

- 1N941B, 1N943B, 1N944B AND 1N945B AVAILABLE IN JAN, JANTX AND JANTXV PER MIL-PRF-19500/157
- 1N941B-1, 1N943B-1, 1N944B-1 AND 1N945B-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/157
- 11.7 VOLT NOMINAL ZENER VOLTAGE
- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- METALLURGICALLY BONDED

1N941 thru 1N945B  
and  
1N941B-1 thru 1N945B-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

$I_R = 15\mu A$  @ 25°C &  $V_R = 8$  Vdc

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

| JEDEC TYPE NUMBER | ZENER VOLTAGE<br>$V_Z @ I_{ZT}$ | ZENER TEST CURRENT<br>$I_{ZT}$ | MAXIMUM ZENER IMPEDANCE<br>ZZT<br><br>(Note 1) | VOLTAGE TEMPERATURE STABILITY<br>$\Delta V_{ZT}$<br>MAXIMUM<br>(Note 2) | TEMPERATURE RANGE | EFFECTIVE TEMPERATURE COEFFICIENT |
|-------------------|---------------------------------|--------------------------------|--|---|-------------------|-----------------------------------|
|                   | VOLTS                           | mA                             | OHMS   | mV  | °C                | % / °C                            |
| 1N941             | 11.12—12.28                     | 7.5                            | 30   | 88  | 0 to +75          | 0.01                              |
| 1N941A            | 11.12—12.28                     | 7.5                            | 30   | 181   | -55 to +100       | 0.01                              |
| 1N941B            | 11.12—12.28                     | 7.5                            | 30   | 239   | -55 to +150       | 0.01                              |
| 1N942             | 11.12—12.28                     | 7.5                            | 30   | 44  | 0 to +75          | 0.005                             |
| 1N942A            | 11.12—12.28                     | 7.5                            | 30   | 90  | -55 to +100       | 0.005                             |
| 1N942B            | 11.12—12.28                     | 7.5                            | 30   | 120   | -55 to +150       | 0.005                             |
| 1N943             | 11.12—12.28                     | 7.5                            | 30   | 18  | 0 to +75          | 0.002                             |
| 1N943A            | 11.12—12.28                     | 7.5                            | 30   | 36  | -55 to +100       | 0.002                             |
| 1N943B            | 11.12—12.28                     | 7.5                            | 30   | 47  | -55 to +150       | 0.002                             |
| 1N944             | 11.12—12.28                     | 7.5                            | 30   | 9   | 0 to +75          | 0.001                             |
| 1N944A            | 11.12—12.28                     | 7.5                            | 30   | 18  | -55 to +100       | 0.001                             |
| 1N944B            | 11.12—12.28                     | 7.5                            | 30   | 24  | -55 to +150       | 0.001                             |
| 1N945             | 11.12—12.28                     | 7.5                            | 30   | 4   | 0 to +75          | 0.0005                            |
| 1N945A            | 11.12—12.28                     | 7.5                            | 30   | 9   | -55 to +150       | 0.0005                            |
| 1N945B            | 11.12—12.28                     | 7.5                            | 30   | 12  | -55 to +150       | 0.0005                            |

**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.

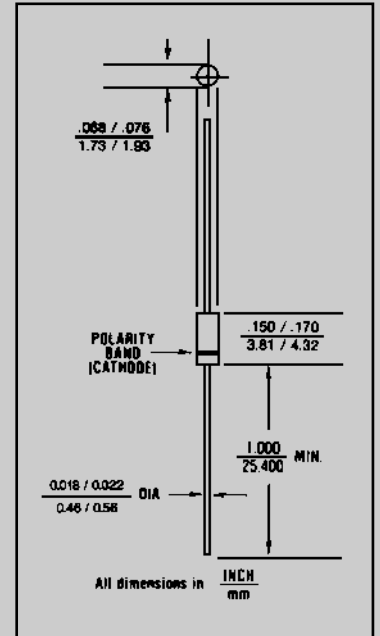


FIGURE 1

## 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.

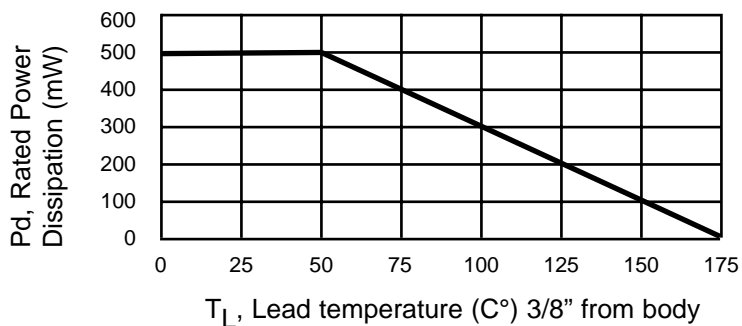
**MOUNTING POSITION:** Any.



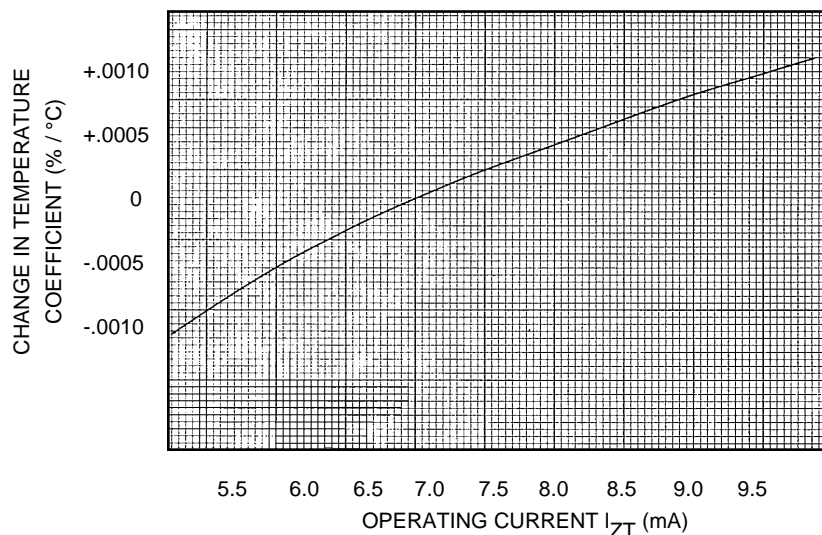
6 LAKE STREET, LAWRENCE, MASSACHUSETTS 01841  
PHONE (978) 620-2600  
WEBSITE: <http://www.microsemi.com>

FAX (978) 689-0803

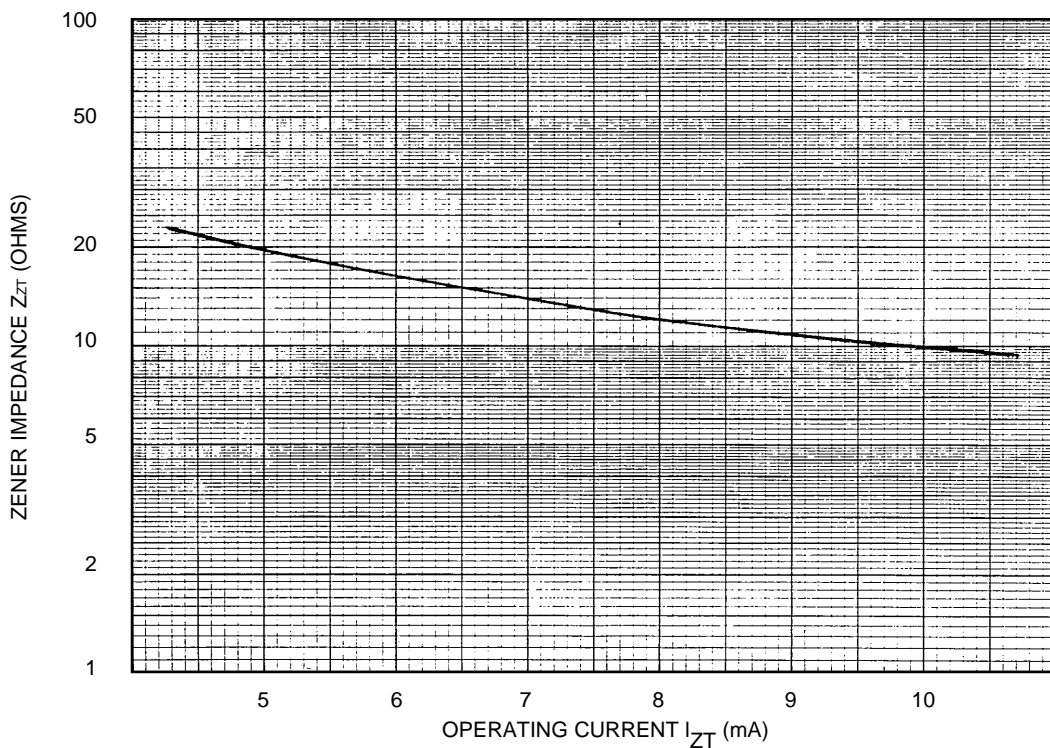
# 1N941 thru 1N945B INCLUDING -1 VERSIONS



**FIGURE 2  
POWER DERATING CURVE**



**FIGURE 3  
TYPICAL CHANGE OF TEMPERATURE COEFFICIENT  
WITH CHANGE IN OPERATING CURRENT**



**FIGURE 4  
ZENER IMPEDANCE VS. OPERATING CURRENT**