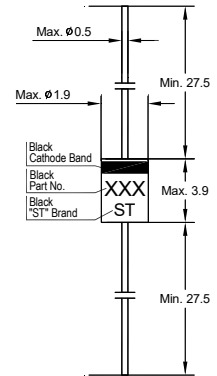


# BZX55CxxxPF-M

## Silicon Planar Zener Diodes

### Features

- Lead Free



Glass Case DO-35  
Dimensions in mm

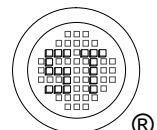
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter                       | Symbol           | Value         | Unit             |
|---------------------------------|------------------|---------------|------------------|
| Power Dissipation <sup>1)</sup> | $P_{\text{tot}}$ | 500           | mW               |
| Junction Temperature            | $T_j$            | 175           | $^\circ\text{C}$ |
| Storage Temperature Range       | $T_{\text{stg}}$ | - 55 to + 175 | $^\circ\text{C}$ |

### Thermal Characteristics

| Parameter  | Symbol                | Max. | Unit               |
|--|-----------------------|------|--------------------|
| Thermal Resistance Junction to Ambient <sup>1)</sup> | $R_{\theta\text{JA}}$ | 300  | $^\circ\text{C/W}$ |

<sup>1)</sup> Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

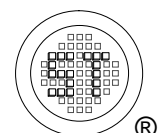


# BZX55CxxxPF-M

Characteristics at  $T_a = 25^\circ\text{C}$  ( $V_F$  max : 1 V at  $I_F = 100$  mA)

