

- 1N935B-1, 1N937B-1 AND 1N938B-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/156
- 9.0 VOLT NOMINAL ZENER VOLTAGE
- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- METALLURGICALLY BONDED

1N935 thru 1N938B
and
1N935B-1 thru 1N938B-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

$I_R = 10\mu A @ 25^\circ C \text{ \& } V_R = 6 \text{ Vdc}$

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

| JEDEC TYPE NUMBER | ZENER VOLTAGE | ZENER TEST CURRENT | MAXIMUM ZENER IMPEDANCE (Note 1) | VOLTAGE TEMPERATURE STABILITY ΔV_{ZT} MAXIMUM (Note 2) | TEMPERATURE RANGE | EFFECTIVE TEMPERATURE COEFFICIENT |
|-------------------|----------------|--------------------|----------------------------------|--|-------------------|-----------------------------------|
| | $V_Z @ I_{ZT}$ | I_{ZT} | Z_{ZT} | | | |
| | VOLTS | mA | OHMS | mV | °C | % / °C |
| 1N935 | 8.55—9.45 | 7.5 | 20 | 67 | 0 to +75 | 0.01 |
| 1N935A | 8.55—9.45 | 7.5 | 20 | 139 | -55 to +100 | 0.01 |
| 1N935B | 8.55—9.45 | 7.5 | 20 | 184 | -55 to +150 | 0.01 |
| 1N936 | 8.55—9.45 | 7.5 | 20 | 34 | 0 to +75 | 0.005 |
| 1N936A | 8.55—9.45 | 7.5 | 20 | 70 | -55 to +100 | 0.005 |
| 1N936B | 8.55—9.45 | 7.5 | 20 | 92 | -55 to +150 | 0.005 |
| 1N937 | 8.55—9.45 | 7.5 | 20 | 13 | 0 to +75 | 0.002 |
| 1N937A | 8.55—9.45 | 7.5 | 20 | 28 | -55 to +100 | 0.002 |
| 1N937B | 8.55—9.45 | 7.5 | 20 | 37 | -55 to +150 | 0.002 |
| 1N938 | 8.55—9.45 | 7.5 | 20 | 6.7 | 0 to +75 | 0.001 |
| 1N938A | 8.55—9.45 | 7.5 | 20 | 13.9 | -55 to +100 | 0.001 |
| 1N938B | 8.55—9.45 | 7.5 | 20 | 19 | -55 to +150 | 0.001 |

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.

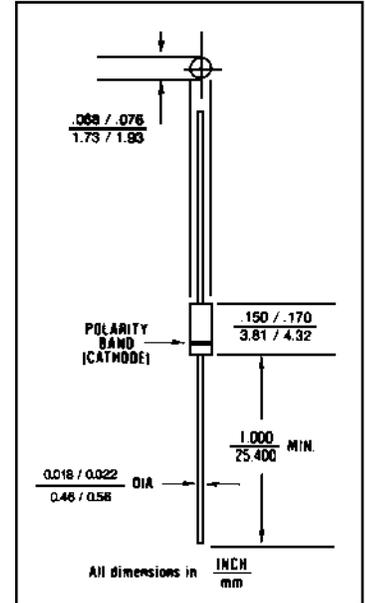


FIGURE 1

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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1N935 thru 1N938B

