

BZX55T Series

SILICON EPITAXIAL PLANAR ZENER DIODES

Features

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- Available with tighter tolerances



Glass Case DO-35
Dimensions in mm

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

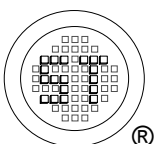
| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|---------------|------------------|
| Power Dissipation | P_{tot} | 500 | mW |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_s | - 65 to + 175 | $^\circ\text{C}$ |

Maximum Thermal Resistance ($T_a = 25\text{ }^\circ\text{C}$)

| Parameter | Symbol | Max. | Unit |
|--|------------|------|------|
| Thermal Resistance Junction to Ambient Air | R_{thJA} | 300 | K/W |

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

| Parameter | Symbol | Max. | Unit |
|---|--------|------|------|
| Forward Voltage at $I_F = 200\text{ mA}$ | V_F | 1.5 | V |



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ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0506098

Dated : 21/06/2007

BZX55T Series

| Type | $V_{Zmin}^{2)}$ | $V_{Zmax}^{2)}$ | r_{Zmax} | at I_Z | I_{Rmax} | at V_R | $I_{Rmax}^{1)}$ | at $V_R^{1)}$ |
|------------|-----------------|-----------------|------------|----------|------------|----------|-----------------|---------------|
| | V | V | Ω | mA | μA | V | μA | V |
| BZX55T2V4 | 2.3 | 2.6 | 100 | 5 | 5 | 0.5 | 50 | 1 |
| BZX55T2V4A | 2.3 | 2.5 | 100 | 5 | 5 | 0.5 | 50 | 1 |
| BZX55T2V4B | 2.4 | 2.6 | 100 | 5 | 5 | 0.5 | 50 | 1 |
| BZX55T2V7 | 2.5 | 2.9 | 100 | 5 | 5 | 0.5 | 10 | 1 |
| BZX55T2V7A | 2.5 | 2.7 | 100 | 5 | 5 | 0.5 | 10 | 1 |
| BZX55T2V7B | 2.6 | 2.8 | 100 | 5 | 5 | 0.5 | 10 | 1 |
| BZX55T2V7C | 2.7 | 2.9 | 100 | 5 | 5 | 0.5 | 10 | 1 |
| BZX55T3V0 | 2.8 | 3.2 | 100 | 5 | 5 | 0.5 | 6 | 1 |
| BZX55T3V0A | 2.8 | 3 | 100 | 5 | 5 | 0.5 | 6 | 1 |
| BZX55T3V0B | 2.9 | 3.1 | 100 | 5 | 5 | 0.5 | 6 | 1 |
| BZX55T3V0C | 3 | 3.2 | 100 | 5 | 5 | 0.5 | 6 | 1 |
| BZX55T3V3 | 3.1 | 3.5 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V3A | 3.1 | 3.3 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V3B | 3.2 | 3.4 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V3C | 3.3 | 3.5 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V6 | 3.4 | 3.8 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V6A | 3.4 | 3.6 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V6B | 3.5 | 3.7 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V6C | 3.6 | 3.8 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V9 | 3.7 | 4.1 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V9A | 3.7 | 3.9 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V9B | 3.8 | 4 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T3V9C | 3.9 | 4.1 | 100 | 5 | 5 | 1 | 2 | 0.8 |
| BZX55T4V3 | 4 | 4.5 | 100 | 5 | 5 | 1.5 | 1 | 1 |
| BZX55T4V3A | 4 | 4.2 | 100 | 5 | 5 | 1.5 | 1 | 1 |
| BZX55T4V3B | 4.1 | 4.3 | 100 | 5 | 5 | 1.5 | 1 | 1 |
| BZX55T4V3C | 4.2 | 4.4 | 100 | 5 | 5 | 1.5 | 1 | 1 |
| BZX55T4V3D | 4.3 | 4.5 | 100 | 5 | 5 | 1.5 | 1 | 1 |
| BZX55T4V7 | 4.4 | 4.9 | 100 | 5 | 5 | 2 | 0.5 | 1 |
| BZX55T4V7A | 4.4 | 4.6 | 100 | 5 | 5 | 2 | 0.5 | 1 |
| BZX55T4V7B | 4.5 | 4.7 | 100 | 5 | 5 | 2 | 0.5 | 1 |
| BZX55T4V7C | 4.6 | 4.8 | 100 | 5 | 5 | 2 | 0.5 | 1 |
| BZX55T4V7D | 4.7 | 4.9 | 100 | 5 | 5 | 2 | 0.5 | 1 |
| BZX55T5V1 | 4.8 | 5.3 | 100 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V1A | 4.8 | 5 | 100 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V1B | 4.9 | 5.1 | 100 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V1C | 5 | 5.2 | 100 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V1D | 5.1 | 5.3 | 100 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V6 | 5.2 | 5.9 | 40 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V6A | 5.2 | 5.5 | 40 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V6B | 5.3 | 5.6 | 40 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V6C | 5.4 | 5.7 | 40 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V6D | 5.5 | 5.8 | 40 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T5V6E | 5.6 | 5.9 | 40 | 5 | 5 | 2 | 0.1 | 1 |
| BZX55T6V2 | 5.7 | 6.6 | 15 | 5 | 1 | 3 | 0.1 | 2 |
| BZX55T6V2A | 5.7 | 6 | 15 | 5 | 1 | 3 | 0.1 | 2 |
| BZX55T6V2B | 5.8 | 6.1 | 15 | 5 | 1 | 3 | 0.1 | 2 |
| BZX55T6V2C | 6 | 6.3 | 15 | 5 | 1 | 3 | 0.1 | 2 |
| BZX55T6V2D | 6.1 | 6.4 | 15 | 5 | 1 | 3 | 0.1 | 2 |
| BZX55T6V2E | 6.3 | 6.6 | 15 | 5 | 1 | 3 | 0.1 | 2 |



