

- MONOLITHIC TEMPERATURE COMPENSATED ZENER REFERENCE CHIPS
- ALL JUNCTIONS COMPLETELY PROTECTED WITH SILICON DIOXIDE
- 8.4 VOLT NOMINAL ZENER VOLTAGE  $\pm 5\%$
- ELECTRICALLY SIMILAR TO 1N3154 THRU 1N3156
- COMPATIBLE WITH ALL WIRE BONDING AND DIE ATTACH TECHNIQUES, WITH THE EXCEPTION OF SOLDER REFLOW

CD3154  
thru  
CD3156

### MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

JEDEC TYPE NUMBER	ZENER VOLTAGE	ZENER TEST CURRENT	MAXIMUM ZENER IMPEDANCE	MAXIMUM VOLTAGE TEMPERATURE STABILITY	TEMPERATURE RANGE	EFFECTIVE TEMPERATURE COEFFICIENT
	$V_{ZT} @ I_{ZT}$	$I_{ZT}$	$Z_{ZT}$ (Note 1)	$\Delta V_{ZT} / \Delta T$ MAXIMUM (Note 2)		
	VOLTS	mA	OHMS	mV	°C	% / °C
CD3154	8.00-8.80	10	25	130	-55 to + 100	0.01
CD3155	8.00-8.80	10	25	65	-55 to + 100	0.005
CD3156	8.00-8.80	10	25	26	-55 to + 100	0.002

**NOTE 1** Zener impedance is derived by superimposing on  $I_{ZT}$  @ 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.

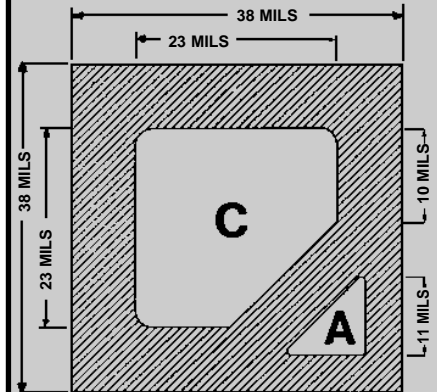


FIGURE 1

### DESIGN DATA

**METALLIZATION:**

Top: C (Cathode).....Al  
A (Anode).....Al  
Back:.....Au

**AL THICKNESS**.....25,000 Å Min

**GOLD THICKNESS**...4,000 Å Min

**CHIP THICKNESS**.....10 Mils

**CIRCUIT LAYOUT DATA:**

Backside must be electrically isolated.

**Backside is not cathode.**

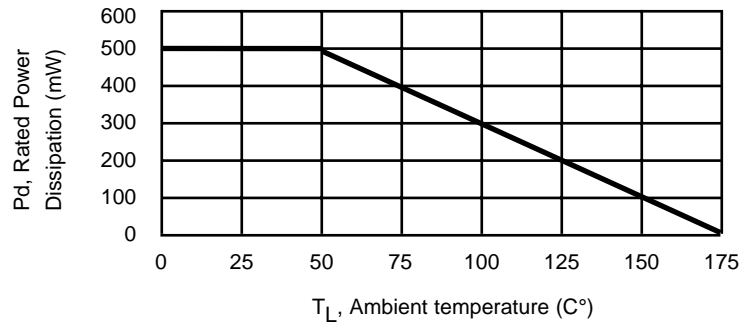
For Zener operation cathode must be operated positive with respect to anode.

**TOLERANCES: ALL**

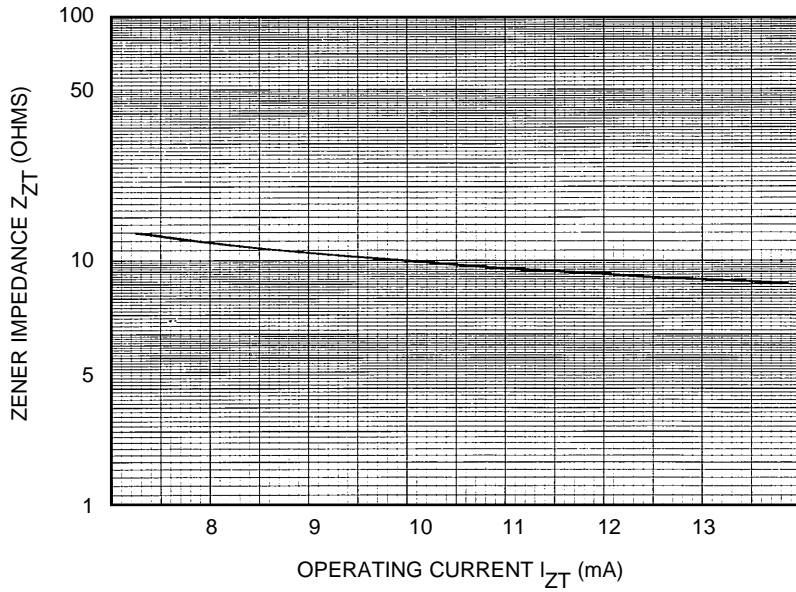
Dimensions  $\pm 2$  mils



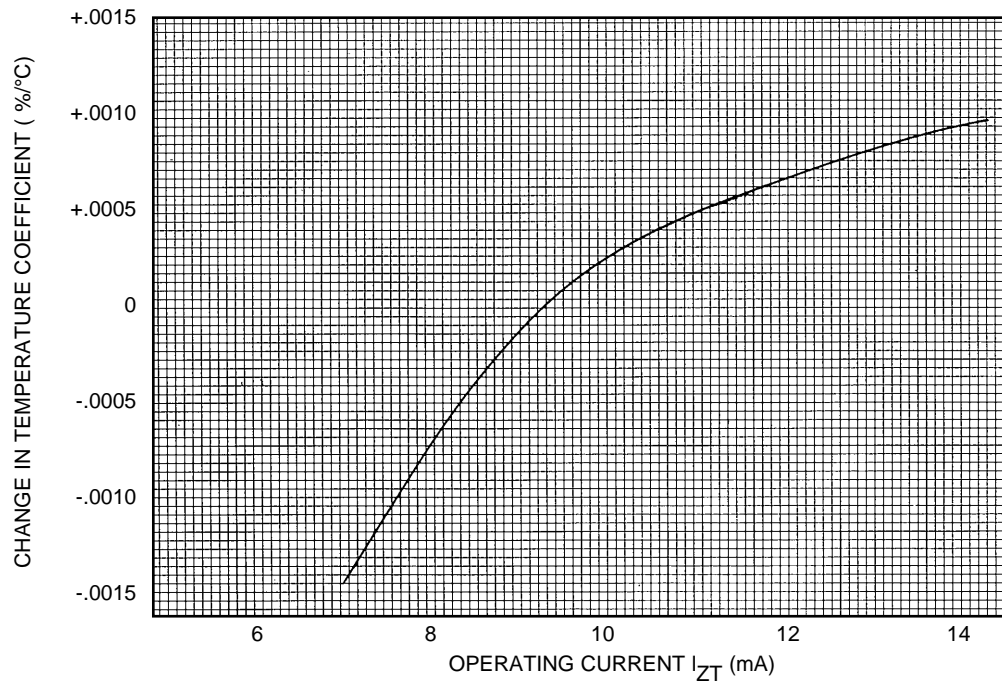
# CD3154 thru CD3156



**FIGURE 2  
POWER DERATING CURVE**



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



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