



**Microsemi Corp.**  
The diode experts

SCOTTSDALE, AZ

**1N4460 thru  
1N4496  
and  
1N6485 thru  
1N6491**



## FEATURES

- Microminiature package.
- High performance characteristics.
- Stable operation at temperatures to 200°C.
- Voidless hermetically sealed glass package.
- Triple layer passivation.
- Very low thermal impedance.
- Metallurgically bonded.
- JAN/S/TX/TV Types available per MIL-S-19500/406.

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C.

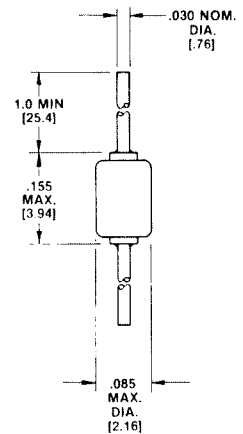
Storage Temperature: -65°C to +200°C.

Power Dissipation: 1.5 Watts @ 30°C Air Ambient.

## ELECTRICAL CHARACTERISTICS @ 25°C

| TYPE   | ZENER VOLTAGE (NOM.)<br>V <sub>Z</sub> | TEST CURRENT<br>I <sub>zt</sub> | DYNAMIC IMPEDANCE (MAX.)<br>Z <sub>zt</sub> @ I <sub>zt</sub> | KNEE IMPEDANCE (MAX.)<br>Z <sub>zk</sub> @ I <sub>zk</sub> | TEST CURRENT<br>I <sub>zk</sub> | REVERSE CURRENT (MAX.)<br>I <sub>R</sub> @ V <sub>R</sub> | TEST VOLTAGE<br>V <sub>R</sub> | MAXIMUM CONT. CURRENT<br>I <sub>zm</sub> | MAXIMUM RATINGS SURGE<br>I <sub>s</sub> | MAXIMUM T <sub>A</sub> = 100°C |
|--------|----------------------------------------|---------------------------------|---------------------------------------------------------------|------------------------------------------------------------|---------------------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------|-----------------------------------------|--------------------------------|
|        | VOLTS                                  | mA                              | OHMS                                                          | OHMS                                                       | mA                              | μA                                                        | VOLTS                          | mA                                       | Amps                                    | AMPS                           |
| 1N6485 | 3.3                                    | 76.0                            | 10                                                            | 400                                                        | 1.0                             | 50                                                        | 1.0                            | 433                                      | -                                       | 4.2                            |
| 1N6486 | 3.6                                    | 69.0                            | 10                                                            | 400                                                        | 1.0                             | 50                                                        | 1.0                            | 397                                      | -                                       | 3.9                            |
| 1N6487 | 3.9                                    | 64.0                            | 9                                                             | 400                                                        | 1.0                             | 35                                                        | 1.0                            | 366                                      | -                                       | 3.6                            |
| 1N6488 | 4.3                                    | 58.0                            | 9                                                             | 400                                                        | 1.0                             | 5.0                                                       | 1.0                            | 332                                      | -                                       | 3.3                            |
| 1N6489 | 4.7                                    | 53.0                            | 8                                                             | 500                                                        | 1.0                             | 4.0                                                       | 1.0                            | 304                                      | -                                       | 3.0                            |
| 1N6490 | 5.1                                    | 49.0                            | 7                                                             | 500                                                        | 1.0                             | 1.0                                                       | 1.0                            | 280                                      | -                                       | 2.7                            |
| 1N6491 | 5.6                                    | 45.0                            | 5                                                             | 600                                                        | 1.0                             | 0.5                                                       | 2.0                            | 255                                      | -                                       | 2.5                            |
| 1N4460 | 6.2                                    | 40.0                            | 4                                                             | 200                                                        | 1.0                             | 10.0                                                      | 3.72                           | 230                                      | -                                       | 2.3                            |
| 1N4461 | 6.8                                    | 37.0                            | 2.5                                                           | 200                                                        | 1.0                             | 5.0                                                       | 4.08                           | 210                                      | 5.0                                     | 2.1                            |
| 1N4462 | 7.5                                    | 34.0                            | 2.5                                                           | 400                                                        | .5                              | 1.0                                                       | 4.50                           | 191                                      | 4.5                                     | 1.9                            |
| 1N4463 | 8.2                                    | 31.0                            | 3                                                             | 400                                                        | .5                              | .50                                                       | 4.92                           | 174                                      | 3.9                                     | 1.7                            |
| 1N4464 | 9.1                                    | 28.0                            | 4                                                             | 500                                                        | .5                              | .30                                                       | 5.46                           | 157                                      | 3.4                                     | 1.6                            |
| 1N4465 | 10.0                                   | 25.0                            | 5                                                             | 500                                                        | .25                             | .30                                                       | 8.00                           | 143                                      | 3.0                                     | 1.4                            |
| 1N4466 | 11.0                                   | 23.0                            | 6                                                             | 550                                                        | .25                             | .30                                                       | 8.80                           | 130                                      | 2.6                                     | 1.3                            |
| 1N4467 | 12.0                                   | 21.0                            | 7                                                             | 550                                                        | .25                             | .20                                                       | 9.60                           | 119                                      | 2.4                                     | 1.2                            |
| 1N4468 | 13.0                                   | 19.0                            | 8                                                             | 550                                                        | .25                             | .05                                                       | 10.40                          | 110                                      | 2.2                                     | 1.1                            |
| 1N4469 | 15.0                                   | 17.0                            | 9                                                             | 600                                                        | .25                             | .05                                                       | 12.00                          | 95                                       | 1.8                                     | .95                            |
| 1N4470 | 16.0                                   | 15.5                            | 10                                                            | 600                                                        | .25                             | .05                                                       | 12.80                          | 90                                       | 1.6                                     | .80                            |
| 1N4471 | 18.0                                   | 14.0                            | 11                                                            | 650                                                        | .25                             | .05                                                       | 14.40                          | 79                                       | 1.4                                     | .79                            |
| 1N4472 | 20.0                                   | 12.5                            | 12                                                            | 650                                                        | .25                             | .05                                                       | 16.00                          | 71                                       | 1.2                                     | .71                            |
