



Microsemi Corp.

The diode experts

SCOTTSDALE, AZ

For more information call:
(602) 941-6300

1N5913B thru 1N5956B

FEATURES

- ZENER VOLTAGE 3.3V TO 200V
- WITHSTANDS LARGE SURGE STRESSES
- ALSO AVAILABLE IN PLASTIC CASE. CONSULT FACTORY.

MAXIMUM RATINGS

Junction and Storage: -55°C to $+200^{\circ}\text{C}$

DC Power Dissipation: 1.5 Watt

12 mW/ $^{\circ}\text{C}$ above 75°C

Forward Voltage @ 200 mA: 1.2 Volts

SILICON 1.5 WATT ZENER DIODES

ELECTRICAL CHARACTERISTICS @ $T_L = 30^{\circ}\text{C}$

| JEDEC TYPE NUMBER | ZENER VOLTAGE | TEST CURRENT | DYNAMIC IMPEDANCE | KNEE CURRENT | KNEE IMPEDANCE | REVERSE CURRENT | REVERSE VOLTAGE | MAX. DC CURRENT |
|-------------------------|------------------|-----------------|----------------------|-----------------|-------------------|--------------------|--------------------|--------------------|
| | V_Z | I_{ZT} | Z_{ZT} | I_{ZK} | Z_{ZK} | I_R (MAX.) | V_R | I_{ZM} |
| | Volts | mA | Ω | mA | Ω | $\mu\text{A dc}$ | Volts | mA |
| 1N5913 | 3.3 | 113.6 | 10 | 1.0 | 500 | 100 | 1.0 | 454 |
| 1N5914 | 3.6 | 104.2 | 9.0 | 1.0 | 500 | 75 | 1.0 | 416 |
| 1N5915 | 3.9 | 96.1 | 7.5 | 1.0 | 500 | 25 | 1.0 | 384 |
| 1N5916 | 4.3 | 87.2 | 6.0 | 1.0 | 500 | 5.0 | 1.0 | 348 |
| 1N5917 | 4.7 | 79.8 | 5.0 | 1.0 | 500 | 5.0 | 1.5 | 319 |
| 1N5918 | 5.1 | 73.5 | 4.0 | 1.0 | 350 | 5.0 | 2.0 | 294 |
| 1N5919 | 5.6 | 66.9 | 2.0 | 1.0 | 250 | 5.0 | 3.0 | 267 |
| 1N5920 | 6.2 | 60.5 | 2.0 | 1.0 | 200 | 5.0 | 4.0 | 241 |
| 1N5921 | 6.8 | 55.1 | 2.5 | 1.0 | 200 | 5.0 | 5.2 | 220 |
| 1N5922 | 7.5 | 50 | 3.0 | 0.5 | 400 | 5.0 | 6.0 | 200 |
| 1N5923 | 8.2 | 45.7 | 3.5 | 0.5 | 400 | 5.0 | 6.5 | 182 |
| 1N5924 | 9.1 | 41.2 | 4.0 | 0.5 | 500 | 5.0 | 7.0 | 164 |
| 1N5925 | 10 | 37.5 | 4.5 | 0.25 | 500 | 5.0 | 8.0 | 150 |
| 1N5926 | 11 | 34.1 | 5.5 | 0.25 | 550 | 1.0 | 8.4 | 136 |
| 1N5927 | 12 | 31.2 | 6.5 | 0.25 | 550 | 1.0 | 9.1 | 125 |
| 1N5928 | 13 | 28.8 | 7.0 | 0.25 | 550 | 1.0 | 9.9 | 115 |
| 1N5929 | 15 | 25 | 9.0 | 0.25 | 600 | 1.0 | 11.4 | 100 |
| 1N5930 | 16 | 23.4 | 10 | 0.25 | 600 | 1.0 | 12.2 | 93 |
| 1N5931 | 18 | 20.8 | 12 | 0.25 | 650 | 1.0 | 13.7 | 83 |
| 1N5932 | 20 | 18.7 | 14 | 0.25 | 650 | 1.0 | 15.2 | 75 |
| 1N5933 | 22 | 17 | 17.5 | 0.25 | 650 | 1.0 | 16.7 | 68 |
| 1N5934 | 24 | 15.6 | 19 | 0.25 | 700 | 1.0 | 18.2 | 62 |
| 1N5935 | 27 | 13.9 | 23 | 0.25 | 700 | 1.0 | 20.6 | 55 |
| 1N5936 | 30 | 12.5 | 28 | 0.25 | 750 | 1.0 | 22.8 | 50 |
| 1N5937 | 33 | 11.4 | 33 | 0.25 | 800 | 1.0 | 25.1 | 45 |
| 1N5938 | 36 | 10.4 | 38 | 0.25 | 850 | 1.0 | 27.4 | 41 |
| 1N5939 | 39 | 9.6 | 45 | 0.25 | 900 | 1.0 | 29.7 | 38 |
| 1N5940 | 43 | 8.7 | 53 | 0.25 | 950 | 1.0 | 32.7 | 34 |
| 1N5941 | 47 | 8.0 | 67 | 0.25 | 1000 | 1.0 | 35.8 | 31 |
| 1N5942 | 51 | 7.3 | 70 | 0.25 | 1100 | 1.0 | 38.8 | 29 |
| 1N5943 | 56 | 6.7 | 86 | 0.25 | 1300 | 1.0 | 42.6 | 26 |
| 1N5944 | 62 | 6.0 | 100 | 0.25 | 1500 | 1.0 | 47.1 | 24 |
| 1N5945 | 68 | 5.5 | 120 | 0.25 | 1700 | 1.0 | 51.2 | 22 |
| 1N5946 | 75 | 5.0 | 140 | 0.25 | 2000 | 1.0 | 56 | 20 |
| 1N5947 | 82 | 4.6 | 160 | 0.25 | 2500 | 1.0 | 62.2 | 18 |
| 1N5948 | 91 | 4.1 | 200 | 0.25 | 3000 | 1.0 | 69.2 | 16 |
| 1N5949 | 100 | 3.7 | 250 | 0.25 | 3100 | 1.0 | 76 | 15 |
| 1N5950 | 110 | 3.4 | 300 | 0.25 | 4000 | 1.0 | 83.6 | 13 |
| 1N5951 | 120 | 3.1 | 380 | 0.25 | 4500 | 1.0 | 91.2 | 12 |
| 1N5952 | 130 | 2.9 | 450 | 0.25 | 5000 | 1.0 | 98.8 | 11 |
| 1N5953 | 150 | 2.5 | 600 | 0.25 | 6000 | 1.0 | 114 | 10 |
| 1N5954 | 160 | 2.3 | 700 | 0.25 | 6500 | 1.0 | 121.6 | 9.0 |
| 1N5955 | 180 | 2.1 | 900 | 0.25 | 7000 | 1.0 | 136.8 | 8.0 |
| 1N5956 | 200 | 1.9 | 1200 | 0.25 | 8000 | 1.0 | 152 | 7.0 |

