

- 1N962B-1 THRU 1N986B-1 AVAILABLE IN JAN, JANTX AND JANTXV PER MIL-PRF-19500/117
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

1N957 thru 1N986B
and
1N962B-1 thru 1N986B-1

MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C
Storage Temperature: -65°C to +175°C
DC Power Dissipation: 500 mW @ +50°C
Power Derating: 4 mW / °C above +50°C
Forward Voltage @ 200mA: 1.1volts maximum

ELECTRICAL CHARACTERISTICS @ 25°C

| JEDEC TYPE NUMBER (NOTE 1) | NOMINAL ZENER VOLTAGE V_Z (NOTE 2) | ZENER TEST CURRENT I_{ZT} mA | MAXIMUM ZENER IMPEDANCE (NOTE 3) | | | MAX. DC ZENER CURRENT I_{ZM} mA | MAX. REVERSE LEAKAGE CURRENT $I_R @ V_R$ | |
|-------------------------------|--|--------------------------------------|-------------------------------------|------|-------------------|---|---|-------|
| | | | $Z_{ZT} @ I_{ZT}$ | | $Z_{ZK} @ I_{ZK}$ | | μA | VOLTS |
| | | | OHMS | OHMS | | | | |
| 1N957B | 6.8 | 18.5 | 4.5 | 700 | 1.0 | 55 | 5 | 5.2 |
| 1N958B | 7.5 | 16.5 | 5.5 | 700 | .5 | 50 | 5 | 5.7 |
| 1N959B | 8.2 | 15.0 | 6.5 | 700 | .5 | 45 | 5 | 6.2 |
| 1N960B | 9.1 | 14.0 | 7.5 | 700 | .5 | 41 | 5 | 6.9 |
| 1N961B | 10 | 12.5 | 8.5 | 700 | .25 | 38 | 2 | 7.6 |
| 1N962B | 11 | 11.5 | 9.5 | 700 | .25 | 32 | 1 | 8.4 |
| 1N963B | 12 | 10.5 | 11.5 | 700 | .25 | 31 | 1 | 9.1 |
| 1N964B | 13 | 9.5 | 13 | 700 | .25 | 28 | 0.5 | 9.9 |
| 1N965B | 15 | 8.5 | 16 | 700 | .25 | 25 | 0.5 | 11 |
| 1N966B | 16 | 7.8 | 17 | 700 | .25 | 24 | 0.5 | 12 |
| 1N967B | 18 | 7.0 | 21 | 750 | .25 | 20 | 0.5 | 14 |
| 1N968B | 20 | 6.2 | 25 | 750 | .25 | 18 | 0.5 | 15 |
| 1N969B | 22 | 5.6 | 29 | 750 | .25 | 16 | 0.5 | 17 |
| 1N970B | 24 | 5.2 | 33 | 750 | .25 | 15 | 0.5 | 18 |
| 1N971B | 27 | 4.6 | 41 | 750 | .25 | 13 | 0.5 | 21 |
| 1N972B | 30 | 4.2 | 49 | 1000 | .25 | 12 | 0.5 | 23 |
| 1N973B | 33 | 3.8 | 58 | 1000 | .25 | 11 | 0.5 | 25 |
| 1N974B | 36 | 3.4 | 70 | 1000 | .25 | 10 | 0.5 | 27 |
| 1N975B | 39 | 3.2 | 90 | 1000 | .25 | 9.5 | 0.5 | 30 |
| 1N976B | 43 | 3.0 | 93 | 1500 | .25 | 8.8 | 0.5 | 33 |
| 1N977B | 47 | 2.7 | 105 | 1500 | .25 | 7.9 | 0.5 | 36 |
| 1N978B | 51 | 2.5 | 125 | 1500 | .25 | 7.4 | 0.5 | 39 |
| 1N979B | 56 | 2.2 | 150 | 2000 | .25 | 6.8 | 0.5 | 43 |
| 1N980B | 62 | 2.0 | 185 | 2000 | .25 | 6.0 | 0.5 | 47 |
| 1N981B | 68 | 1.8 | 230 | 2000 | .25 | 5.5 | 0.5 | 52 |
| 1N982B | 75 | 1.7 | 270 | 2000 | .25 | 5.0 | 0.5 | 56 |
| 1N983B | 82 | 1.5 | 330 | 3000 | .25 | 4.6 | 0.5 | 62 |
| 1N984B | 91 | 1.4 | 400 | 3000 | .25 | 4.1 | 0.5 | 69 |
| 1N985B | 100 | 1.3 | 500 | 3000 | .25 | 3.7 | 0.5 | 76 |
| 1N986B | 110 | 1.1 | 750 | 4000 | .25 | 3.3 | 0.5 | 84 |

- NOTE 1** Zener voltage tolerance on "B" suffix is $\pm 5\%$. Suffix letter A denotes +10%. No Suffix denotes $\pm 20\%$ tolerance, "C" suffix denotes $\pm 2\%$ and "D" suffix denotes $\pm 1\%$.
- NOTE 2** Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of $25^\circ\text{C} \pm 3^\circ\text{C}$.
- NOTE 3** Zener impedance is derived by superimposing on I_{ZT} A 60Hz rms a.c. current equal to 10% of I_{ZT}



FIGURE 1

DESIGN DATA

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

LEAD MATERIAL: Copper clad steel.

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ($R_{\theta JEC}$): 250 °C/W maximum at L = .375 inch

THERMAL IMPEDANCE: ($Z_{\theta JX}$): 35 °C/W maximum

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

MOUNTING POSITION: Any.



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1N957 thru 1N986B INCLUDING -1 VERSIONS

FIGURE 2



POWER DERATING CURVE



FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT