

SANTA ANA, CA

For more information call:
(714) 979-8220

Microsemi Corp.

The diode experts



**1N4954 thru
1N4996,
1N5968 thru
1N5969,
and
1N6632 thru
1N6637**

FEATURES

- MICROMINIATURE PACKAGE
- VOIDLESS HERMETICALLY SEALED GLASS PACKAGE
- TRIPLE LAYER PASSIVATION
- METALLURGICALLY BONDED
- HIGH PERFORMANCE CHARACTERISTICS
- VERY LOW THERMAL IMPEDANCE
- JAN/S/TX/TXV TYPES AVAILABLE PER MIL-S-19500/356

MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C
Storage Temperature: -65°C to +200°C



**5 WATT
GLASS
ZENER DIODES**

ELECTRICAL CHARACTERISTICS (continued on next page)

| TYPE* | ELECTRICAL SPECIFICATIONS AT 25°C | | | | | | | | | |
|--------|------------------------------------|---------------------|-------------------------|----------------|--------------------------------------|---|-------|---|-------------------------------------|-------------------------|
| | NOMINAL ZENER VOLTAGE $V_Z @ I_ZT$ | TEST CURRENT I_ZT | MAXIMUM ZENER IMPEDANCE | | REGULATION $\Delta V_Z / \Delta V_Z$ | MAXIMUM REVERSE LEAKAGE CURRENT VOLTAGE | | MAXIMUM TEMPERATURE COEFF. $T_C @ I_ZT$ | MAXIMUM CONTINUOUS CURRENT I_{ZM} | SURGE CURRENT I_{ZSM} |
| | | | $Z_Z @ I_ZT$ | $Z_{ZK} @ 1mA$ | | I_R | V_R | | | |
| | VOLTS | mA | OHMS | OHMS | VOLTS | μA | VOLTS | %/°C | mA | AMPS |
| 1N6632 | 3.3 | 380 | 3.0 | 500 | 0.90 | 300 | 1.0 | -.075 | 1440 | 20.0 |
| 1N6633 | 3.6 | 350 | 2.5 | 500 | 0.80 | 250 | 1.0 | -.070 | 1320 | 18.7 |
| 1N6634 | 3.9 | 320 | 2.0 | 500 | 0.75 | 175 | 1.0 | -.060 | 1220 | 17.6 |
| 1N6635 | 4.3 | 290 | 2.0 | 500 | 0.70 | 25 | 1.0 | -.050 | 1100 | 16.4 |
| 1N6636 | 4.7 | 260 | 2.0 | 450 | 0.60 | 20 | 1.0 | ±.025 | 1010 | 15.3 |
| 1N6637 | 5.1 | 240 | 1.5 | 400 | 0.50 | 5 | 1.0 | ±.030 | 930 | 14.4 |
| 1N5968 | 5.6 | 220 | 1.0 | 400 | 0.4 | 5000 | 4.28 | .04 | 865 | 20 |
| 1N5969 | 6.2 | 220 | 1.0 | 1000 | 0.5 | 1000 | 4.74 | .04 | 765 | 20 |
| 1N4954 | 6.8 | 175 | 1.0 | 1000 | 0.7 | 150 | 5.2 | .05 | 700 | 40 |
| 1N4955 | 7.5 | 175 | 1.5 | 800 | 0.7 | 100 | 5.7 | .06 | 630 | 32 |
| 1N4956 | 8.2 | 150 | 1.5 | 600 | 0.7 | 50 | 6.2 | .06 | 580 | 24 |
| 1N4957 | 9.1 | 150 | 2.0 | 400 | 0.7 | 25 | 6.9 | .06 | 520 | 22 |
| 1N4958 | 10.0 | 125 | 2.0 | 125 | 0.8 | 25 | 7.6 | .07 | 475 | 20 |
| 1N4959 | 11 | 125 | 2.5 | 130 | 0.8 | 10 | 8.4 | .07 | 430 | 19 |
| 1N4960 | 12 | 100 | 2.5 | 140 | 0.8 | 10 | 9.1 | .07 | 395 | 18 |
