- **1N962B THRU 1N986B AVAILABLE IN JANHC AND JANKC PER MIL-PRF-19500/117**
- **ZENER DIODE CHIPS**
- **0.5 WATT CAPABILITY WITH PROPER HEAT SINKING**
- **ALL JUNCTIONS COMPLETELY PROTECTED WITH SILICON DIOXIDE**
- **COMPATIBLE WITH ALL WIRE BONDING AND DIE ATTACH TECHNIQUES, WITH THE EXCEPTION OF SOLDER REFLOW**

# CD957B thru CD986B

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C
Storage Temperature: -65°C to +175°C
Forward Voltage @ 200mA: 1.5 volts maximum

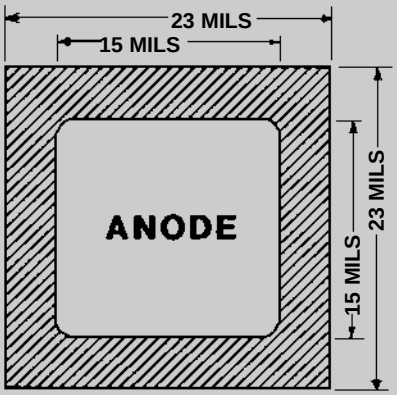
**ELECTRICAL CHARACTERISTICS @ 25°C**

| CDI TYPE NUMBER (NOTE 1) | NOMINAL ZENER VOLTAGE $V_Z$ (NOTE 2) | ZENER TEST CURRENT $I_{ZT}$ | MAXIMUM ZENER IMPEDANCE (NOTE 3) | | | MAX. DC ZENER CURRENT $I_{ZM}$ | MAX. REVERSE LEAKAGE CURRENT $I_R$ @ $V_R$ | |
|---|---|---|---|---|---|---|---|---|
| | | | $Z_{ZT}$ @ $I_{ZT}$ | $Z_{ZK}$ @ $I_{ZK}$ | | | | |
| | VOLTS | mA | OHMS | OHMS | mA | mA | μA | VOLTS |
| CD957B | 6.8 | 18.5 | 4.5 | 700 | 1.0 | 55 | 5.0 | 5.2 |
| CD958B | 7.5 | 16.5 | 5.5 | 700 | .5 | 50 | 5.0 | 5.7 |
| CD959B | 8.2 | 15.0 | 6.5 | 700 | .5 | 45 | 5.0 | 6.2 |
| CD960B | 9.1 | 14.0 | 7.5 | 700 | .5 | 41 | 5.0 | 6.9 |
| CD961B | 10 | 12.5 | 8.5 | 700 | .25 | 38 | 2.0 | 7.6 |
| CD962B | 11 | 11.5 | 9.5 | 700 | .25 | 32 | 1.0 | 8.4 |
| CD963B | 12 | 10.5 | 11.5 | 700 | .25 | 31 | 1.0 | 9.1 |
| CD964B | 13 | 9.5 | 13 | 700 | .25 | 28 | 0.5 | 9.9 |
| CD965B | 15 | 8.5 | 16 | 700 | .25 | 25 | 0.5 | 11 |
| CD966B | 16 | 7.8 | 17 | 700 | .25 | 24 | 0.5 | 12 |
| CD967B | 18 | 7.0 | 21 | 750 | .25 | 20 | 0.5 | 14 |
| CD968B | 20 | 6.2 | 25 | 750 | .25 | 18 | 0.5 | 15 |
| CD969B | 22 | 5.6 | 29 | 750 | .25 | 16 | 0.5 | 17 |
| CD970B | 24 | 5.2 | 33 | 750 | .25 | 15 | 0.5 | 18 |
| CD971B | 27 | 4.6 | 41 | 750 | .25 | 13 | 0.5 | 21 |
| CD972B | 30 | 4.2 | 49 | 1000 | .25 | 12 | 0.5 | 23 |
| CD973B | 33 | 3.8 | 58 | 1000 | .25 | 11 | 0.5 | 25 |
| CD974B | 36 | 3.4 | 70 | 1000 | .25 | 10 | 0.5 | 27 |
| CD975B | 39 | 3.2 | 90 | 1000 | .25 | 9.5 | 0.5 | 30 |
| CD976B | 43 | 3.0 | 93 | 1500 | .25 | 8.8 | 0.5 | 33 |
| CD977B | 47 | 2.7 | 105 | 1500 | .25 | 7.9 | 0.5 | 36 |
| CD978B | 51 | 2.5 | 125 | 1500 | .25 | 7.4 | 0.5 | 39 |
| CD979B | 56 | 2.2 | 150 | 2000 | .25 | 6.8 | 0.5 | 43 |
| CD980B | 62 | 2.0 | 185 | 2000 | .25 | 6.0 | 0.5 | 47 |
| CD981B | 68 | 1.8 | 230 | 2000 | .25 | 5.5 | 0.5 | 52 |
| CD982B | 75 | 1.7 | 270 | 2000 | .25 | 5.0 | 0.5 | 56 |
| CD983B | 82 | 1.5 | 330 | 3000 | .25 | 4.6 | 0.5 | 62 |
| CD984B | 91 | 1.4 | 400 | 3000 | .25 | 4.1 | 0.5 | 69 |
| CD985B | 100 | 1.3 | 500 | 3000 | .25 | 3.7 | 0.5 | 76 |
| CD986B | 110 | 1.1 | 750 | 4000 | .25 | 3.3 | 0.5 | 84 |