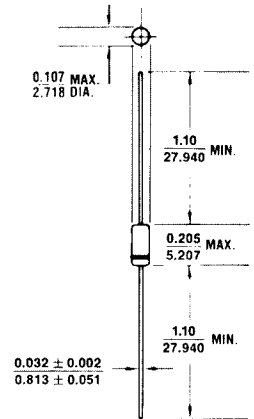


FIGURE 1

All dimensions in $\frac{\text{INCH}}{\text{m. m.}}$

MECHANICAL CHARACTERISTICS

CASE: Hermetically sealed, axial leaded glass package (DO-41).

FINISH: Corrosion resistant. Leads are solderable.

THERMAL RESISTANCE: $60^{\circ}\text{C}/\text{W}$ junction to lead at 0.375-inches from body.

POLARITY:

Banded end is cathode.

WEIGHT: 0.4 grams (Typical).

1N5913B thru 1N5956B

NOTE 1 No suffix indicates a $\pm 20\%$ tolerance on nominal V_Z . Suffix A denotes a $\pm 10\%$ tolerance, B denotes a $\pm 5\%$ tolerance, C denotes a $\pm 2\%$ tolerance, and D denotes a $\pm 1\%$ tolerance.

NOTE 2 Zener voltage (V_Z) is measured at $T_L = 30^\circ\text{C}$. Voltage measurement to be performed 90 seconds after application of DC current.

NOTE 3 The zener impedance is derived from the 60 Hz ac voltage, which results when an ac current having an rms value equal to 10% of the DC zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} .