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BZX55T Series

| Type | $V_{Zmin}^{2)}$ | $V_{Zmax}^{2)}$ | r_{Zmax} | at I_Z | I_{Rmax} | at V_R | $I_{Rmax}^{1)}$ | at $V_R^{1)}$ |
|------------|-----------------|-----------------|------------|----------|------------|----------|-----------------|---------------|
| | V | V | Ω | mA | μA | V | μA | V |
| BZX55T6V8 | 6.4 | 7.2 | 15 | 5 | 1 | 3.5 | 0.1 | 3 |
| BZX55T6V8A | 6.4 | 6.7 | 15 | 5 | 1 | 3.5 | 0.1 | 3 |
| BZX55T6V8B | 6.6 | 6.9 | 15 | 5 | 1 | 3.5 | 0.1 | 3 |
| BZX55T6V8C | 6.7 | 7 | 15 | 5 | 1 | 3.5 | 0.1 | 3 |
| BZX55T6V8D | 6.9 | 7.2 | 15 | 5 | 1 | 3.5 | 0.1 | 3 |
| BZX55T7V5 | 7 | 7.9 | 15 | 5 | 1 | 5.0 | 0.1 | 3.5 |
| BZX55T7V5A | 7 | 7.3 | 15 | 5 | 1 | 5.0 | 0.1 | 3.5 |
| BZX55T7V5B | 7.2 | 7.6 | 15 | 5 | 1 | 5.0 | 0.1 | 3.5 |
| BZX55T7V5C | 7.3 | 7.7 | 15 | 5 | 1 | 5.0 | 0.1 | 3.5 |
| BZX55T7V5D | 7.5 | 7.9 | 15 | 5 | 1 | 5.0 | 0.1 | 3.5 |
| BZX55T8V2 | 7.7 | 8.7 | 20 | 5 | 1 | 6.2 | 0.1 | 4 |
| BZX55T8V2A | 7.7 | 8.1 | 20 | 5 | 1 | 6.2 | 0.1 | 4 |
| BZX55T8V2B | 7.9 | 8.3 | 20 | 5 | 1 | 6.2 | 0.1 | 4 |
| BZX55T8V2C | 8.1 | 8.5 | 20 | 5 | 1 | 6.2 | 0.1 | 4 |
| BZX55T8V2D | 8.3 | 8.7 | 20 | 5 | 1 | 6.2 | 0.1 | 4 |
| BZX55T9V1 | 8.5 | 9.7 | 20 | 5 | 1 | 6.8 | - | - |
| BZX55T9V1A | 8.5 | 8.9 | 20 | 5 | 1 | 6.8 | - | - |
| BZX55T9V1B | 8.7 | 9.1 | 20 | 5 | 1 | 6.8 | - | - |
| BZX55T9V1C | 8.9 | 9.3 | 20 | 5 | 1 | 6.8 | - | - |
| BZX55T9V1D | 9.1 | 9.5 | 20 | 5 | 1 | 6.8 | - | - |
| BZX55T9V1E | 9.3 | 9.7 | 20 | 5 | 1 | 6.8 | - | - |
| BZX55T10 | 9.5 | 10.6 | 25 | 5 | 1 | 7.5 | - | - |
