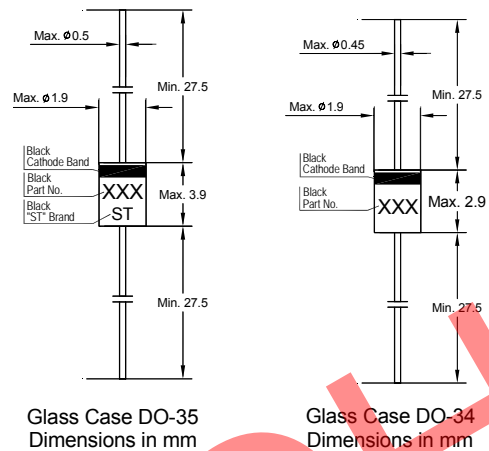


# BZX55C

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

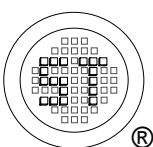
| Parameter                 | Symbol    | Value             | Unit             |
|---------------------------|-----------|-------------------|------------------|
| Power Dissipation         | $P_{tot}$ | 500 <sup>1)</sup> | mW               |
| Junction Temperature      | $T_j$     | 175            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

<sup>1)</sup> 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 <sup>1)</sup> | K/mW |
| Forward Voltage at $I_F = 100\text{ mA}$   | $V_F$     | 1                 | V    |

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



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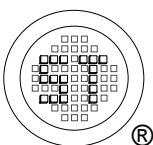


# BZX55C

| Type                    | Zener Voltage Range <sup>1)</sup> |                 |                    | Dynamic Resistance |                 |                    | Reverse Leakage Current |                        |                                  | Temp. Coefficient of Zener Voltage |
|-------------------------|-----------------------------------|-----------------|--------------------|--------------------|-----------------|--------------------|-------------------------|------------------------|----------------------------------|------------------------------------|
|                         | V <sub>znom</sub>                 | V <sub>ZT</sub> | at I <sub>ZT</sub> | Z <sub>ZT</sub>    | Z <sub>ZK</sub> | at I <sub>ZK</sub> | T <sub>a</sub> = 25°C   | T <sub>a</sub> = 125°C | I <sub>R</sub> at V <sub>R</sub> |                                    |
|                         | (V)                               | (V)             | (mA)               | Max. (Ω)           | Max. (Ω)        | (mA)               | Max. (μA)               | Max. (μA)              | (V)                              |                                    |
| BZX55C0V8 <sup>2)</sup> | 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                        |

<sup>1)</sup> Tested with pulses t<sub>p</sub> = 20 ms.

<sup>2)</sup> 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.

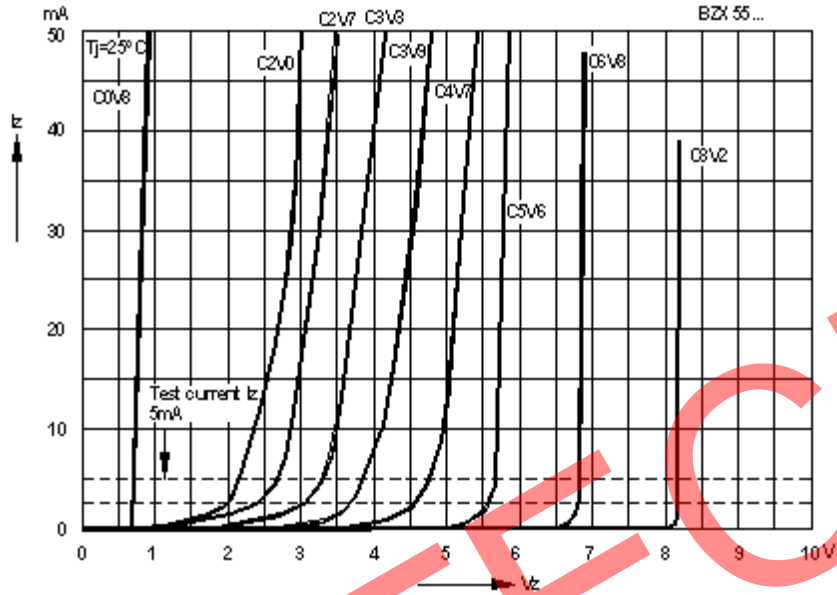


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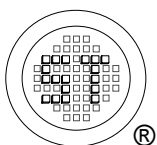
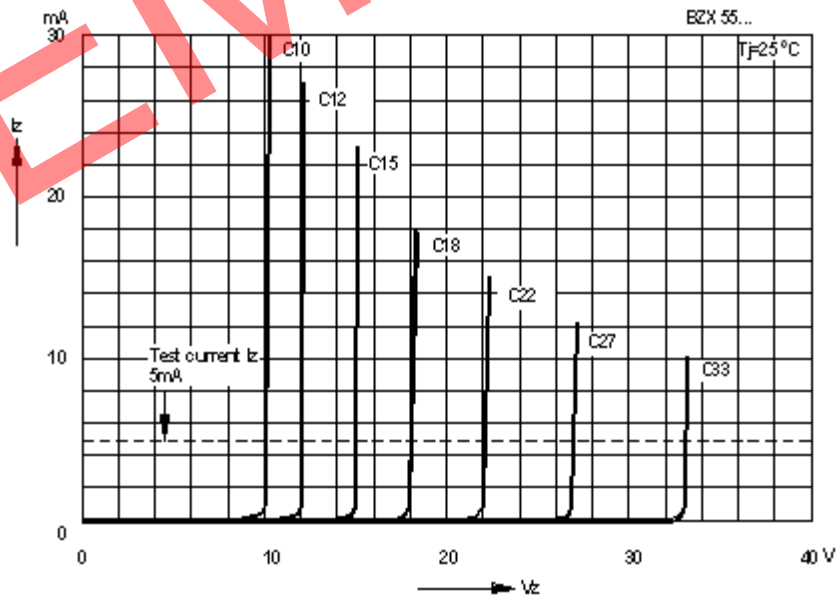


# BZX55C

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



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



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