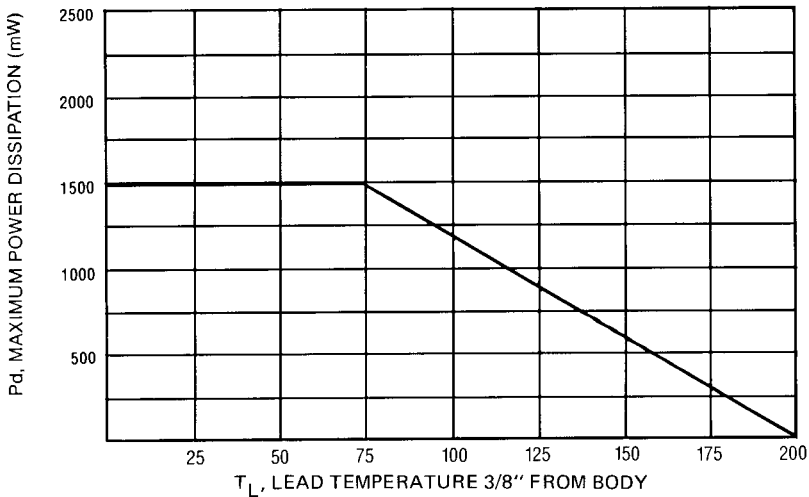
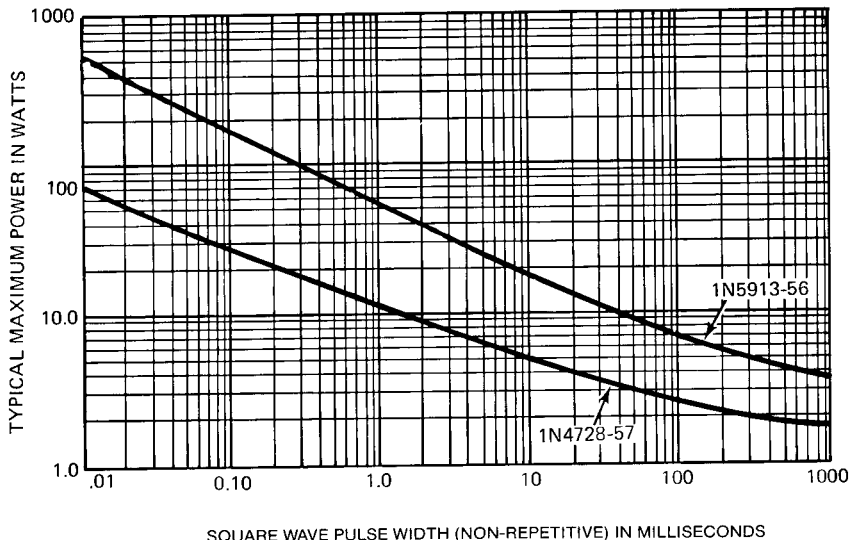


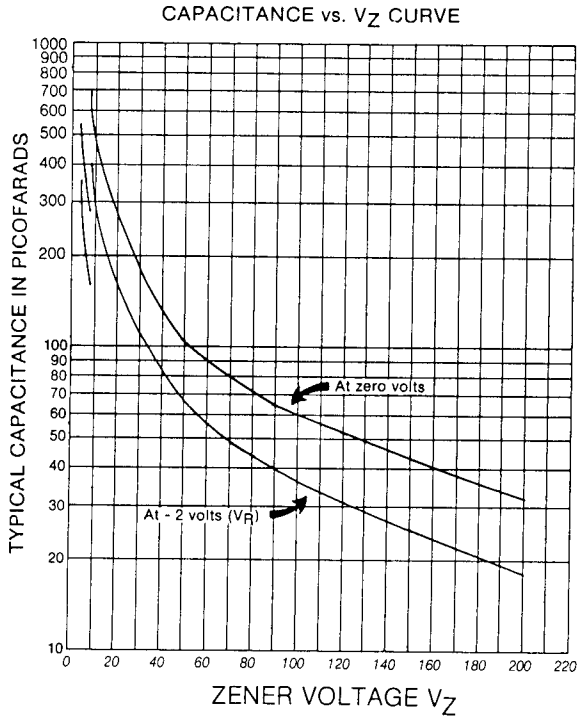
FIGURE 2. POWER DERATING CURVE



SQUARE WAVE PULSE WIDTH (NON-REPETITIVE) IN MILLISECONDS

FIGURE 3. TRANSIENT SURGE CAPABILITY OF DO-41 GLASS DIODE

1N5913B thru 1N5956B



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