

# BZX55C SERIES 500mW Zener Diode

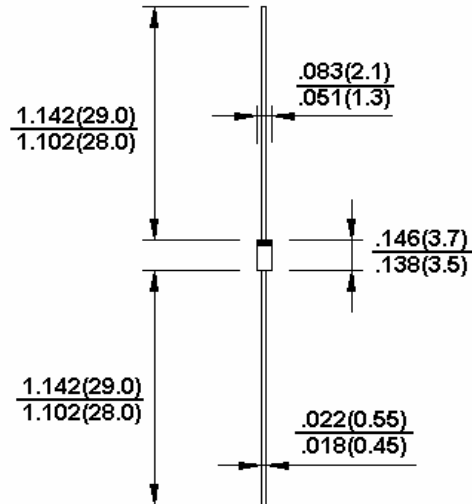
## DO-35

### Features

- ✧ Fast switching speed
- ✧ General purpose rectification
- ✧ Silicon epitaxial planar construction

### Mechanical Data

- ✧ Case: DO-35
- ✧ Leads: Solderable per MIL-STD-202, Method 208
- ✧ Polarity: Cathode band
- ✧ Marking: Type number
- ✧ Weight: 0.13 grams (approx.)



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

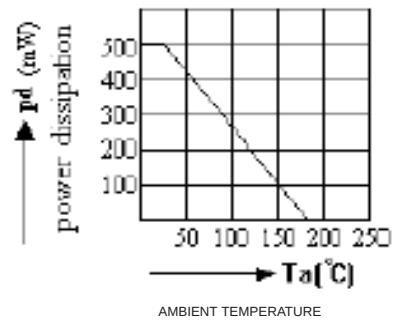
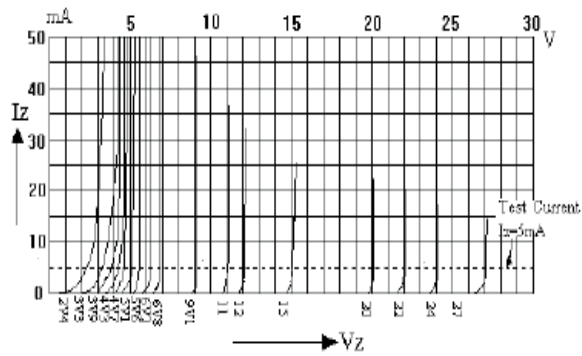
### Maximum Ratings

| Type Number                                         | Symbol                            | Value        | Units |
|-----------------------------------------------------|-----------------------------------|--------------|-------|
| Forward Voltage @ IF = 100mA                        | V <sub>F</sub>                    | 1.0          | V     |
| Power Dissipation (Note 1)                          | P <sub>d</sub>                    | 500          | mW    |
| Thermal Resistance Junction to Ambient Air (Note 2) | R <sub>θJA</sub>                  | 0.3          | K /mW |
| Operating and Storage Temperature Range             | T <sub>J</sub> , T <sub>STG</sub> | -65 to + 175 | °C    |

Notes: 1. Valid Provided that Lead are kept at ambient temperature at a distance of 8mm from case.  
2. Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.

