



# TECHNICAL DATA SHEET

6 Lake Street, Lawrence, MA 01844  
1-800-446-1158 / (978) 794-1666 / Fax: (978) 689-0803  
Website: <http://www.microsemi.com>

## 400mW ZENER VOLTAGE REGULATOR DIODE

### DEVICES

### 1N3506A through 1N3534A

#### MAXIMUM RATING AT 25°C

Junction and Storage Temperature: -65°C to +175°C

DC Power Dissipation: 500mW @ T<sub>EC</sub> = +125°C

Forward Voltage @ 200mA: 1.1 volts maximum

#### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C, unless otherwise specified)

| Zener Type # | Zener Voltage @ I <sub>zt</sub> |      | Zener Voltage Tolerance | Max Zener Impedance @ I <sub>zt</sub> Ohms | Power Rating |
|--------------|---------------------------------|------|-------------------------|--------------------------------------------|--------------|
|              | Volts                           | @ mA |                         |                                            |              |
| 1N3506A      | 3.3                             | 20.0 | 5%                      | 24.0                                       | 400mW        |
| 1N3507A      | 3.6                             | 20.0 | 5%                      | 22.0                                       | 400mW        |
| 1N3508A      | 3.9                             | 20.0 | 5%                      | 20.0                                       | 400mW        |
| 1N3509A      | 4.3                             | 20.0 | 5%                      | 18.0                                       | 400mW        |
| 1N3510A      | 4.7                             | 20.0 | 5%                      | 16.0                                       | 400mW        |
| 1N3511A      | 5.1                             | 20.0 | 5%                      | 14.0                                       | 400mW        |
| 1N3512A      | 5.6                             | 20.0 | 5%                      | 8.0                                        | 400mW        |
| 1N3513A      | 6.2                             | 20.0 | 5%                      | 3.0                                        | 400mW        |
| 1N3514A      | 6.8                             | 20.0 | 5%                      | 3.0                                        | 400mW        |
| 1N3515A      | 7.5                             | 10.0 | 5%                      | 4.0                                        | 400mW        |
| 1N3516A      | 8.2                             | 10.0 | 5%                      | 5.0                                        | 400mW        |
| 1N3517A      | 9.1                             | 10.0 | 5%                      | 6.0                                        | 400mW        |
| 1N3518A      | 1.0                             | 10.0 | 5%                      | 7.0                                        | 400mW        |
| 1N3519A      | 11.0                            | 10.0 | 5%                      | 8.0                                        | 400mW        |
| 1N3520A      | 12.0                            | 10.0 | 5%                      | 10.0                                       | 400mW        |
| 1N3521A      | 13.0                            | 5.0  | 5%                      | 12.0                                       | 400mW        |
| 1N3522A      | 15.0                            | 5.0  | 5%                      | 14.0                                       | 400mW        |
| 1N3523A      | 16.0                            | 5.0  | 5%                      | 16.0                                       | 400mW        |
| 1N3524A      | 18.0                            | 5.0  | 5%                      | 18.0                                       | 400mW        |
| 1N3525A      | 20.0                            | 5.0  | 5%                      | 20.0                                       | 400mW        |
| 1N3526A      | 22.0                            | 5.0  | 5%                      | 35.0                                       | 400mW        |
| 1N3527A      | 24.0                            | 5.0  | 5%                      | 38.0                                       | 400mW        |
| 1N3528A      | 27.0                            | 4.0  | 5%                      | 40.0                                       | 400mW        |
| 1N3529A      | 30.0                            | 4.0  | 5%                      | 48.0                                       | 400mW        |
| 1N3530A      | 33.0                            | 3.0  | 5%                      | 50.0                                       | 400mW        |
| 1N3531A      | 36.0                            | 3.0  | 5%                      | 75.0                                       | 400mW        |



DO-35

## 400mW ZENER VOLTAGE REGULATOR DIODE

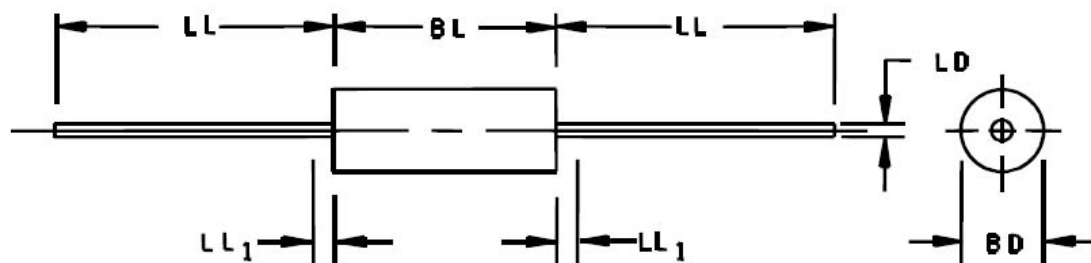
ELECTRICAL CHARACTERISTICS (CONT.) ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)

| Zener Type # | Zener Voltage @ $I_{ZT}$ |      | Zener Voltage Tolerance | Max Zener Impedance @ $I_{ZT}$<br>Ohms | Power Rating |
|--------------|--------------------------|------|-------------------------|----------------------------------------|--------------|
|              | Volts                    | @ mA |                         |                                        |              |
| 1N3532A      | 39.0                     | 3.0  | 5%                      | 100.0                                  | 400mW        |
| 1N3533A      | 43.0                     | 2.0  | 5%                      | 130.0                                  | 400mW        |
| 1N3534A      | 47.0                     | 2.0  | 5%                      | 150.0                                  | 400mW        |

NOTE 1 : Zener Voltage is measured with the device junction in thermal equilibrium at an ambient temperature of  $25^\circ\text{C} \pm 3^\circ\text{C}$ .

NOTE 2 : Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$ .

NOTE 3 :  $\Delta V_Z$  is the maximum difference between  $V_Z$  at  $I_{ZT}$  and  $V_Z$  at  $I_{ZT}$  measured with the device junction in thermal equilibrium.



| Ltr             | Dimensions |       |             |       | Notes |
|-----------------|------------|-------|-------------|-------|-------|
|                 | Inches     |       | Millimeters |       |       |
|                 | Min        | Max   | Min         | Max   |       |
| BD              | .055       | .107  | 1.40        | 2.72  | 3     |
| BL              | .120       | .300  | 3.05        | 7.62  | 3     |
| LD              | .018       | .022  | 0.46        | 0.56  |       |
| LL              | 1.000      | 1.500 | 25.40       | 38.10 |       |
| LL <sub>1</sub> |            | .050  |             | 1.27  | 4     |

### NOTES:

1. Dimensions are in inches.
2. Millimeter equivalents are given for general information only.
3. Package contour optional within BD and length BL. Heat slugs, if any, shall be included within this cylinder but shall not be subject to minimum limit of BD. The BL dimension shall include the entire body including slugs.
4. Within this zone lead, diameter may vary to allow for lead finishes and irregularities other than heat slugs.
5. In accordance with ASME Y14.5M, diameters are equivalent to  $\phi$ x symbology.

### DESIGN DATA

CASE: DO-35 Hermetically sealed glass case.

LEAD FINISH : Tin/ Lead

Cathode band denotes polarity