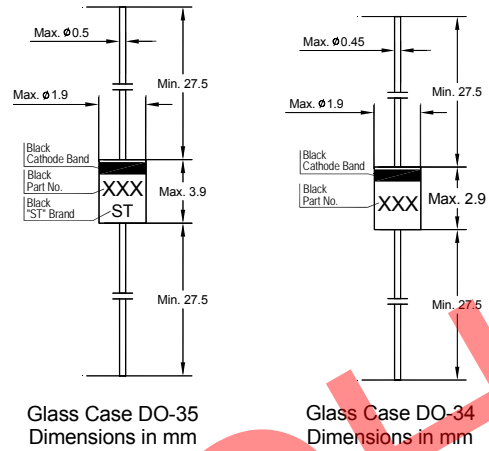


BZX55C

Silicon Planar Zener Diodes

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



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

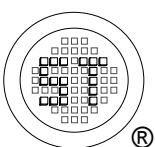
| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|-------------------|------------------|
| Power Dissipation | P_{tot} | 500 ¹⁾ | mW |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 55 to + 175 | $^\circ\text{C}$ |

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

Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Max. | Unit |
|--|-----------|-------------------|------|
| Thermal Resistance Junction to Ambient Air | R_{thA} | 0.3 ¹⁾ | K/mW |
| Forward Voltage at $I_F = 100\text{ mA}$ | V_F | 1 | V |

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



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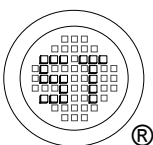