| Type        | Zener Voltage Range <sup>1)</sup> |          |          |             | Zener Impedance   |             |                   |             | Reverse Current        |          |
|-------------|-----------------------------------|----------|----------|-------------|-------------------|-------------|-------------------|-------------|------------------------|----------|
|             | $V_{Znom}$<br>(V)                 | $V_{ZT}$ |          | at $I_{ZT}$ | $Z_{ZT}$          | at $I_{ZT}$ | $Z_{ZK}$          | at $I_{ZK}$ | $I_R$                  | at $V_R$ |
|             |                                   | Min. (V) | Max. (V) | (mA)        | Max. ( $\Omega$ ) | (mA)        | Max. ( $\Omega$ ) | (mA)        | Max. ( $\mu\text{A}$ ) | (V)      |
| BZX55C2V0PF | 2.0                               | 1.8      | 2.15     | 5           | 85                | 5           | 600               | 1           | 100                    | 1        |
| BZX55C2V2PF | 2.2                               | 2.08     | 2.33     | 5           | 85                | 5           | 600               | 1           | 75                     | 1        |
| BZX55C2V4PF | 2.4                               | 2.28     | 2.56     | 5           | 85                | 5           | 600               | 1           | 50                     | 1        |
| BZX55C2V7PF | 2.7                               | 2.5      | 2.9      | 5           | 85                | 5           | 600               | 1           | 10                     | 1        |
| BZX55C3V0PF | 3.0                               | 2.8      | 3.2      | 5           | 85                | 5           | 600               | 1           | 4                      | 1        |
| BZX55C3V3PF | 3.3                               | 3.1      | 3.5      | 5           | 85                | 5           | 600               | 1           | 2                      | 1        |
| BZX55C3V6PF | 3.6                               | 3.4      | 3.8      | 5           | 85                | 5           | 600               | 1           | 2                      | 1        |
| BZX55C3V9PF | 3.9                               | 3.7      | 4.1      | 5           | 85                | 5           | 600               | 1           | 2                      | 1        |
| BZX55C4V3PF | 4.3                               | 4        | 4.6      | 5           | 75                | 5           | 600               | 1           | 1                      | 1        |
| BZX55C4V7PF | 4.7                               | 4.4      | 5        | 5           | 60                | 5           | 600               | 1           | 0.5                    | 1        |
| BZX55C5V1PF | 5.1                               | 4.8      | 5.4      | 5           | 35                | 5           | 550               | 1           | 0.1                    | 1        |
| BZX55C5V6PF | 5.6                               | 5.2      | 6        | 5           | 25                | 5           | 450               | 1           | 0.1                    | 1        |
| BZX55C6V2PF | 6.2                               | 5.8      | 6.6      | 5           | 10                | 5           | 200               | 1           | 0.1                    | 2        |
| BZX55C6V8PF | 6.8                               | 6.4      | 7.2      | 5           | 8                 | 5           | 150               | 1           | 0.1                    | 3        |
| BZX55C7V5PF | 7.5                               | 7        | 7.9      | 5           | 7                 | 5           | 50                | 1           | 0.1                    | 5        |
| BZX55C8V2PF | 8.2                               | 7.7      | 8.7      | 5           | 7                 | 5           | 50                | 1           | 0.1                    | 6.2      |
| BZX55C9V1PF | 9.1                               | 8.5      | 9.6      | 5           | 10                | 5           | 50                | 1           | 0.1                    | 6.8      |
| BZX55C10PF  | 10                                | 9.4      | 10.6     | 5           | 15                | 5           | 70                | 1           | 0.1                    | 7.5      |
| BZX55C11PF  | 11                                | 10.4     | 11.6     | 5           | 20                | 5           | 70                | 1           | 0.1                    | 8.2      |
| BZX55C12PF  | 12                                | 11.4     | 12.7     | 5           | 20                | 5           | 90                | 1           | 0.1                    | 9.1      |
| BZX55C13PF  | 13                                | 12.4     | 14.1     | 5           | 26                | 5           | 110               | 1           | 0.1                    | 10       |
| BZX55C15PF  | 15                                | 13.8     | 15.6     | 5           | 30                | 5           | 110               | 1           | 0.1                    | 11       |
| BZX55C16PF  | 16                                | 15.3     | 17.1     | 5           | 40                | 5           | 170               | 1           | 0.1                    | 12       |
| BZX55C18PF  | 18                                | 16.8     | 19.1     | 5           | 50                | 5           | 170               | 1           | 0.1                    | 13       |
| BZX55C20PF  | 20                                | 18.8     | 21.2     | 5           | 55                | 5           | 220               | 1           | 0.1                    | 15       |
| BZX55C22PF  | 22                                | 20.8     | 23.3     | 5           | 55                | 5           | 220               | 1           | 0.1                    | 16       |
| BZX55C24PF  | 24                                | 22.8     | 25.6     | 5           | 80                | 5           | 220               | 1           | 0.1                    | 18       |
| BZX55C27PF  | 27                                | 25.1     | 28.9     | 5           | 80                | 5           | 220               | 1           | 0.1                    | 20       |
| BZX55C30PF  | 30                                | 28       | 32       | 5           | 80                | 5           | 220               | 1           | 0.1                    | 22       |
| BZX55C33PF  | 33                                | 31       | 35       | 5           | 80                | 5           | 220               | 1           | 0.1                    | 24       |
| BZX55C36PF  | 36                                | 34       | 38       | 5           | 80                | 5           | 220               | 1           | 0.1                    | 27       |
| BZX55C39PF  | 39                                | 37       | 41       | 2.5         | 90                | 2.5         | 500               | 0.5         | 0.1                    | 30       |
| BZX55C43PF  | 43                                | 40       | 46       | 2.5         | 90                | 2.5         | 500               | 0.5         | 0.1                    | 33       |
| BZX55C47PF  | 47                                | 44       | 50       | 2.5         | 110               | 2.5         | 600               | 0.5         | 0.1                    | 36       |

<sup>1)</sup> Tested with pulses  $t_p = 20$  ms.