| 1N4473 | 22.0                                   | 11.5                            | 14                                                            | 650                                                        | .25                             | .05                                                       | 17.60                          | 65                                       | 1.1                                     | .65                            |
| 1N4474 | 24.0                                   | 10.5                            | 16                                                            | 700                                                        | .25                             | .05                                                       | 19.20                          | 60                                       | .90                                     | .60                            |
| 1N4475 | 27.0                                   | 9.5                             | 18                                                            | 700                                                        | .25                             | .05                                                       | 21.60                          | 53                                       | .80                                     | .53                            |
| 1N4476 | 30.0                                   | 8.5                             | 20                                                            | 750                                                        | .25                             | .05                                                       | 24.00                          | 48                                       | .75                                     | .48                            |
| 1N4477 | 33.0                                   | 7.5                             | 25                                                            | 800                                                        | .25                             | .05                                                       | 26.40                          | 43                                       | .66                                     | .43                            |
| 1N4478 | 36.0                                   | 7.0                             | 27                                                            | 850                                                        | .25                             | .05                                                       | 28.80                          | 40                                       | .60                                     | .40                            |
| 1N4479 | 39.0                                   | 6.5                             | 30                                                            | 900                                                        | .25                             | .05                                                       | 31.2                           | 37                                       | .54                                     | .37                            |
| 1N4480 | 43.0                                   | 6.0                             | 40                                                            | 950                                                        | .25                             | .05                                                       | 34.4                           | 33                                       | .48                                     | .33                            |
| 1N4481 | 47.0                                   | 5.5                             | 50                                                            | 1000                                                       | .25                             | .05                                                       | 37.6                           | 30                                       | .45                                     | .30                            |
| 1N4482 | 51.0                                   | 5.0                             | 60                                                            | 1100                                                       | .25                             | .05                                                       | 40.8                           | 28                                       | .42                                     | .28                            |
| 1N4483 | 56.0                                   | 4.5                             | 70                                                            | 1300                                                       | .25                             | .25                                                       | 44.8                           | 26                                       | .39                                     | .26                            |
| 1N4484 | 62.0                                   | 4.0                             | 80                                                            | 1500                                                       | .25                             | .25                                                       | 49.6                           | 23                                       | .35                                     | .23                            |
| 1N4485 | 68.0                                   | 3.7                             | 100                                                           | 1700                                                       | .25                             | .25                                                       | 54.4                           | 21                                       | .32                                     | .21                            |
| 1N4486 | 75.0                                   | 3.3                             | 130                                                           | 2000                                                       | .25                             | .25                                                       | 60.4                           | 19                                       | .29                                     | .19                            |
| 1N4487 | 82.0                                   | 3.0                             | 160                                                           | 2500                                                       | .25                             | .25                                                       | 65.6                           | 17                                       | .26                                     | .17                            |
| 1N4488 | 91.0                                   | 2.8                             | 200                                                           | 3000                                                       | .25                             | .25                                                       | 72.8                           | 16                                       | .23                                     | .16                            |
| 1N4489 | 100.0                                  | 2.5                             | 250                                                           | 3100                                                       | .25                             | .25                                                       | 80.0                           | 14                                       | .20                                     | .14                            |
| 1N4490 | 110.0                                  | 2.0                             | 300                                                           | 4000                                                       | .25                             | .25                                                       | 88.0                           | 13                                       | .19                                     | .13                            |
| 1N4491 | 120.0                                  | 2.0                             | 400                                                           | 4500                                                       | .25                             | .25                                                       | 96.0                           | 12                                       | .18                                     | .12                            |
| 1N4492 | 130.0                                  | 1.9                             | 500                                                           | 5000                                                       | .25                             | .25                                                       | 104.0                          | 11                                       | .16                                     | .11                            |
| 1N4493 | 150.0                                  | 1.7                             | 700                                                           | 6000                                                       | .25                             | .25                                                       | 120.0                          | 9.5                                      | .14                                     | .095                           |
| 1N4494 | 160.0                                  | 1.6                             | 1000                                                          | 6500                                                       | .25                             | .25                                                       | 128.0                          | 8.9                                      | .12                                     | .089                           |
| 1N4495 | 180.0                                  | 1.4                             | 1300                                                          | 7000                                                       | .25                             | .25                                                       | 144.0                          | 7.9                                      | .10                                     | .079                           |
| 1N4496 | 200.0                                  | 1.2                             | 1500                                                          | 8000                                                       | .25                             | .25                                                       | 160.0                          | 7.2                                      | .08                                     | .072                           |