| 1N4961 | 13 | 100 | 3.0 | 145 | 0.8 | 10 | 9.9 | .08 | 365 | 16 |
| 1N4962 | 15 | 75 | 3.5 | 150 | 1.0 | 5 | 11.4 | .08 | 315 | 12 |
| 1N4963 | 16 | 75 | 3.5 | 155 | 1.1 | 5 | 12.2 | .08 | 294 | 10 |
| 1N4964 | 18 | 65 | 4.0 | 160 | 1.2 | 5 | 13.7 | .085 | 264 | 9.0 |
| 1N4965 | 20 | 65 | 4.5 | 165 | 1.5 | 2 | 15.2 | .085 | 237 | 8.0 |
| 1N4966 | 22 | 50 | 5.0 | 170 | 1.8 | 2 | 16.7 | .085 | 216 | 7.0 |
| 1N4967 | 24 | 50 | 5.0 | 175 | 2.0 | 2 | 18.2 | .090 | 198 | 6.5 |
| 1N4968 | 27 | 50 | 6.0 | 180 | 2.0 | 2 | 20.6 | .090 | 176 | 6.0 |
| 1N4969 | 30 | 40 | 8 | 190 | 2.5 | 2 | 22.8 | .090 | 158 | 5.5 |
| 1N4970 | 33 | 40 | 10 | 200 | 2.8 | 2 | 25.1 | .095 | 144 | 5.0 |
| 1N4971 | 36 | 30 | 11 | 220 | 3.0 | 2 | 27.4 | .095 | 132 | 4.5 |
| 1N4972 | 39 | 30 | 14 | 230 | 3.0 | 2 | 29.7 | .095 | 122 | 4.0 |
| 1N4973 | 43 | 30 | 20 | 240 | 3.3 | 2 | 32.7 | .095 | 110 | 3.5 |
| 1N4974 | 47 | 25 | 25 | 250 | 3.5 | 2 | 35.8 | .095 | 100 | 3.2 |
| 1N4975 | 51 | 25 | 27 | 270 | 4.0 | 2 | 38.8 | .095 | 92 | 3.0 |
| 1N4976 | 56 | 20 | 35 | 320 | 4.4 | 2 | 42.6 | .095 | 84 | 2.8 |
| 1N4977 | 62 | 20 | 42 | 400 | 5.0 | 2 | 47.1 | .100 | 76 | 2.5 |
| 1N4978 | 68 | 20 | 50 | 500 | 5.5 | 2 | 51.7 | .100 | 70 | 2.2 |
| 1N4979 | 75 | 20 | 55 | 620 | 6.0 | 2 | 56.0 | .100 | 63.0 | 2.0 |
| 1N4980 | 82 | 15 | 80 | 720 | 6.6 | 2 | 62.2 | .100 | 58.0 | 1.8 |
| 1N4981 | 91 | 15 | 90 | 760 | 7.5 | 2 | 69.2 | .100 | 52.5 | 1.6 |
| 1N4982 | 100 | 12 | 110 | 800 | 8.0 | 2 | 76.0 | .100 | 47.5 | 1.4 |
| 1N4983 | 110 | 12 | 125 | 1000 | 9.0 | 2 | 83.6 | .100 | 43.0 | 1.2 |
| 1N4984 | 120 | 10 | 170 | 1150 | 10 | 2 | 91.2 | .100 | 39.5 | 1.00 |
| 1N4985 | 130 | 10 | 190 | 1250 | 11 | 2 | 98.8 | .105 | 36.6 | 0.80 |
| 1N4986 | 150 | 8 | 330 | 1500 | 13 | 2 | 114.0 | .105 | 31.6 | 0.75 |
| 1N4987 | 160 | 8 | 350 | 1650 | 14 | 2 | 121.6 | .105 | 29.4 | 0.70 |
| 1N4988 | 180 | 5 | 450 | 1750 | 16 | 2 | 136.8 | .110 | 26.4 | 0.60 |
| 1N4989 | 200 | 5 | 500 | 1850 | 18 | 2 | 152 | .110 | 23.6 | 0.50 |
| 1N4990 | 220 | 5 | 550 | 2000 | 19 | 2 | 167 | .115 | 21.6 | 0.50 |
| 1N4991 | 240 | 5 | 650 | 2050 | 22 | 2 | 182 | .115 | 19.8 | 0.40 |

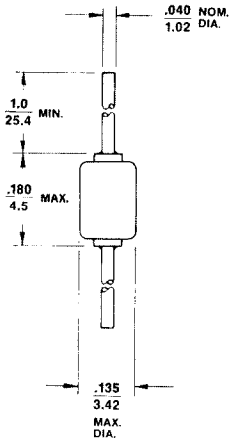


FIGURE 1
PACKAGE E

MECHANICAL CHARACTERISTICS

- CASE: Hermetically sealed glass case.
- LEAD MATERIAL: Silver clad copper
- MARKING: Body painted, alpha numeric.
- POLARITY: Cathode band.

