

- 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 @ $V_K = 6.0 V$ $Z_K$ (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  $V_K$

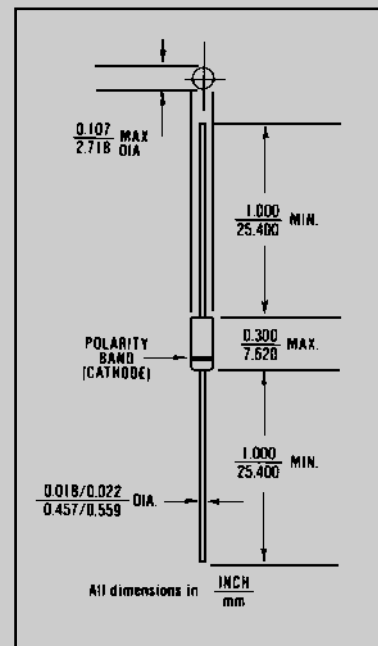


FIGURE 1

### 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



6 LAKE STREET, LAWRENCE, MASSACHUSETTS 01841  
PHONE (978) 620-2600  
WEBSITE: <http://www.microsemi.com>

FAX (978) 689-0803