BZX55C

| Type | Zener Voltage Range ¹⁾ | | | Dynamic Resistance | | | Reverse Leakage Current | | | Temp. Coefficient of Zener Voltage |
|-------------------------|-----------------------------------|-----------------|--------------------|--------------------|-----------------|--------------------|-------------------------|------------------------|----------------------------------|------------------------------------|
| | V _{znom} | V _{ZT} | at I _{ZT} | Z _{ZT} | Z _{ZK} | at I _{ZK} | T _a = 25°C | T _a = 125°C | I _R at V _R | |
| | (V) | (V) | (mA) | Max. (Ω) | Max. (Ω) | (mA) | Max. (μA) | Max. (μA) | (V) | |
| BZX55C0V8 ²⁾ | 0.8 | 0.73...0.83 | 5 | 8 | 50 | 1 | - | - | - | -0.26...-0.23 |
| BZX55C2V0 | 2 | 1.8...2.15 | 5 | 85 | 600 | 1 | 100 | 200 | 1 | -0.09...-0.06 |
| BZX55C2V2 | 2.2 | 2.08...2.33 | 5 | 85 | 600 | 1 | 75 | 160 | 1 | -0.09...-0.06 |
| BZX55C2V4 | 2.4 | 2.28...2.56 | 5 | 85 | 600 | 1 | 50 | 100 | 1 | -0.09...-0.06 |
| BZX55C2V7 | 2.7 | 2.5...2.9 | 5 | 85 | 600 | 1 | 10 | 50 | 1 | -0.09...-0.06 |
| BZX55C3V0 | 3 | 2.8...3.2 | 5 | 85 | 600 | 1 | 4 | 40 | 1 | -0.08...-0.05 |
| BZX55C3V3 | 3.3 | 3.1...3.5 | 5 | 85 | 600 | 1 | 2 | 40 | 1 | -0.08...-0.05 |
| BZX55C3V6 | 3.6 | 3.4...3.8 | 5 | 85 | 600 | 1 | 2 | 40 | 1 | -0.08...-0.05 |
| BZX55C3V9 | 3.9 | 3.7...4.1 | 5 | 85 | 600 | 1 | 2 | 40 | 1 | -0.08...-0.05 |
| BZX55C4V3 | 4.3 | 4...4.6 | 5 | 75 | 600 | 1 | 1 | 20 | 1 | -0.06...-0.03 |
| BZX55C4V7 | 4.7 | 4.4...5 | 5 | 60 | 600 | 1 | 0.5 | 10 | 1 | -0.05...+0.02 |
| BZX55C5V1 | 5.1 | 4.8...5.4 | 5 | 35 | 550 | 1 | 0.1 | 2 | 1 | -0.02...+0.02 |
| BZX55C5V6 | 5.6 | 5.2...6 | 5 | 25 | 450 | 1 | 0.1 | 2 | 1 | -0.05...+0.05 |
| BZX55C6V2 | 6.2 | 5.8...6.6 | 5 | 10 | 200 | 1 | 0.1 | 2 | 2 | 0.03...0.06 |
| BZX55C6V8 | 6.8 | 6.4...7.2 | 5 | 8 | 150 | 1 | 0.1 | 2 | 3 | 0.03...0.07 |
| BZX55C7V5 | 7.5 | 7...7.9 | 5 | 7 | 50 | 1 | 0.1 | 2 | 5 | 0.03...0.07 |
| BZX55C8V2 | 8.2 | 7.7...8.7 | 5 | 7 | 50 | 1 | 0.1 | 2 | 6.2 | 0.03...0.08 |
| BZX55C9V1 | 9.1 | 8.5...9.6 | 5 | 10 | 50 | 1 | 0.1 | 2 | 6.8 | 0.03...0.09 |
| BZX55C10 | 10 | 9.4...10.6 | 5 | 15 | 70 | 1 | 0.1 | 2 | 7.5 | 0.03...0.1 |
| BZX55C11 | 11 | 10.4...11.6 | 5 | 20 | 70 | 1 | 0.1 | 2 | 8.2 | 0.03...0.11 |
| BZX55C12 | 12 | 11.4...12.7 | 5 | 20 | 90 | 1 | 0.1 | 2 | 9.1 | 0.03...0.11 |
| BZX55C13 | 13 | 12.4...14.1 | 5 | 26 | 110 | 1 | 0.1 | 2 | 10 | 0.03...0.11 |
| BZX55C15 | 15 | 13.8...15.6 | 5 | 30 | 110 | 1 | 0.1 | 2 | 11 | 0.03...0.11 |
| BZX55C16 | 16 | 15.3...17.1 | 5 | 40 | 170 | 1 | 0.1 | 2 | 12 | 0.03...0.11 |
| BZX55C18 | 18 | 16.8...19.1 | 5 | 50 | 170 | 1 | 0.1 | 2 | 13 | 0.03...0.11 |
| BZX55C20 | 20 | 18.8...21.2 | 5 | 55 | 220 | 1 | 0.1 | 2 | 15 | 0.03...0.11 |
| BZX55C22 | 22 | 20.8...23.3 | 5 | 55 | 220 | 1 | 0.1 | 2 | 16 | 0.04...0.12 |
| BZX55C24 | 24 | 22.8...25.6 | 5 | 80 | 220 | 1 | 0.1 | 2 | 18 | 0.04...0.12 |
| BZX55C27 | 27 | 25.1...28.9 | 5 | 80 | 220 | 1 | 0.1 | 2 | 20 | 0.04...0.12 |
| BZX55C30 | 30 | 28...32 | 5 | 80 | 220 | 1 | 0.1 | 2 | 22 | 0.04...0.12 |
| BZX55C33 | 33 | 31...35 | 5 | 80 | 220 | 1 | 0.1 | 2 | 24 | 0.04...0.12 |
| BZX55C36 | 36 | 34...38 | 5 | 80 | 220 | 1 | 0.1 | 2 | 27 | 0.04...0.12 |
| BZX55C39 | 39 | 37...41 | 2.5 | 90 | 500 | 0.5 | 0.1 | 5 | 30 | 0.04...0.12 |
| BZX55C43 | 43 | 40...46 | 2.5 | 90 | 500 | 0.5 | 0.1 | 5 | 33 | 0.04...0.12 |
| BZX55C47 | 47 | 44...50 | 2.5 | 110 | 600 | 0.5 | 0.1 | 5 | 36 | 0.04...0.12 |
| BZX55C51 | 51 | 48...54 | 2.5 | 125 | 700 | 0.5 | 0.1 | 10 | 39 | 0.04...0.12 |
| BZX55C56 | 56 | 52...60 | 2.5 | 135 | 700 | 0.5 | 0.1 | 10 | 43 | 0.04...0.12 |
| BZX55C62 | 62 | 58...66 | 2.5 | 150 | 1000 | 0.5 | 0.1 | 10 | 47 | 0.04...0.12 |
| BZX55C68 | 68 | 64...72 | 2.5 | 200 | 1000 | 0.5 | 0.1 | 10 | 51 | 0.04...0.12 |
| BZX55C75 | 75 | 70...79 | 2.5 | 250 | 1000 | 0.5 | 0.1 | 10 | 56 | 0.04...0.12 |
| BZX55C82 | 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.

