

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

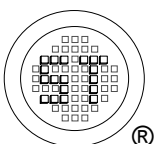
| Parameter                 | Symbol           | Value         | Unit             |
|---------------------------|------------------|---------------|------------------|
| Power Dissipation         | $P_{\text{tot}}$ | 500           | mW               |
| Junction Temperature      | $T_j$            | 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 | $R_{\text{thJA}}$ | 300  | K/W  |

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

| Parameter                                   | Symbol | Max. | Unit |
|---|--------|------|------|
| Forward Voltage<br>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               | $\Omega$   | mA       | $\mu A$    | V        | $\mu A$         | 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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| 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               | $\Omega$   | mA       | $\mu A$    | V        | $\mu A$         | 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               | $\Omega$   | mA       | $\mu A$    | V        | $\mu A$         | 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       | -               | -             |

<sup>1)</sup> Additional measurement

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

<sup>2)</sup> Tested with pulses  $t_p = 20$  ms.



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