

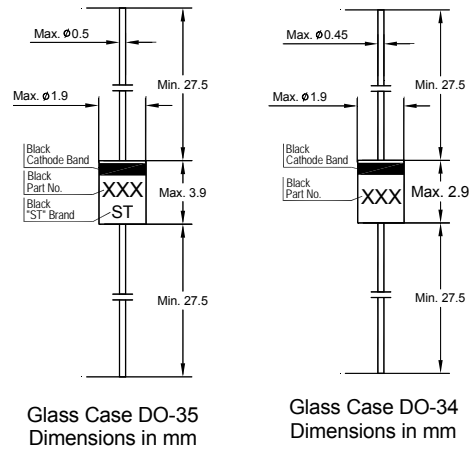
BZX55CxxxPF

Silicon Planar Zener Diodes

The Zener voltages are graded according to the international E24 standard. Other tolerances and higher Zener voltages are upon request.

Features

- Lead Free



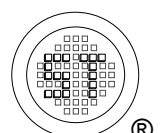
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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

Thermal Characteristics

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

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



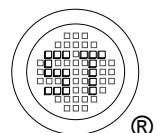
BZX55CxxxPF

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

| Type | Zener Voltage Range ¹⁾ | | | Dynamic Resistance | | | Reverse Leakage Current | | | Temp. Coefficient of Zener Voltage TKvz (%/K) |
|---------------------------|-----------------------------------|-------------|-------------|--------------------|-------------------|-------------|--------------------------|---------------------------|----------------|---|
| | V_{znom} | V_{ZT} | at I_{ZT} | Z_{ZT} | Z_{ZK} | at I_{ZK} | $T_a = 25^\circ\text{C}$ | $T_a = 125^\circ\text{C}$ | I_R at V_R | |
| | (V) | (V) | (mA) | Max. (Ω) | Max. (Ω) | (mA) | Max. (μA) | Max. (μA) | (V) | |
| BZX55C0V8PF ²⁾ | 0.8 | 0.73...0.83 | 5 | 8 | 50 | 1 | - | - | - | -0.26...-0.23 |
| BZX55C2V0PF | 2 | 1.8...2.15 | 5 | 85 | 600 | 1 | 100 | 200 | 1 | -0.09...-0.06 |
| BZX55C2V2PF | 2.2 | 2.08...2.33 | 5 | 85 | 600 | 1 | 75 | 160 | 1 | -0.09...-0.06 |
| BZX55C2V4PF | 2.4 | 2.28...2.56 | 5 | 85 | 600 | 1 | 50 | 100 | 1 | -0.09...-0.06 |
| BZX55C2V7PF | 2.7 | 2.5...2.9 | 5 | 85 | 600 | 1 | 10 | 50 | 1 | -0.09...-0.06 |
| BZX55C3V0PF | 3 | 2.8...3.2 | 5 | 85 | 600 | 1 | 4 | 40 | 1 | -0.08...-0.05 |
| BZX55C3V3PF | 3.3 | 3.1...3.5 | 5 | 85 | 600 | 1 | 2 | 40 | 1 | -0.08...-0.05 |
| BZX55C3V6PF | 3.6 | 3.4...3.8 | 5 | 85 | 600 | 1 | 2 | 40 | 1 | -0.08...-0.05 |
| BZX55C3V9PF | 3.9 | 3.7...4.1 | 5 | 85 | 600 | 1 | 2 | 40 | 1 | -0.08...-0.05 |
| BZX55C4V3PF | 4.3 | 4...4.6 | 5 | 75 | 600 | 1 | 1 | 20 | 1 | -0.06...-0.03 |
| BZX55C4V7PF | 4.7 | 4.4...5 | 5 | 60 | 600 | 1 | 0.5 | 10 | 1 | -0.05...+0.02 |
| BZX55C5V1PF | 5.1 | 4.8...5.4 | 5 | 35 | 550 | 1 | 0.1 | 2 | 1 | -0.02...+0.02 |
| BZX55C5V6PF | 5.6 | 5.2...6 | 5 | 25 | 450 | 1 | 0.1 | 2 | 1 | -0.05...+0.05 |
| BZX55C6V2PF | 6.2 | 5.8...6.6 | 5 | 10 | 200 | 1 | 0.1 | 2 | 2 | 0.03...0.06 |
| BZX55C6V8PF | 6.8 | 6.4...7.2 | 5 | 8 | 150 | 1 | 0.1 | 2 | 3 | 0.03...0.07 |
| BZX55C7V5PF | 7.5 | 7...7.9 | 5 | 7 | 50 | 1 | 0.1 | 2 | 5 | 0.03...0.07 |
| BZX55C8V2PF | 8.2 | 7.7...8.7 | 5 | 7 | 50 | 1 | 0.1 | 2 | 6.2 | 0.03...0.08 |
| BZX55C9V1PF | 9.1 | 8.5...9.6 | 5 | 10 | 50 | 1 | 0.1 | 2 | 6.8 | 0.03...0.09 |
| BZX55C10PF | 10 | 9.4...10.6 | 5 | 15 | 70 | 1 | 0.1 | 2 | 7.5 | 0.03...0.1 |
| BZX55C11PF | 11 | 10.4...11.6 | 5 | 20 | 70 | 1 | 0.1 | 2 | 8.2 | 0.03...0.11 |
| BZX55C12PF | 12 | 11.4...12.7 | 5 | 20 | 90 | 1 | 0.1 | 2 | 9.1 | 0.03...0.11 |
| BZX55C13PF | 13 | 12.4...14.1 | 5 | 26 | 110 | 1 | 0.1 | 2 | 10 | 0.03...0.11 |
| BZX55C15PF | 15 | 13.8...15.6 | 5 | 30 | 110 | 1 | 0.1 | 2 | 11 | 0.03...0.11 |
| BZX55C16PF | 16 | 15.3...17.1 | 5 | 40 | 170 | 1 | 0.1 | 2 | 12 | 0.03...0.11 |
| BZX55C18PF | 18 | 16.8...19.1 | 5 | 50 | 170 | 1 | 0.1 | 2 | 13 | 0.03...0.11 |
| BZX55C20PF | 20 | 18.8...21.2 | 5 | 55 | 220 | 1 | 0.1 | 2 | 15 | 0.03...0.11 |
| BZX55C22PF | 22 | 20.8...23.3 | 5 | 55 | 220 | 1 | 0.1 | 2 | 16 | 0.04...0.12 |
| BZX55C24PF | 24 | 22.8...25.6 | 5 | 80 | 220 | 1 | 0.1 | 2 | 18 | 0.04...0.12 |
| BZX55C27PF | 27 | 25.1...28.9 | 5 | 80 | 220 | 1 | 0.1 | 2 | 20 | 0.04...0.12 |
| BZX55C30PF | 30 | 28...32 | 5 | 80 | 220 | 1 | 0.1 | 2 | 22 | 0.04...0.12 |
| BZX55C33PF | 33 | 31...35 | 5 | 80 | 220 | 1 | 0.1 | 2 | 24 | 0.04...0.12 |
| BZX55C36PF | 36 | 34...38 | 5 | 80 | 220 | 1 | 0.1 | 2 | 27 | 0.04...0.12 |
| BZX55C39PF | 39 | 37...41 | 2.5 | 90 | 500 | 0.5 | 0.1 | 5 | 30 | 0.04...0.12 |
| BZX55C43PF | 43 | 40...46 | 2.5 | 90 | 500 | 0.5 | 0.1 | 5 | 33 | 0.04...0.12 |
| BZX55C47PF | 47 | 44...50 | 2.5 | 110 | 600 | 0.5 | 0.1 | 5 | 36 | 0.04...0.12 |
| BZX55C51PF | 51 | 48...54 | 2.5 | 125 | 700 | 0.5 | 0.1 | 10 | 39 | 0.04...0.12 |
| BZX55C56PF | 56 | 52...60 | 2.5 | 135 | 700 | 0.5 | 0.1 | 10 | 43 | 0.04...0.12 |
| BZX55C62PF | 62 | 58...66 | 2.5 | 150 | 1000 | 0.5 | 0.1 | 10 | 47 | 0.04...0.12 |
| BZX55C68PF | 68 | 64...72 | 2.5 | 200 | 1000 | 0.5 | 0.1 | 10 | 51 | 0.04...0.12 |
| BZX55C75PF | 75 | 70...79 | 2.5 | 250 | 1000 | 0.5 | 0.1 | 10 | 56 | 0.04...0.12 |
| BZX55C82PF | 82 | 77...87 | 2.5 | 300 | 1500 | 0.25 | 0.1 | 10 | 62 | 0.05...0.12 |

¹⁾ Tested with pulses $t_p = 20$ ms.