**NOTE 1** Zener voltage range equals nominal voltage ± 5% for "B" Suffix. "A" Suffix denotes ± 10%, No Suffix denotes ± 20%. "C" suffix = ± 2% and "D" suffix = ± 1%.

**NOTE 2** Zener voltage is read using a pulse measurement, 10 milliseconds maximum.

**NOTE 3** Zener impedance is derived by superimposing on $1_{ZT}$ A 60Hz rms a.c. current equal to 10% of $1_{ZT}$




Backside is Cathode

**FIGURE 1**

## DESIGN DATA

**METALLIZATION:**
Top: (Anode) .....Al
Back: (Cathode) .....Au

**AL THICKNESS**.....25,000 Å Min

**GOLD THICKNESS**. .....4,000 Å Min

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

**CIRCUIT LAYOUT DATA:**
For Zener operation, cathode must be operated positive with respect to anode.

**TOLERANCES:** ALL
Dimensions ± 2 mils

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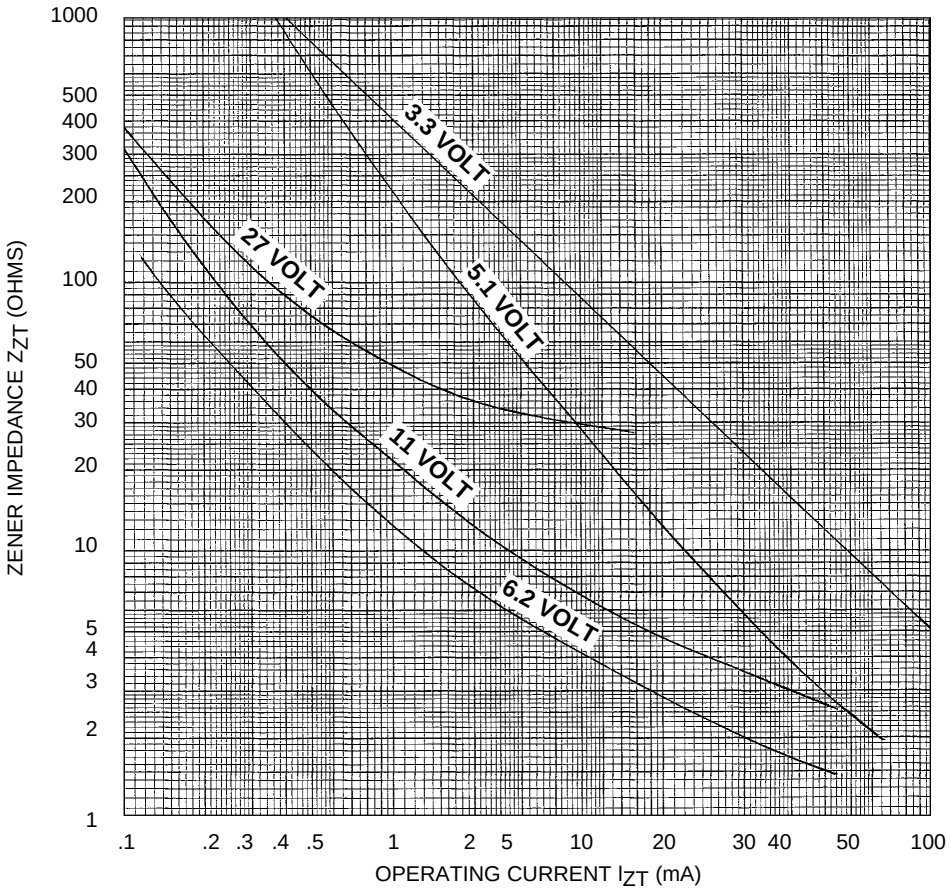


**FIGURE 3**

**ZENER IMPEDANCE VS. OPERATING CURRENT**