INCLUDING -1 VERSIONS

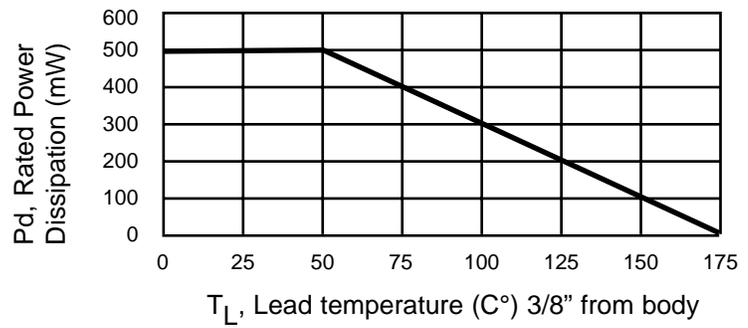


FIGURE 2
POWER DERATING CURVE

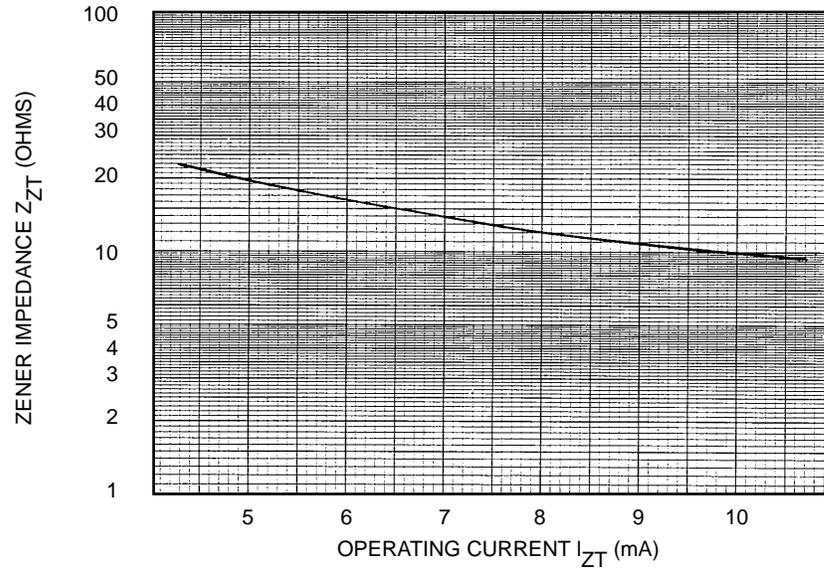


FIGURE 3
ZENER IMPEDANCE VS. OPERATING CURRENT

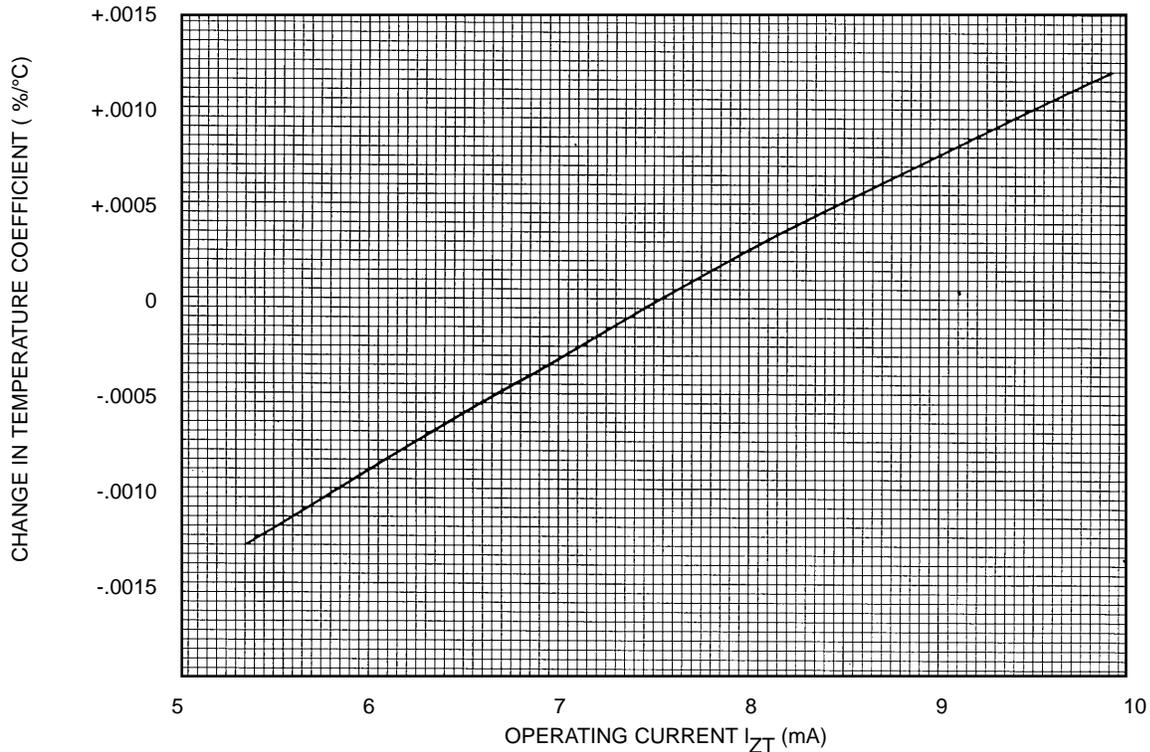


FIGURE 4
TYPICAL CHANGE OF TEMPERATURE COEFFICIENT
WITH CHANGE IN OPERATING CURRENT