derived by superimposing A 90Hz RMS signal equal to 10% of  $V_K$  on  $V_K$



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