| BZX55T10A | 9.5 | 9.9 | 25 | 5 | 1 | 7.5 | - | - |
| BZX55T10B | 9.7 | 10.1 | 25 | 5 | 1 | 7.5 | - | - |
| BZX55T10C | 9.9 | 10.3 | 25 | 5 | 1 | 7.5 | - | - |
| BZX55T10D | 10.2 | 10.6 | 25 | 5 | 1 | 7.5 | - | - |
| BZX55T11 | 10.4 | 11.6 | 25 | 5 | 1 | 8.2 | - | - |
| BZX55T11A | 10.4 | 10.8 | 25 | 5 | 1 | 8.2 | - | - |
| BZX55T11B | 10.7 | 11.1 | 25 | 5 | 1 | 8.2 | - | - |
| BZX55T11C | 10.9 | 11.3 | 25 | 5 | 1 | 8.2 | - | - |
| BZX55T11D | 11.1 | 11.6 | 25 | 5 | 1 | 8.2 | - | - |
| BZX55T12 | 11.4 | 12.7 | 35 | 5 | 1 | 9.5 | - | - |
| BZX55T12A | 11.4 | 11.9 | 35 | 5 | 1 | 9.5 | - | - |
| BZX55T12B | 11.6 | 12.1 | 35 | 5 | 1 | 9.5 | - | - |
| BZX55T12C | 11.9 | 12.4 | 35 | 5 | 1 | 9.5 | - | - |
| BZX55T12D | 12.2 | 12.7 | 35 | 5 | 1 | 9.5 | - | - |
| BZX55T12X | 11.44 | 12.03 | 35 | 5 | 1 | 9.5 | - | - |
| BZX55T13 | 12.4 | 13.4 | 35 | 5 | 1 | 10 | - | - |
| BZX55T13A | 12.4 | 12.9 | 35 | 5 | 1 | 10 | - | - |
| BZX55T13B | 12.6 | 13.1 | 35 | 5 | 1 | 10 | - | - |
| BZX55T13C | 12.9 | 13.4 | 35 | 5 | 1 | 10 | - | - |
| BZX55T14 | 13.2 | 14.3 | 35 | 5 | 1 | 11 | - | - |
| BZX55T14A | 13.2 | 13.7 | 35 | 5 | 1 | 11 | - | - |
| BZX55T14B | 13.5 | 14 | 35 | 5 | 1 | 11 | - | - |
| BZX55T14C | 13.8 | 14.3 | 35 | 5 | 1 | 11 | - | - |
| BZX55T15 | 14.1 | 15.5 | 40 | 5 | 1 | 11.5 | - | - |
| BZX55T15A | 14.1 | 14.7 | 40 | 5 | 1 | 11.5 | - | - |
| BZX55T15B | 14.5 | 15.1 | 40 | 5 | 1 | 11.5 | - | - |
| BZX55T15C | 14.9 | 15.5 | 40 | 5 | 1 | 11.5 | - | - |
| BZX55T15X | 14.35 | 15.09 | 40 | 5 | 1 | 11.5 | - | - |