# BZX55CxxxPF-M

## Electrical Characteristics Curves

Fig 1. Zener Characteristics Curve

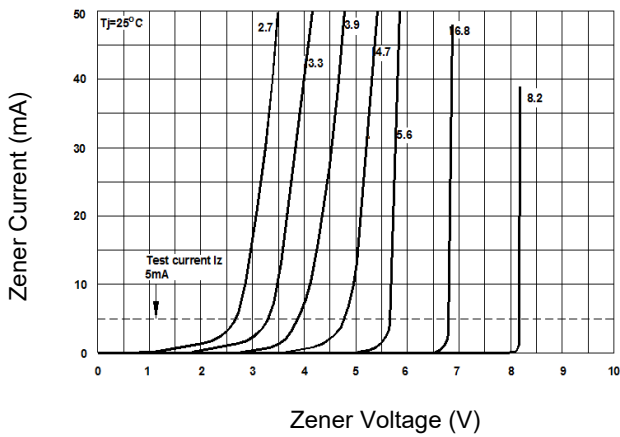


Fig 2. Zener Characteristics Curve

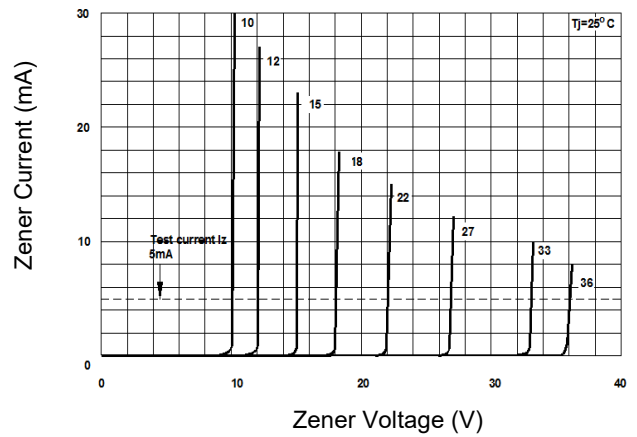


Fig 3. Zener Characteristics Curve

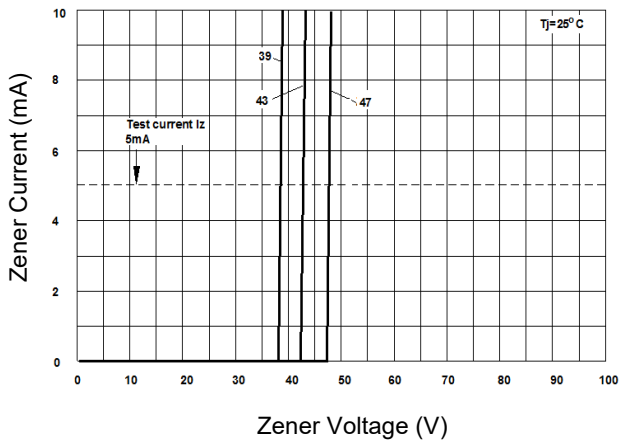


Fig 4. Forward Characteristics Curve

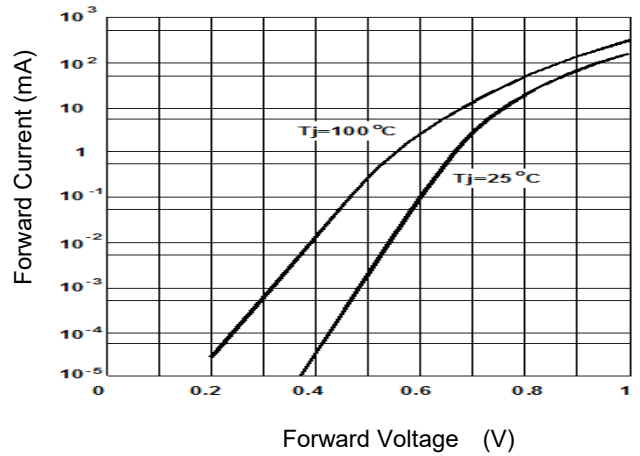


Fig 5. Power Derating Curve

