



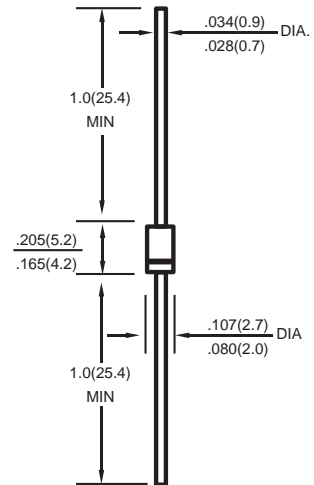
## Features

- ✧ Complete Voltage Range 2.4 to 220 Volts
- ✧ High peak reverse power dissipation
- ✧ High reliability
- ✧ Low leakage current
- ✧ **Pb / RoHS Free**

## Mechanical Data

- ✧ Case : DO-41 Molded plastic
- ✧ Epoxy : UL94V-0 rate flame retardant
- ✧ Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- ✧ Polarity : Color band denotes cathode end
- ✧ Mounting position : Any
- ✧ Weight : 0.34 gram

### DO-41



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS

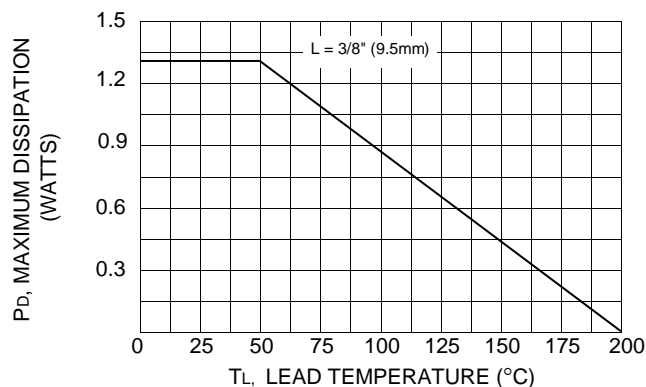
Rating at 25 °C ambient temperature unless otherwise specified

| Rating   | Symbol           | Value         | Unit  |
|--|------------------|---------------|-------|
| DC Power Dissipation at T <sub>L</sub> = 50 °C (Note1)     | P <sub>D</sub>   | 1.3           | W     |
| Maximum Forward Voltage at I <sub>F</sub> = 200 mA         | V <sub>F</sub>   | 1.2           | V     |
| Maximum Thermal Resistance Junction to Ambient Air (Note2) | R <sub>θJA</sub> | 130           | K / W |
| Junction Temperature Range                                 | T <sub>J</sub>   | - 65 to + 200 | °C    |
| Storage Temperature Range                                  | T <sub>STG</sub> | - 65 to + 200 | °C    |

### Notes :

- (1) T<sub>L</sub> = Lead temperature at 3/8 " (9.5mm) from body
- (2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