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BZX55T Series

| Type | $V_{Zmin}^{2)}$ | $V_{Zmax}^{2)}$ | r_{Zmax} | at I_Z | I_{Rmax} | at V_R | $I_{Rmax}^{1)}$ | at $V_R^{1)}$ |
|-----------|-----------------|-----------------|------------|----------|------------|----------|-----------------|---------------|
| | V | V | Ω | mA | μA | V | μA | V |
| BZX55T16 | 15.3 | 17.1 | 45 | 5 | 1 | 12 | - | - |
| BZX55T16A | 15.3 | 15.9 | 45 | 5 | 1 | 12 | - | - |
| BZX55T16B | 15.7 | 16.5 | 45 | 5 | 1 | 12 | - | - |
| BZX55T16C | 16.3 | 17.1 | 45 | 5 | 1 | 12 | - | - |
| BZX55T18 | 16.9 | 19 | 55 | 5 | 1 | 13 | - | - |
| BZX55T18A | 16.9 | 17.7 | 55 | 5 | 1 | 13 | - | - |
| BZX55T18B | 17.5 | 18.3 | 55 | 5 | 1 | 13 | - | - |
| BZX55T18C | 18.1 | 19 | 55 | 5 | 1 | 13 | - | - |
| BZX55T20 | 18.8 | 21.2 | 60 | 2 | 1 | 15 | - | - |
| BZX55T20A | 18.8 | 19.7 | 60 | 2 | 1 | 15 | - | - |
| BZX55T20B | 19.5 | 20.4 | 60 | 2 | 1 | 15 | - | - |
| BZX55T20C | 20.2 | 21.2 | 60 | 2 | 1 | 15 | - | - |
| BZX55T22 | 20.9 | 23.3 | 65 | 2 | 1 | 17 | - | - |
| BZX55T22A | 20.9 | 21.9 | 65 | 2 | 1 | 17 | - | - |
| BZX55T22B | 21.6 | 22.6 | 65 | 2 | 1 | 17 | - | - |
| BZX55T22C | 22.3 | 23.3 | 65 | 2 | 1 | 17 | - | - |
| BZX55T24 | 22.9 | 25.5 | 70 | 2 | 1 | 19 | - | - |
| BZX55T24A | 22.9 | 24 | 70 | 2 | 1 | 19 | - | - |
| BZX55T24B | 23.6 | 24.7 | 70 | 2 | 1 | 19 | - | - |
| BZX55T24C | 24.3 | 25.5 | 70 | 2 | 1 | 19 | - | - |
| BZX55T24X | 22.61 | 23.77 | 70 | 2 | 1 | 19 | - | - |
| BZX55T27 | 25.2 | 28.6 | 80 | 2 | 1 | 21 | - | - |
| BZX55T27A | 25.2 | 26.6 | 80 | 2 | 1 | 21 | - | - |
| BZX55T27B | 26.2 | 27.6 | 80 | 2 | 1 | 21 | - | - |
| BZX55T27C | 27.2 | 28.6 | 80 | 2 | 1 | 21 | - | - |
| BZX55T27X | 26.99 | 28.39 | 80 | 2 | 1 | 21 | - | - |
| BZX55T30 | 28.2 | 31.6 | 100 | 2 | 1 | 23 | - | - |
| BZX55T30A | 28.2 | 29.6 | 100 | 2 | 1 | 23 | - | - |
| BZX55T30B | 29.2 | 30.6 | 100 | 2 | 1 | 23 | - | - |
| BZX55T30C | 30.2 | 31.6 | 100 | 2 | 1 | 23 | - | - |
| BZX55T30X | 29.02 | 30.51 | 100 | 2 | 1 | 23 | - | - |
| BZX55T33 | 31.2 | 34.5 | 120 | 2 | 1 | 25 | - | - |
| BZX55T33A | 31.2 | 32.6 | 120 | 2 | 1 | 25 | - | - |
| BZX55T33B | 32.2 | 33.6 | 120 | 2 | 1 | 25 | - | - |
| BZX55T33C | 33.2 | 34.5 | 120 | 2 | 1 | 25 | - | - |
| BZX55T36 | 34.2 | 38 | 140 | 2 | 1 | 27 | - | - |
| BZX55T36A | 34.2 | 35.7 | 140 | 2 | 1 | 27 | - | - |
| BZX55T36B | 35.3 | 36.8 | 140 | 2 | 1 | 27 | - | - |
| BZX55T36C | 36.4 | 38 | 140 | 2 | 1 | 27 | - | - |
| BZX55T36X | 35.36 | 37.19 | 140 | 2 | 1 | 27 | - | - |

¹⁾ Additional measurement

Please note: Additional measurement of voltage group 9V1 to 36 I_R at 95% V_{Zmin} = < 35 nA at T_j 25 °C

²⁾ Tested with pulses t_p = 20 ms.



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