*IZK = 5mA for 1N5968

1N4954 thru 1N4996, 1N5968 thru 1N5969, and 1N6632 thru 1N6637

ELECTRICAL CHARACTERISTICS (continued from page 5-37)

| TYPE* | ELECTRICAL SPECIFICATIONS AT 25 °C | | | | | | | | | |
|--------|---|--------------------------|-------------------------|-------------------------|---|---|-------|---|--|----------------------------|
| | NOMINAL ZENER VOLTAGE $V_Z @ I_{ZT}$ | TEST CURRENT I_{ZT} | MAXIMUM ZENER IMPEDANCE | | REGULATION $\Delta V_Z / \Delta V_Z$ | MAXIMUM REVERSE LEAKAGE CURRENT VOLTAGE | | MAXIMUM TEMPERATURE COEFF $T_C @ I_{ZT}$ | MAXIMUM CONTINUOUS CURRENT I_{ZM} | SURGE CURRENT I_{ZSM} |
| | | | $Z_Z @ I_{ZT}$ | $Z_{ZK} @ I_{ZK} = 1mA$ | | I_R | V_R | | | |
| VOLTS | mA | OHMS | OHMS | VOLTS | μA | VOLTS | %/°C | mA | AMPS | |
| 1N4992 | 270 | 5 | 800 | 2100 | 25 | 2 | 206 | .120 | 17.5 | 0.35 |
| 1N4993 | 300 | 4 | 950 | 2150 | 28 | 2 | 228 | .120 | 15.6 | 0.30 |
| 1N4994 | 330 | 4 | 1175 | 2200 | 32 | 2 | 251 | .120 | 14.4 | 0.25 |
| 1N4995 | 360 | 3 | 1400 | 2300 | 35 | 2 | 274 | .120 | 13.0 | 0.22 |
| 1N4996 | 390 | 3 | 1800 | 2500 | 40 | 2 | 297 | .120 | 12.0 | 0.20 |

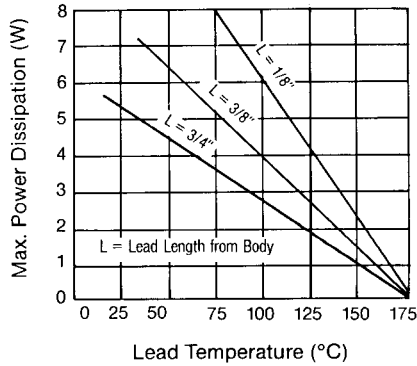


FIGURE 1
POWER DISSIPATION VS. LEAD TEMPERATURE DERATING CURVE

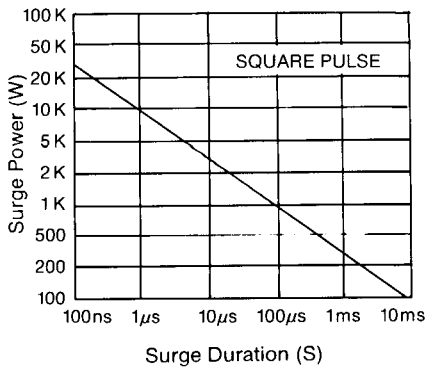


FIGURE 2
SURGE POWER VS. SURGE DURATION

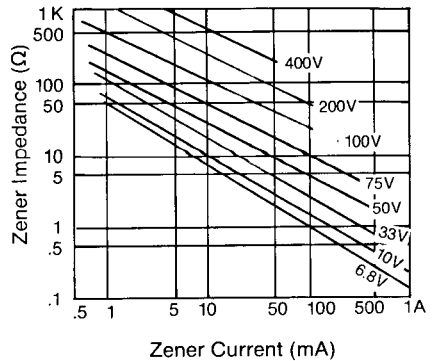


FIGURE 3
TYPICAL ZENER IMPEDANCE VS. ZENER CURRENT