

Zeners BZX55C2V4 - BZX55C91

Absolute Maximum Ratings * T_A = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------------------------------|--|-------------|-------|
| P _D | Power Dissipation @ TL ≤ 75°C, Lead Length = 3/8" | 500 | mW |
| | Derate above 75°C | 4.0 | mW/°C |
| T _J , T _{STG} | Operating and Storage Temperature Range | -65 to +200 | °C |

* These ratings are limiting values above which the serviceability of the diode may be impaired.

Tolerance = 5%



Electrical Characteristics T_A = 25°C unless otherwise noted

| Device | V _Z (V) @ I _Z (Note 1) | | Z _Z @ I _Z (Ω) | Test Current I _Z (mA) | I _R (μA) @ V _R | | | I _{ZM} (mA) (Note 2) |
|-----------|--|------|--|-------------------------------------|--------------------------------------|------------------------|--------------------|----------------------------------|
| | Min. | Max. | | | T _a = 25°C | T _a = 125°C | V _R (V) | |
| BZX55C2V4 | 2.28 | 2.56 | 85 | 5 | 50 | 100 | 1 | 155 |
| BZX55C2V7 | 2.50 | 2.9 | 85 | 5 | 10 | 50 | 1 | 135 |
| BZX55C3V0 | 2.8 | 3.2 | 85 | 5 | 4 | 40 | 1 | 125 |
| BZX55C3V3 | 3.1 | 3.5 | 85 | 5 | 2 | 40 | 1 | 115 |
| BZX55C3V6 | 3.4 | 3.8 | 85 | 5 | 2 | 40 | 1 | 105 |
| BZX55C3V9 | 3.7 | 4.1 | 85 | 5 | 2 | 40 | 1 | 95 |
| BZX55C4V3 | 4.0 | 4.6 | 75 | 5 | 1 | 40 | 1 | 90 |
| BZX55C4V7 | 4.4 | 5.0 | 60 | 5 | 0.5 | 10 | 1 | 85 |
| BZX55C5V1 | 4.8 | 5.4 | 35 | 5 | 0.1 | 2 | 1 | 80 |
| BZX55C5V6 | 5.2 | 6.0 | 25 | 5 | 0.1 | 2 | 1 | 70 |
| BZX55C6V2 | 5.8 | 6.6 | 10 | 5 | 0.1 | 2 | 2 | 64 |
| BZX55C6V8 | 6.4 | 7.2 | 8 | 5 | 0.1 | 2 | 3 | 58 |
| BZX55C7V5 | 7.0 | 7.9 | 7 | 5 | 0.1 | 2 | 5 | 53 |
| BZX55C8V2 | 7.7 | 8.7 | 7 | 5 | 0.1 | 2 | 6 | 47 |
| BZX55C9V1 | 8.5 | 9.6 | 10 | 5 | 0.1 | 2 | 7 | 43 |
| BZX55C10 | 9.5 | 10.6 | 15 | 5 | 0.1 | 2 | 7.5 | 40 |
| BZX55C11 | 10.4 | 11.6 | 20 | 5 | 0.1 | 2 | 8.5 | 36 |
| BZX55C12 | 11.4 | 12.7 | 20 | 5 | 0.1 | 2 | 9 | 32 |
| BZX55C13 | 12.4 | 14.1 | 26 | 5 | 0.1 | 2 | 10 | 29 |
| BZX55C15 | 13.8 | 15.6 | 30 | 5 | 0.1 | 2 | 11 | 27 |
| BZX55C16 | 15.3 | 17.1 | 40 | 5 | 0.1 | 2 | 12 | 24 |
| BZX55C18 | 16.8 | 19.1 | 50 | 5 | 0.1 | 2 | 14 | 21 |
| BZX55C20 | 18.8 | 21.1 | 55 | 5 | 0.1 | 2 | 15 | 20 |
| BZX55C22 | 20.8 | 23.3 | 55 | 5 | 0.1 | 2 | 17 | 18 |
| BZX55C24 | 22.8 | 25.6 | 80 | 5 | 0.1 | 2 | 18 | 16 |
| BZX55C27 | 25.1 | 28.9 | 80 | 5 | 0.1 | 2 | 20 | 14 |
| BZX55C30 | 28.0 | 32.0 | 80 | 5 | 0.1 | 2 | 22 | 13 |
| BZX55C33 | 31.0 | 35.0 | 80 | 5 | 0.1 | 2 | 24 | 12 |
| BZX55C36 | 34.0 | 38.0 | 80 | 5 | 0.1 | 2 | 27 | 11 |
| BZX55C39 | 37.0 | 41.0 | 90 | 2.5 | 0.1 | 5 | 28 | 10 |

