ALSO AVAILABLE IN SURFACE MOUNT

Microsemi Corp.
The diode experts

*SCOTTSDALE, AZ*
For more information call:
(602) 941-6300

# 1N746 thru 1N759A, -1 and 1N4370 thru 1N4372A, -1 DO-35

1% and 2% VERSIONS
"C" and "D" AVAILABLE

SILICON
500 mW
ZENER DIODES

## FEATURES

- ZENER VOLTAGE 2.4V to 12.0V
- AVAILABLE IN JAN, JANTX AND JANTXV-1 QUALIFICATIONS TO MIL-S-19500/127. DIE ALSO AVAILABLE AS JANHC FOR HYBRIDS.
- METALLURGICALLY BONDED DEVICE TYPES

## MAXIMUM RATINGS

Junction and Storage Temperatures: - 65°C to + 175°C
DC Power Dissipation: 500 mW
Power Derating: 4.0 mW/°C above 50 °C
Forward Voltage @ 200 mA: 1.5 Volts

## *ELECTRICAL CHARACTERISTICS @ 25°C

| JEDEC TYPE NO. (NOTE 1) | NOMINAL ZENER VOLTAGE $V_Z$ @ $I_{ZT}$ (NOTE 2) | ZENER TEST CURRENT $I_{ZT}$ | MAXIMUM ZENER IMPEDANCE $Z_{ZT}$ @ $I_{ZT}$ (NOTE 3) | MAXIMUM REVERSE CURRENT @ $V_R$ = 1 VOLT | | MAXIMUM ZENER CURRENT $I_{ZM}$ (NOTE 4) | TYPICAL TEMP COEFF. OF ZENER VOLTAGE (CVZ) |
|---|---|---|---|---|---|---|---|
| | | | | @ 25°C | @ + 150°C | | |
| | VOLTS | mA | OHMS | μA | μA | mA | %/°C |
| 1N4370 | 2.4 | 20 | 30 | 100 | 200 | 150 | -.085 |
| 1N4371 | 2.7 | 20 | 30 | 75 | 150 | 135 | -.080 |
| 1N4372 | 3.0 | 20 | 29 | 50 | 100 | 120 | -.075 |
| 1N746 | 3.3 | 20 | 28 | 10 | 30 | 110 | -.066 |
| 1N747 | 3.6 | 20 | 24 | 10 | 30 | 100 | -.058 |
| 1N748 | 3.9 | 20 | 23 | 10 | 30 | 95 | -.046 |
| 1N749 | 4.3 | 20 | 22 | 2 | 30 | 85 | -.033 |
| 1N750 | 4.7 | 20 | 19 | 2 | 30 | 75 | -.015 |
| 1N751 | 5.1 | 20 | 17 | 1 | 20 | 70 | ±.010 |
| 1N752 | 5.6 | 20 | 11 | 1 | 20 | 65 | +.030 |
| 1N753 | 6.2 | 20 | 7 | .1 | 20 | 60 | +.049 |
| 1N754 | 6.8 | 20 | 5 | .1 | 20 | 55 | +.053 |
| 1N755 | 7.5 | 20 | 6 | .1 | 20 | 50 | +.057 |
| 1N756 | 8.2 | 20 | 8 | .1 | 20 | 45 | +.060 |
| 1N757 | 9.1 | 20 | 10 | .1 | 20 | 40 | +.061 |
| 1N758 | 10.0 | 20 | 17 | .1 | 20 | 35 | +.062 |
| 1N759 | 12.0 | 20 | 30 | .1 | 20 | 30 | +.062 |

*JEDEC Registered Data

**NOTE 1** Standard tolerance on JEDEC types shown is ± 10%. Suffix letter A denotes ± 5% tolerance; suffix letter C denotes ± 2%; and suffix letter D denotes ± 1% tolerance.

**NOTE 2** Voltage measurements to be performed 20 sec. after application of D.C. test current.

**NOTE 3** Zener impedance derived by superimposing on $I_{ZT}$, a 60 cps, rms ac current equal to 10% $I_{ZT}$ (2 mA ac).