**1.5 WATT  
GLASS ZENER DIODES**



**FIGURE 1  
PACKAGE A**

## MECHANICAL CHARACTERISTICS

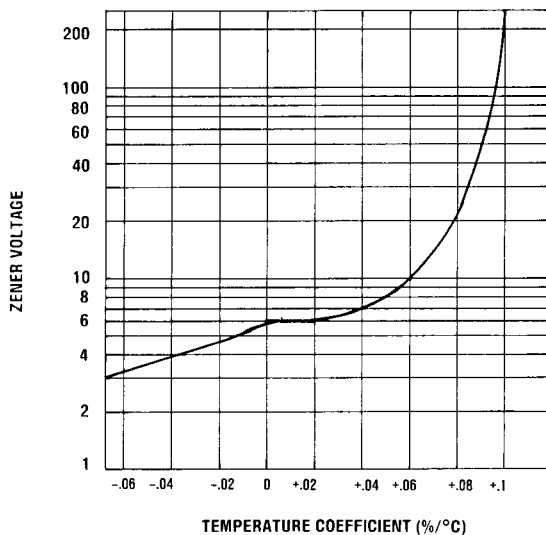
Case: Hermetically sealed glass case.

Lead Material: Tinned copper.

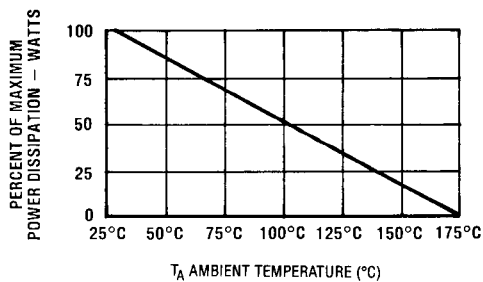
Marking: Body painted, alpha numeric with JEDEC number.

Polarity: Cathode band.

# 1N4460 thru 1N4496 and 1N6485 thru 1N6491



**FIGURE 2**  
**TYPICAL TEMPERATURE**  
**COEFFICIENT CHARACTERISTICS**



**FIGURE 3**  
**POWER TEMPERATURE DERATING CURVE**