²⁾ The BZX55C0V8 is a silicon diode with operation in forward direction. Hence, the index of all parameters should be "F" instead of "Z". Connect the cathode lead to the negative pole.



BZX55CxxxPF

Electrical Characteristics Curves

Fig 1. Zener Characteristics Curve

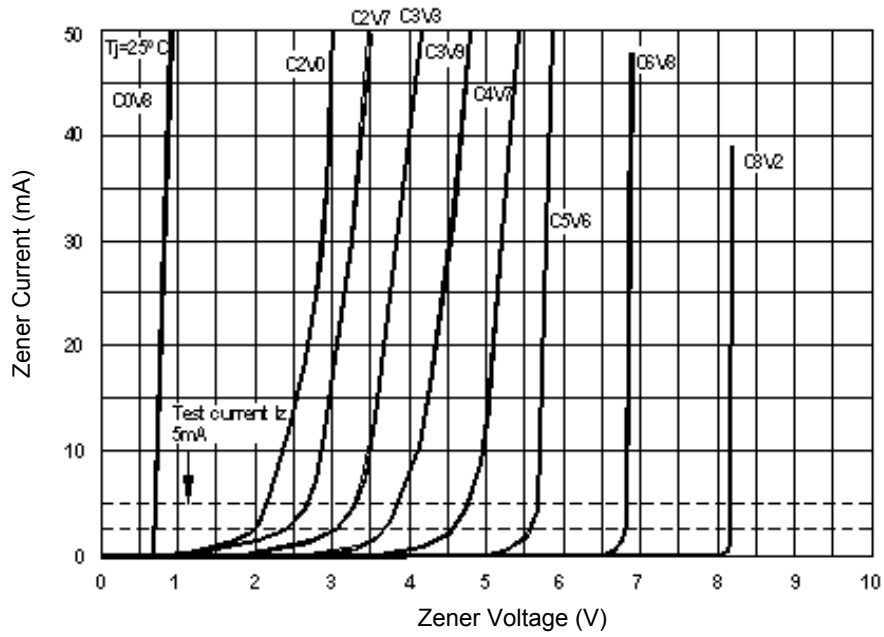
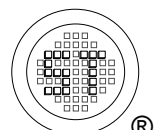
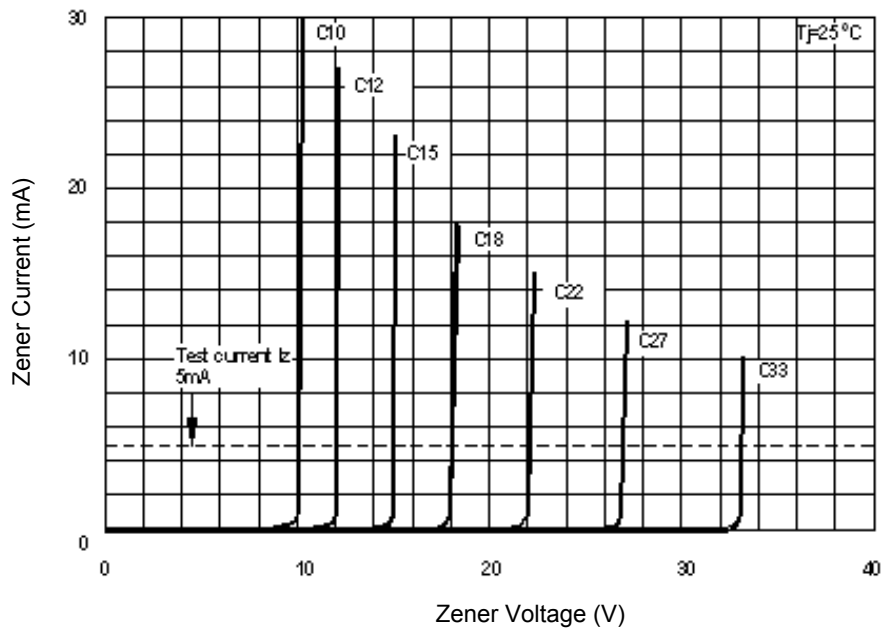


Fig 2. Zener Characteristics Curve



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