## RATINGS AND CHARACTERISTIC CURVES (BZX55C SERIES)

CHANGES IN THE POWER DISSIPATION DUE TO THE AMBIENT TEMPERATURE



# ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| Device Type | Nominal Zener Voltage |         |     | Maximum Zener Impedance |           |     | Maximum Reverse Current |              | Maximum Regulator Current | Typical Temp. Coefficient |
|-------------|-----------------------|---------|-----|-------------------------|-----------|-----|-------------------------|--------------|---------------------------|---------------------------|
|             | Vz at Izt             |         | IzT |                         |           |     |                         |              |                           |                           |
|             | Min (V)               | Max (V) | mA  | ZzT @ IzT               | ZzK @ IzK |     | IR                      | VR(suffix B) | IzM                       | % / °C                    |
|             |                       |         |     | Ohms                    | Ohms      | mA  |                         |              |                           |                           |
| BZX55-C2V2  | 2.09                  | 2.31    | 5.0 | 85                      | 600       | 1.0 | 50                      | 1.0          | 165.0                     | -0.070                    |
| BZX55-C2V4  | 2.28                  | 2.56    | 5.0 | 85                      | 600       | 1.0 | 50                      | 1.0          | 150.0                     | -0.070                    |
| BZX55-C2V7  | 2.5                   | 2.9     | 5.0 | 85                      | 600       | 1.0 | 10                      | 1.0          | 135.0                     | -0.070                    |
| BZX55-C3V0  | 2.8                   | 3.2     | 5.0 | 85                      | 600       | 1.0 | 4.0                     | 1.0          | 125.0                     | -0.070                    |
| BZX55-C3V3  | 3.1                   | 3.5     | 5.0 | 85                      | 600       | 1.0 | 2.0                     | 1.0          | 115.0                     | -0.065                    |
| BZX55-C3V6  | 3.4                   | 3.8     | 5.0 | 85                      | 600       | 1.0 | 2.0                     | 1.0          | 105.0                     | -0.060                    |
| BZX55-C3V9  | 3.7                   | 4.1     | 5.0 | 85                      | 600       | 1.0 | 2.0                     | 1.0          | 95.0                      | -0.050                    |
| BZX55-C4V3  | 4.0                   | 4.6     | 5.0 | 75                      | 600       | 1.0 | 1.0                     | 1.0          | 90.0                      | -0.025                    |
| BZX55-C4V7  | 4.4                   | 5.0     | 5.0 | 60                      | 600       | 1.0 | 0.5                     | 1.0          | 85.0                      | -0.010                    |
| BZX55-C5V1  | 4.8                   | 5.4     | 5.0 | 35                      | 550       | 1.0 | 0.1                     | 1.0          | 80.0                      | +0.015                    |
| BXZ55-C5V6  | 5.2                   | 6.0     | 5.0 | 25                      | 450       | 1.0 | 0.1                     | 1.0          | 70.0                      | +0.025                    |
| BZX55-C6V2  | 5.8                   | 6.6     | 5.0 | 10                      | 200       | 1.0 | 0.1                     | 2.0          | 64.0                      | +0.035                    |
| BZX55-C6V8  | 6.4                   | 7.2     | 5.0 | 8                       | 150       | 1.0 | 0.1                     | 3.0          | 58.0                      | +0.045                    |
| BZX55-C7V5  | 7.0                   | 7.9     | 5.0 | 7                       | 50        | 1.0 | 0.1                     | 5.0          | 53.0                      | +0.050                    |
| BZX55-C8V2  | 7.7                   | 8.7     | 5.0 | 7                       | 50        | 1.0 | 0.1                     | 6.0          | 47.0                      | +0.050                    |
| BZX55-C9V1  | 8.5                   | 9.6     | 5.0 | 10                      | 50        | 1.0 | 0.1                     | 7.0          | 43.0                      | +0.060                    |
| BZX55-C10   | 9.4                   | 10.6    | 5.0 | 15                      | 70        | 1.0 | 0.1                     | 7.5          | 40.0                      | +0.070                    |
| BZX55-C11   | 10.4                  | 11.6    | 5.0 | 20                      | 70        | 1.0 | 0.1                     | 8.5          | 36.0                      | +0.070                    |
| BZX55-C12   | 11.4                  | 12.7    | 5.0 | 20                      | 90        | 1.0 | 0.1                     | 9.0          | 32.0                      | +0.070                    |
| BZX55-C13   | 12.4                  | 14.1    | 5.0 | 26                      | 110       | 1.0 | 0.1                     | 10           | 29.0                      | +0.070                    |
| BZX55-C15   | 13.8                  | 15.6    | 5.0 | 30                      | 110       | 1.0 | 0.1                     | 11           | 27.0                      | +0.070                    |
| BZX55-C16   | 15.3                  | 17.1    | 5.0 | 40                      | 170       | 1.0 | 0.1                     | 12           | 24.0                      | +0.070                    |
| BZX55-C18   | 16.8                  | 19.1    | 5.0 | 50                      | 170       | 1.0 | 0.1                     | 14           | 21.0                      | +0.070                    |
| BZX55-C20   | 18.8                  | 21.2    | 5.0 | 55                      | 220       | 1.0 | 0.1                     | 15           | 20.0                      | +0.070                    |
| BZX55-C22   | 20.8                  | 23.3    | 5.0 | 55                      | 220       | 1.0 | 0.1                     | 17           | 18.0                      | +0.070                    |
| BZX55-C24   | 22.8                  | 25.6    | 5.0 | 80                      | 220       | 1.0 | 0.1                     | 18           | 16.0                      | +0.080                    |
| BZX55-C27   | 25.1                  | 28.9    | 5.0 | 80                      | 220       | 1.0 | 0.1                     | 20           | 14.0                      | +0.080                    |
| BZX55-C30   | 28                    | 32      | 5.0 | 80                      | 220       | 1.0 | 0.1                     | 22           | 13.0                      | +0.080                    |
| BZX55-C33   | 31                    | 35      | 5.0 | 80                      | 220       | 1.0 | 0.1                     | 24           | 12.0                      | +0.080                    |
| BZX55-C36   | 34                    | 38      | 5.0 | 80                      | 220       | 1.0 | 0.1                     | 27           | 11.0                      | +0.080                    |
| BZX55-C39   | 37                    | 41      | 2.5 | 90                      | 500       | 1.0 | 0.1                     | 30           | 10.0                      | +0.080                    |
| BZX55-C43   | 40                    | 46      | 2.5 | 90                      | 600       | 1.0 | 0.1                     | 33           | 9.2                       | +0.080                    |
| BZX55-C47   | 44                    | 50      | 2.5 | 110                     | 700       | 1.0 | 0.1                     | 36           | 8.5                       | +0.080                    |
| BZX55-C51   | 48                    | 54      | 2.5 | 125                     | 700       | 1.0 | 0.1                     | 39           | 7.5                       | +0.080                    |

Notes: 1. Valid provided that device terminals are kept at ambient temperature.

2. Tested with pulses, 300us pulse width, period = 5ms.

3. f = 1KHz.