

- 1N821UR-1, 1N823UR-1, 1N825UR-1, 1N827UR-1 AND 1N829UR-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/159
- TEMPERATURE COMPENSATED ZENER DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- 6.2 AND 6.5 VOLT NOMINAL ZENER VOLTAGES
- METALLURGICALLY BONDED, DOUBLE PLUG CONSTRUCTION

1N821UR-1 thru 1N829UR-1  
and  
CDLL821 thru CDLL829A

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
DC Power Dissipation: 500mW @ +50°C  
Power Derating: 4 mW / °C above +50°C

## REVERSE LEAKAGE CURRENT

$I_R = 2 \mu A @ 25^\circ C \text{ \& } V_R = 3 \text{ Vdc}$

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

CDI TYPE NUMBER	ZENER VOLTAGE $V_Z @ I_{ZT}$	ZENER TEST CURRENT $I_{ZT}$	MAXIMUM ZENER IMPEDANCE (Note 1) $Z_{ZT}$	VOLTAGE TEMPERATURE STABILITY $^{\Delta}V_{ZT}$ -55° to +100° (Note 2)	EFFECTIVE TEMPERATURE COEFFICIENT
	VOLTS	mA	OHMS	mV	% / °C
CDLL821 CDLL821A CDLL822 †	5.9 - 6.5	7.5	15	96	0.01
CDLL823 CDLL823A CDLL824 †	5.9 - 6.5	7.5	15	48	0.005
CDLL825 CDLL825A CDLL826	5.9 - 6.5 5.9 - 6.5 6.2 - 6.9	7.5 7.5 7.5	15 10 15	19 19 20	0.002 0.002 0.002
CDLL827 CDLL827A CDLL828	5.9 - 6.5 5.9 - 6.5 6.2 - 6.9	7.5 7.5 7.5	15 10 15	9 9 10	0.001 0.001 0.001
CDLL829 CDLL829A	5.9 - 6.5 5.9 - 6.5	7.5 7.5	15 10	5 5	0.0005 0.0005

† Double Anode: Electrical Specifications Apply Under Both Bias Polarities.

**NOTE 1** Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$ .

**NOTE 2** The maximum allowable change observed over the entire temperature range i.e., the diode voltage will not exceed the specified mV at any discrete temperature between the established limits, per JEDEC standard No.5.

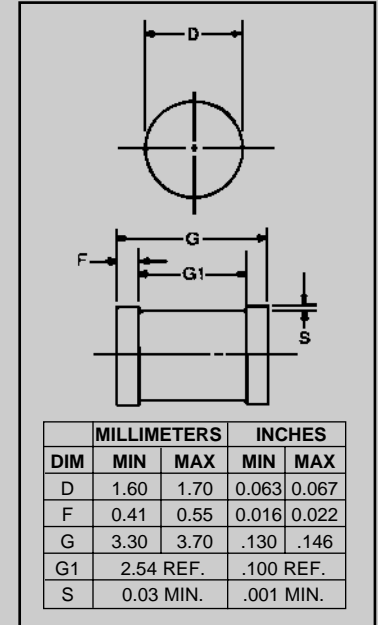


FIGURE 1

## DESIGN DATA

**CASE:** DO-213AA, Hermetically sealed glass case. (MELF, SOD-80, LL34)

**LEAD FINISH:** Tin / Lead

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

**MOUNTING POSITION:** Any.

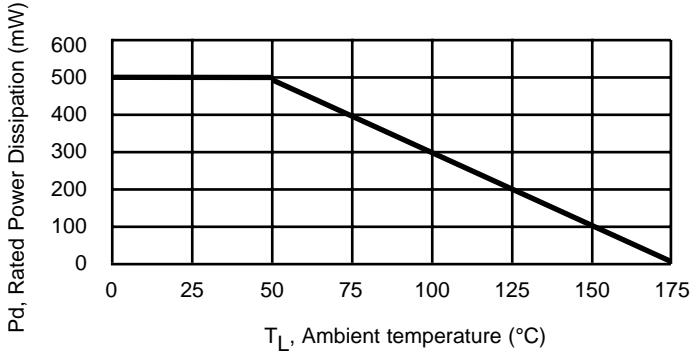
**MOUNTING SURFACE SELECTION:**  
The Axial Coefficient of Expansion (COE) Of this Device is Approximately +6PPM/°C. The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.



