

- 1N3154-1 THRU 1N3157-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/158
- 8.4 VOLT NOMINAL ZENER VOLTAGE
- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- METALLURGICALLY BONDED

1N3154 thru 1N3157A  
and  
1N3154-1 thru 1N3157A-1

## 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

$I_R = 10\mu A$  @ 25°C &  $V_R = 5.5V_{dc}$

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

| JEDEC<br>TYPE<br>NUMBER | ZENER<br>VOLTAGE<br>$V_Z @ I_{ZT}$ | ZENER<br>TEST<br>CURRENT<br>$I_{ZT}$ | MAXIMUM<br>ZENER<br>IMPEDANCE<br>$Z_{ZT}$<br>(Note 1) | VOLTAGE<br>TEMPERATURE<br>STABILITY<br>$\Delta V_{ZT}$<br>MAXIMUM<br>(Note 2) | TEMPERATURE<br>RANGE | EFFECTIVE<br>TEMPERATURE<br>COEFFICIENT |
|-------------------------|------------------------------------|--------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------|----------------------|-----------------------------------------|
|                         | VOLTS                              | mA                                   | OHMS                                                  | mV                                                                            | °C                   | % / °C                                  |
| 1N3154                  | 8.00—8.80                          | 10                                   | 15                                                    | 130                                                                           | -55 to +100          | .01                                     |
| 1N3154A                 | 8.00—8.80                          | 10                                   | 15                                                    | 172                                                                           | -55 to +150          | .01                                     |
| 1N3155                  | 8.00—8.80                          | 10                                   | 15                                                    | 65                                                                            | -55 to +100          | .005                                    |
| 1N3155A                 | 8.00—8.80                          | 10                                   | 15                                                    | 86                                                                            | -55 to +150          | .005                                    |
| 1N3156                  | 8.00—8.80                          | 10                                   | 15                                                    | 26                                                                            | -55 to +100          | .002                                    |
| 1N3156A                 | 8.00—8.80                          | 10                                   | 15                                                    | 34                                                                            | -55 to +150          | .002                                    |
| 1N3157                  | 8.00—8.80                          | 10                                   | 15                                                    | 13                                                                            | -55 to +100          | .001                                    |
| 1N3157A                 | 8.00—8.80                          | 10                                   | 15                                                    | 17                                                                            | -55 to +150          | .001                                    |

**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.

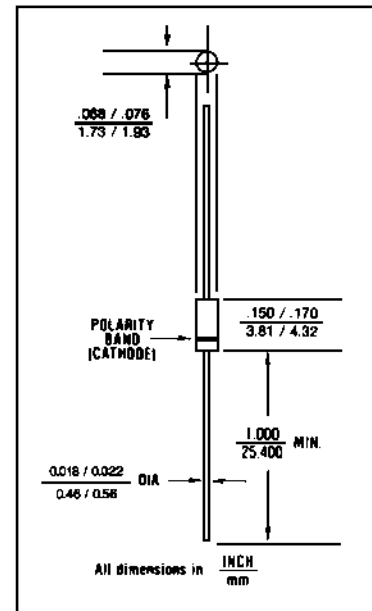


FIGURE 1

## DESIGN DATA

**CASE:** Hermetically sealed glass case. DO – 35 outline.

**LEAD MATERIAL:** Copper clad steel.

**LEAD FINISH:** Tin / Lead

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

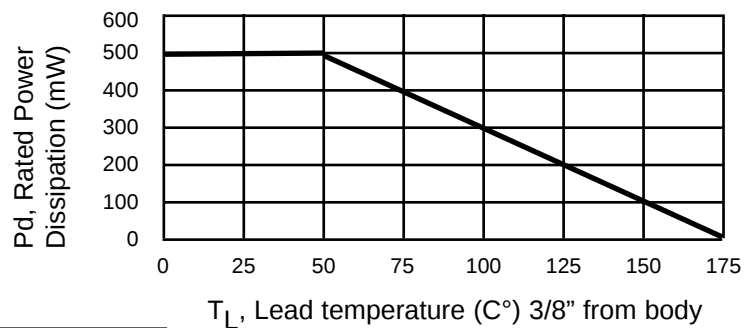
**MOUNTING POSITION:** ANY.