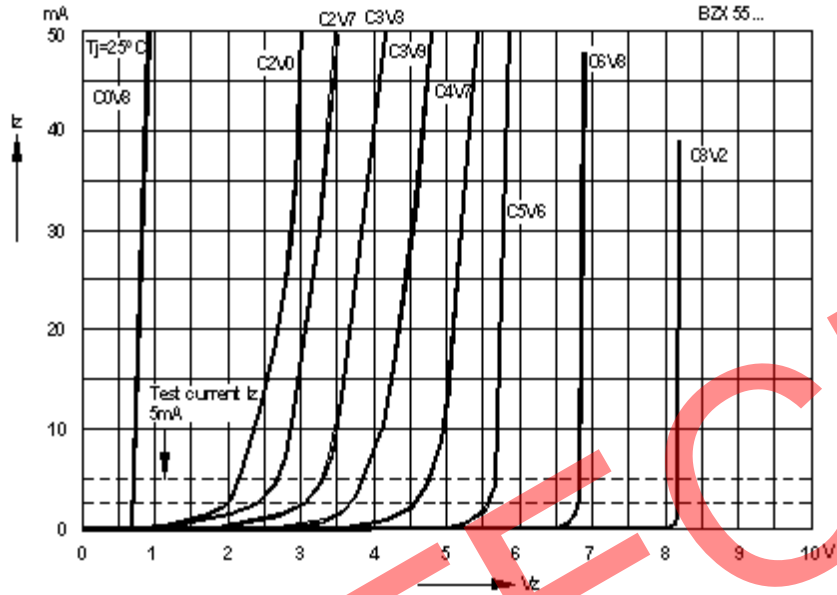


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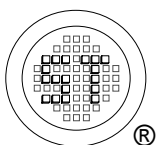
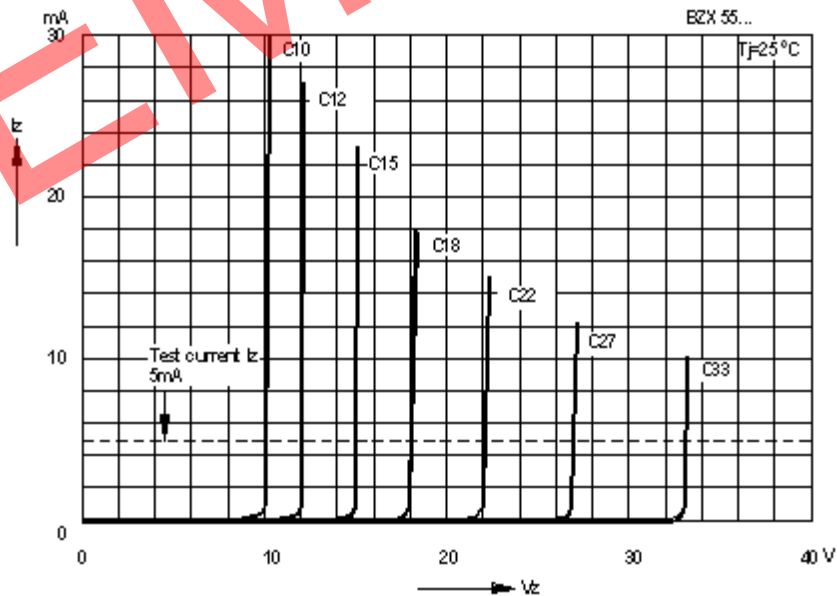


BZX55C

Breakdown characteristics
 $T_j = \text{constant (pulsed)}$



Breakdown characteristics
 $T_j = \text{constant (pulsed)}$



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