**Fig. 1 POWER TEMPERATURE DERATING**



### ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

| TYPE      | Nominal Zener Voltage |          | Maximum Zener Impedance |                   |          | Maximum Reverse Leakage Current |     | Maximum DC Zener Current |
|-----------|-----------------------|----------|-------------------------|-------------------|----------|---------------------------------|-----|--------------------------|
|           | $V_Z @ I_{ZT}$        | $I_{ZT}$ | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ | $I_{ZK}$ | $I_R @ V_R$                     |     | $I_{ZM}$                 |
|           | (V)                   | (mA)     | ( $\Omega$ )            | ( $\Omega$ )      | (mA)     | ( $\mu$ A)                      | (V) | (mA)                     |
| BZX85B2V4 | 2.4                   | 80       | 20                      | 400               | 1.0      | 150                             | 1.0 | 410                      |
| BZX85B2V7 | 2.7                   | 80       | 20                      | 400               | 1.0      | 150                             | 1.0 | 370                      |
| BZX85B3V0 | 3.0                   | 80       | 20                      | 400               | 1.0      | 100                             | 1.0 | 340                      |
| BZX85B3V3 | 3.3                   | 80       | 20                      | 400               | 1.0      | 40                              | 1.0 | 320                      |
| BZX85B3V6 | 3.6                   | 70       | 20                      | 500               | 1.0      | 20                              | 1.0 | 290                      |
| BZX85B3V9 | 3.9                   | 60       | 15                      | 500               | 1.0      | 10                              | 1.0 | 280                      |
| BZX85B4V3 | 4.3                   | 50       | 13                      | 500               | 1.0      | 3.0                             | 1.0 | 250                      |
| BZX85B4V7 | 4.7                   | 45       | 13                      | 500               | 1.0      | 3.0                             | 1.0 | 215                      |
| BZX85B5V1 | 5.1                   | 45       | 10                      | 500               | 1.0      | 1.0                             | 1.5 | 200                      |
| BZX85B5V6 | 5.6                   | 45       | 7.0                     | 400               | 1.0      | 1.0                             | 2.0 | 190                      |
| BZX85B6V2 | 6.2                   | 35       | 4.0                     | 300               | 1.0      | 1.0                             | 3.0 | 170                      |
| BZX85B6V8 | 6.8                   | 35       | 3.5                     | 300               | 1.0      | 50                              | 4.0 | 155                      |
| BZX85B7V5 | 7.5                   | 35       | 3.0                     | 200               | 0.5      | 50                              | 4.5 | 140                      |
| BZX85B8V2 | 8.2                   | 25       | 5.0                     | 200               | 0.5      | 50                              | 6.2 | 130                      |
| BZX85B9V1 | 9.1                   | 25       | 5.0                     | 200               | 0.5      | 50                              | 6.8 | 120                      |
| BZX85B10  | 10                    | 25       | 7.0                     | 200               | 0.5      | 50                              | 7.5 | 105                      |
| BZX85B11  | 11                    | 20       | 8.0                     | 300               | 0.5      | 50                              | 8.2 | 97                       |
| BZX85B12  | 12                    | 20       | 9.0                     | 350               | 0.5      | 0.5                             | 9.1 | 88                       |
| BZX85B13  | 13                    | 20       | 10                      | 400               | 0.5      | 0.5                             | 10  | 79                       |
| BZX85B15  | 15                    | 15       | 15                      | 500               | 0.5      | 0.5                             | 11  | 71                       |
| BZX85B16  | 16                    | 15       | 15                      | 500               | 0.5      | 0.5                             | 12  | 66                       |
| BZX85B18  | 18                    | 15       | 20                      | 500               | 0.5      | 0.5                             | 13  | 62                       |
| BZX85B19  | 19                    | 15       | 20                      | 550               | 0.5      | 0.5                             | 14  | 58                       |
| BZX85B20  | 20                    | 10       | 24                      | 600               | 0.5      | 0.5                             | 15  | 56                       |
| BZX85B22  | 22                    | 10       | 25                      | 600               | 0.5      | 0.5                             | 16  | 52                       |
| BZX85B24  | 24                    | 10       | 25                      | 600               | 0.5      | 0.5                             | 18  | 47                       |
| BZX85B27  | 27                    | 8.0      | 30                      | 750               | 0.25     | 0.5                             | 20  | 41                       |
| BZX85B30  | 30                    | 8.0      | 30                      | 1000              | 0.25     | 0.5                             | 22  | 36                       |
| BZX85B33  | 33                    | 8.0      | 35                      | 1000              | 0.25     | 0.5                             | 24  | 33                       |
| BZX85B36  | 36                    | 8.0      | 40                      | 1000              | 0.25     | 0.5                             | 27  | 30                       |
| BZX85B39  | 39                    | 6.0      | 50                      | 1000              | 0.25     | 0.5                             | 30  | 28                       |
| BZX85B43  | 43                    | 6.0      | 50                      | 1000              | 0.25     | 0.5                             | 33  | 26                       |
| BZX85B47  | 47                    | 4.0      | 90                      | 1500              | 0.25     | 0.5                             | 36  | 23                       |
| BZX85B51  | 51                    | 4.0      | 115                     | 1500              | 0.25     | 0.5                             | 39  | 21                       |
| BZX85B56  | 56                    | 4.0      | 120                     | 2000              | 0.25     | 0.5                             | 43  | 19                       |
| BZX85B62  | 62                    | 4.0      | 125                     | 2000              | 0.25     | 0.5                             | 47  | 16                       |
| BZX85B68  | 68                    | 4.0      | 130                     | 2000              | 0.25     | 0.5                             | 51  | 15                       |
| BZX85B75  | 75                    | 4.0      | 135                     | 2000              | 0.25     | 0.5                             | 56  | 14                       |
| BZX85B82  | 82                    | 2.7      | 200                     | 3000              | 0.25     | 0.5                             | 62  | 12                       |
| BZX85B91  | 91                    | 2.7      | 250                     | 3000              | 0.25     | 0.5                             | 68  | 10                       |
| BZX85B100 | 100                   | 2.7      | 350                     | 3000              | 0.25     | 0.5                             | 75  | 9.4                      |
| BZX85B110 | 110                   | 2.7      | 450                     | 4000              | 0.25     | 0.5                             | 82  | 8.6                      |
| BZX85B120 | 120                   | 2.0      | 550                     | 4500              | 0.25     | 0.5                             | 91  | 7.8                      |
| BZX85B130 | 130                   | 2.0      | 700                     | 5000              | 0.25     | 0.5                             | 100 | 7.0                      |
| BZX85B150 | 150                   | 2.0      | 1000                    | 6000              | 0.25     | 0.5                             | 110 | 6.4                      |
| BZX85B160 | 160                   | 1.5      | 1100                    | 6500              | 0.25     | 0.5                             | 120 | 5.8                      |
| BZX85B180 | 180                   | 1.5      | 1200                    | 7000              | 0.25     | 0.5                             | 130 | 5.2                      |
| BZX85B200 | 200                   | 1.5      | 1900                    | 9990              | 0.25     | 0.5                             | 150 | 4.7                      |
| BZX85B220 | 220                   | 1.5      | 1500                    | 8000              | 0.25     | 0.5                             | 167 | 4.5                      |

**Notes :**

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 2.0\%$ .
- (2) " BZX " will be omitted in marking on the diode