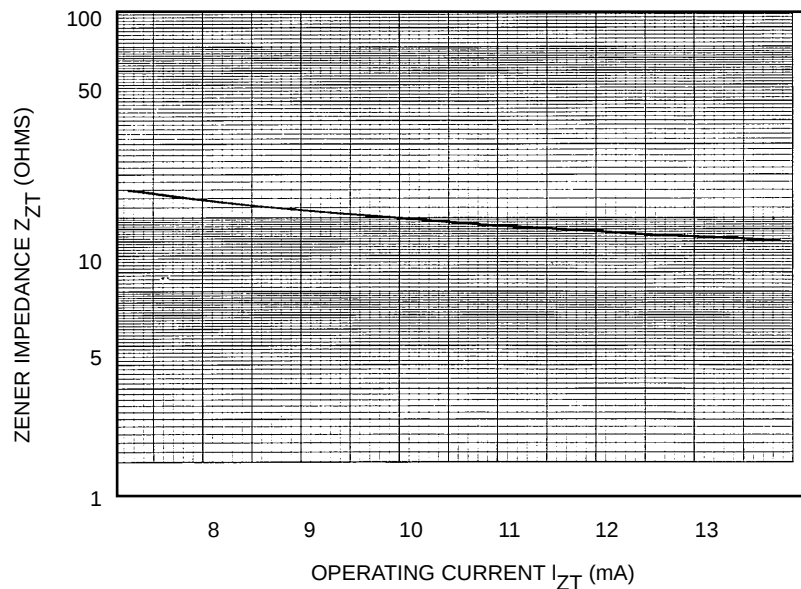
**COMPENSATED DEVICES INCORPORATED**

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# 1N3154 thru 1N3157A INCLUDING -1 VERSIONS

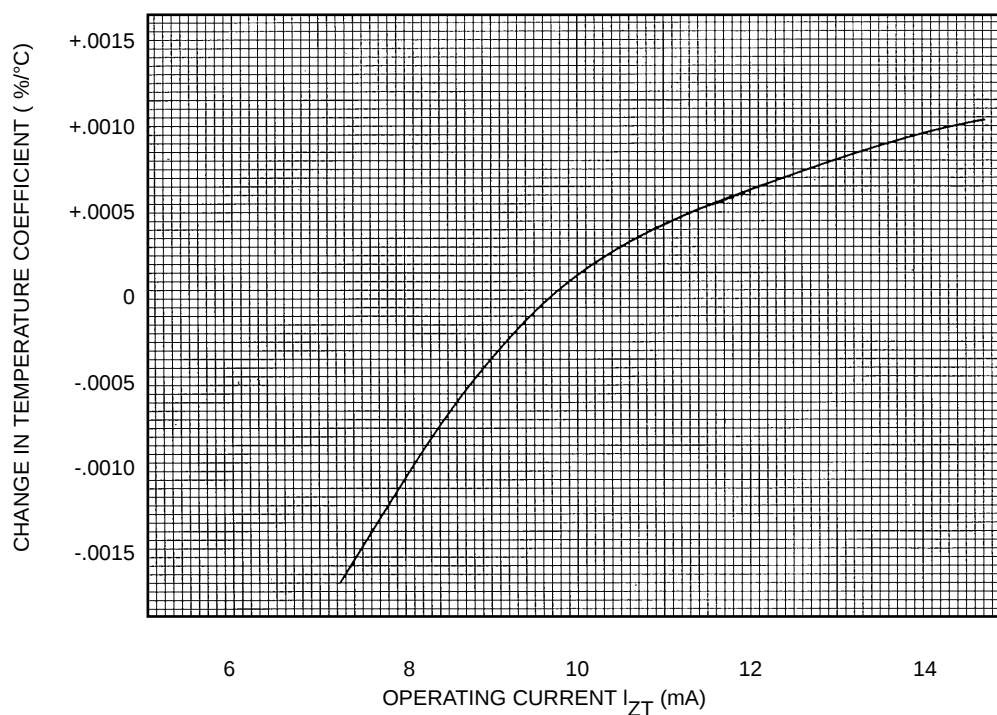


**FIGURE 2  
POWER DERATING CURVE**



**FIGURE 3**

## ZENER IMPEDANCE VS. OPERATING CURRENT



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