

- CURRENT REGULATOR DIODES
- CONSTANT CURRENT OVER WIDE VOLTAGE RANGE
- HIGH SOURCE IMPEDANCE
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

DCR250
thru
DCR257

MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C
Storage Temperature: -65°C to +175°C
DC Power Dissipation: 500 mW @ +50°C @ $T_L = 3/8"$
Power Derating: 4 mW / °C above +50°C

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

| TYPE NUMBER | REGULATOR CURRENT I_p (mA) @ $V_S = 25V$ (Note 1) | | | MINIMUM DYNAMIC IMPEDANCE @ $V_S = 25V$ Z_S (K) (Note 2) | MINIMUM KNEE IMPEDANCE @ $V_K = 6.0V$ Z_K (K) (Note 3) | MAXIMUM LIMITING VOLTAGE @ $I_L = 0.8 I_p$ (min) V_L (VOLTS) | PEAK OPERATING VOLTAGE VOLTS |
|-------------|---|------|-------|---|---|--|---------------------------------|
| | NOM | MIN | MAX | | | | |
| DCR250 | 5.10 | 4.59 | 5.61 | 100 | 4.0 | 3.67 | 80 |
| DCR251 | 5.60 | 5.04 | 6.16 | 90 | 4.0 | 4.03 | 80 |
| DCR252 | 6.20 | 5.58 | 6.82 | 80 | 3.0 | 4.46 | 70 |
| DCR253 | 6.80 | 6.12 | 7.48 | 70 | 2.0 | 4.90 | 70 |
| DCR254 | 7.50 | 6.75 | 8.25 | 50 | 1.5 | 5.40 | 60 |
| DCR255 | 8.20 | 7.38 | 9.02 | 30 | 1.5 | 5.90 | 60 |
| DCR256 | 9.10 | 8.19 | 10.01 | 20 | 1.0 | 6.55 | 50 |
| DCR257 | 10.00 | 9.00 | 11.10 | 10 | 1.0 | 7.20 | 50 |

- NOTE 1** Pulse measurement @ 1% duty cycle, 10 milliseconds maximum.
- NOTE 2** Z_S is derived by superimposing A 90Hz RMS signal equal to 10% of V_S on V_S
- NOTE 3** Z_K is derived by superimposing A 90Hz RMS signal equal to 10% of V_K on V_K

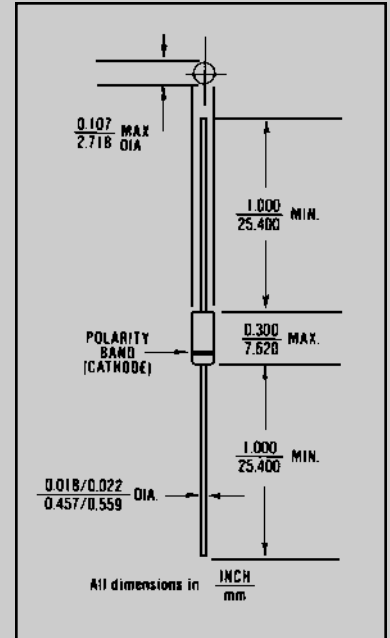


FIGURE 1

DESIGN DATA

CASE: Hermetically sealed glass case. DO-7 outline.

LEAD MATERIAL: Copper clad steel.

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ($R_{\theta JEC}$): 250 °C/W maximum at $L = .375$ inch

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

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

MOUNTING POSITION: Any



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