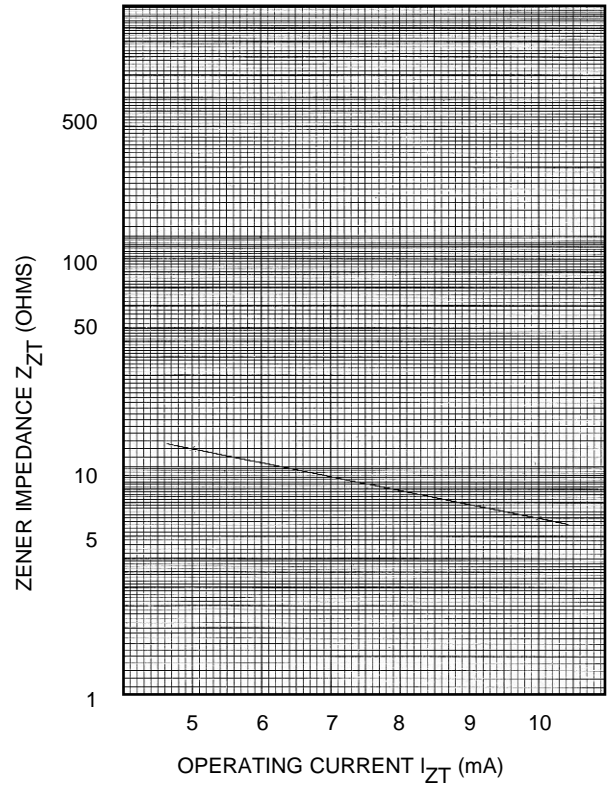
6 LAKE STREET, LAWRENCE, MASSACHUSETTS 01841  
PHONE (978) 620-2600  
WEBSITE: <http://www.microsemi.com>

FAX (978) 689-0803

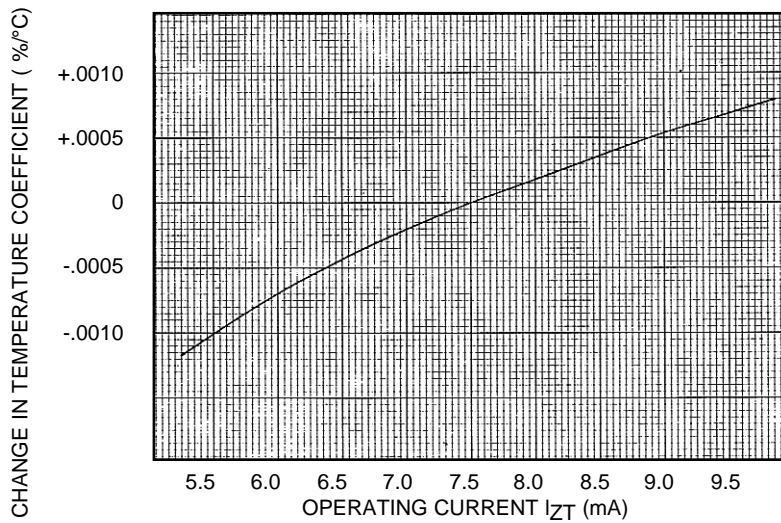
# CDLL821 thru CDLL829A



**FIGURE 2  
POWER DERATING CURVE**



**FIGURE 3  
ZENER IMPEDANCE  
VS.  
OPERATING CURRENT**



**FIGURE 4  
TYPICAL CHANGE OF TEMPERATURE  
COEFFICIENT WITH CHANGE IN  
OPERATING CURRENT**