**NOTE 4** Allowance has been made for the increase in $V_Z$ due to $Z_Z$ and for the increase in junction temperature as the unit approaches thermal equilibrium at the power dissipation of 400 mW.

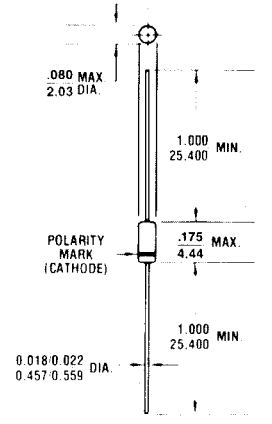


FIGURE 1

All dimensions in INCH / m.m.

## MECHANICAL CHARACTERISTICS

CASE: Hermetically sealed glass case. DO-35.

FINISH: All external surfaces are corrosion resistant and leads solderable.

THERMAL RESISTANCE: 200°C/W (Typical) junction to lead at 0.375-inches from body. Metallurgically bonded DO-35's exhibit less than 100 °C/W at zero distance from body.

POLARITY: Diode to be operated with the banded end positive with respect to the opposite end.

WEIGHT: 0.2 grams.

MOUNTING POSITIONS: Any.

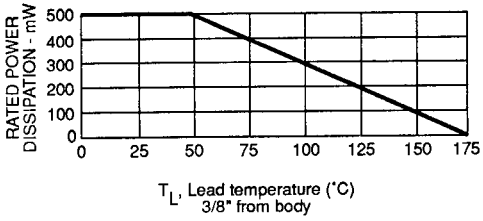


**FIGURE 2** POWER DERATING CURVE

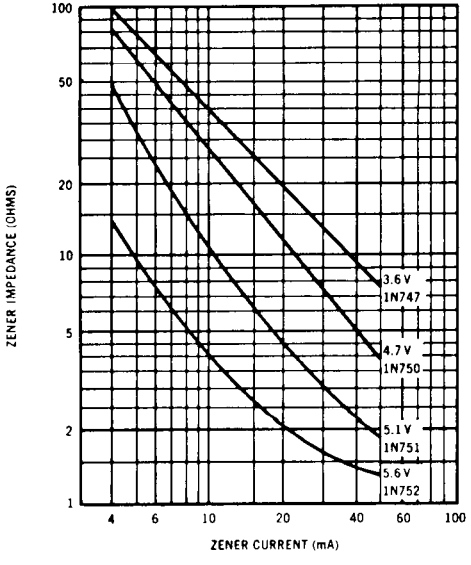


**FIGURE 3**

ZENER IMPEDANCE VS ZENER CURRENT
(TYPICAL)

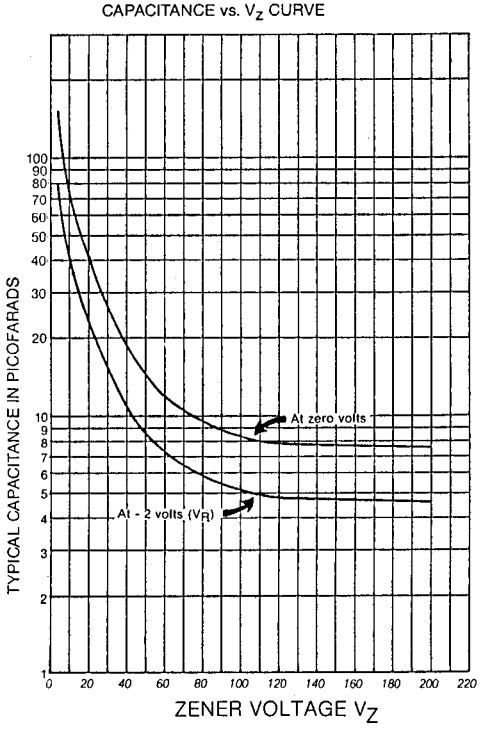


**FIGURE 4**

CAPACITANCE VS. ZENER VOLTAGE
(TYPICAL)

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