

• 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 I_p (mA) @ $V_S = 25V$ | | | MINIMUM DYNAMIC IMPEDANCE @ $V_S = 25V$ Z_S (M) | MINIMUM KNEE IMPEDANCE @ $V_K = 6.0V$ Z_K (M) | MAXIMUM LIMITING VOLTAGE @ $I_L = 0.8 I_p$ (min) V_L (VOLTS) |
|-----------------|---|-------|-------|---|---|--|
| | NOM | MIN | MAX | (Note 1) | (Note 2) | |
| 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