Electrical Characteristics (Continued) $T_A=25^\circ\text{C}$ unless otherwise noted

| Device | V_Z (V) @ I_Z (Note 1) | | Z_Z @ I_Z (Ω) | Test Current I_Z (mA) | I_R (μA) @ V_R | | | I_{ZM} (mA) (Note 2) |
|----------|----------------------------|------|-------------------------------|----------------------------|---------------------------------|---------------------------|-----------|---------------------------|
| | Min. | Max. | | | $T_a = 25^\circ\text{C}$ | $T_a = 125^\circ\text{C}$ | V_R (V) | |
| BZX55C43 | 40 | 46 | 90 | 5 | 0.1 | 5 | 32 | 9.2 |
| BZX55C47 | 44 | 50 | 110 | 2.5 | 0.1 | 5 | 35 | 8.5 |
| BZX55C51 | 48 | 54 | 125 | 5 | 0.1 | 10 | 38 | 7.8 |
| BZX55C56 | 52 | 60 | 135 | 5 | 0.1 | 10 | 42 | 7.0 |
| BZX55C62 | 58 | 66 | 150 | 5 | 0.1 | 10 | 47 | 6.4 |
| BZX55C68 | 64 | 72 | 160 | 5 | 0.1 | 10 | 51 | 5.9 |
| BZX55C75 | 70 | 80 | 170 | 5 | 0.1 | 10 | 56 | 5.3 |
| BZX55C82 | 77 | 87 | 200 | 5 | 0.1 | 10 | 62 | 4.8 |
| BZX55C91 | 85 | 96 | 250 | 1 | 0.1 | 10 | 69 | 4.3 |

 V_F Forward Voltage = 1.3V Max @ $I_F = 100\text{mA}$ **Notes:**

- Zener Voltage (V_Z)
The zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature (T_L) at $30^\circ\text{C} \pm 1^\circ\text{C}$ and 3/8" lead length.
- Maximum Zener Current Ratings (I_{ZM})
The maximum current handling capability on a worst case basis is limited by the actual zener voltage at the operation point and the power derating curve.

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Top Mark Information

| Device | Line 1 | Line 2 | Line 3 | Line 4 |
|-----------|--------|--------|--------|--------|
| BZX55C2V4 | LOGO | 55C | 2V4 | XY |
| BZX55C2V7 | LOGO | 55C | 2V7 | XY |
| BZX55C3V0 | LOGO | 55C | 3V0 | XY |
| BZX55C3V3 | LOGO | 55C | 3V3 | XY |
| BZX55C3V6 | LOGO | 55C | 3V6 | XY |
| BZX55C3V9 | LOGO | 55C | 3V9 | XY |
| BZX55C4V3 | LOGO | 55C | 4V3 | XY |
| BZX55C4V7 | LOGO | 55C | 4V7 | XY |
| BZX55C5V1 | LOGO | 55C | 5V1 | XY |
| BZX55C5V6 | LOGO | 55C | 5V6 | XY |
| BZX55C6V2 | LOGO | 55C | 6V2 | XY |
| BZX55C6V8 | LOGO | 55C | 6V8 | XY |
| BZX55C7V5 | LOGO | 55C | 7V5 | XY |
| BZX55C8V2 | LOGO | 55C | 8V2 | XY |
| BZX55C9V1 | LOGO | 55C | 9V1 | XY |
| BZX55C10 | LOGO | 55C | 10 | XY |
| BZX55C11 | LOGO | 55C | 11 | XY |
| BZX55C12 | LOGO | 55C | 12 | XY |
| BZX55C13 | LOGO | 55C | 13 | XY |
| BZX55C15 | LOGO | 55C | 15 | XY |
| BZX55C16 | LOGO | 55C | 16 | XY |
| BZX55C18 | LOGO | 55C | 18 | XY |
| BZX55C20 | LOGO | 55C | 20 | XY |
| BZX55C22 | LOGO | 55C | 22 | XY |
| BZX55C24 | LOGO | 55C | 24 | XY |
| BZX55C27 | LOGO | 55C | 27 | XY |
| BZX55C30 | LOGO | 55C | 30 | XY |
| BZX55C33 | LOGO | 55C | 33 | XY |
| BZX55C36 | LOGO | 55C | 36 | XY |
| BZX55C39 | LOGO | 55C | 39 | XY |
| BZX55C43 | LOGO | 55C | 43 | XY |
| BZX55C47 | LOGO | 55C | 47 | XY |
| BZX55C51 | LOGO | 55C | 51 | XY |
| BZX55C56 | LOGO | 55C | 56 | XY |
| BZX55C62 | LOGO | 55C | 62 | XY |
| BZX55C68 | LOGO | 55C | 68 | XY |
| BZX55C75 | LOGO | 55C | 75 | XY |
| BZX55C82 | LOGO | 55C | 82 | XY |
| BZX55C91 | LOGO | 55C | 91 | XY |

Top Mark Information (Continued)

1st line: F - Fairchild Logo

2nd line: Device Name - 3rd to 5th characters of the device name.
or 4th to 6th characters for BZXyy series

3rd line: Device Name - 6th to 7th characters of the device name.
or Voltage rating for BZXyy series

4th line: Device Code or - Two Digit - Six Weeks Date Code.
Date code plus or Two Digit - Six Weeks Date Code
Large die identification plus Large die identification, "L"

General Requirements:

1.0 Cathod Band

2.0 First Line: F - Fairchild Logo

3.0 Second Line: Device name - For 1Nxx series: 3rd to 5th characters of the device name.
For BZxx series: 4th to 6th characters of the device name.

4.0 Third Line: Device name - For 1Nxx series: 6th to 7th characters of the device name.
For BZXyy series: Voltage rating

5.0 Fourth Line: XY or XYL - Two Digit - Six Weeks Date Code

Where: X represents the last digit of the calendar year

Y represents the Six weeks numeric code

L represents the Large die identification

6.0 Devices shall be marked as required in the device specification (PID or FSC Test Spec).

7.0 Maximum no. of marking lines: 4

8.0 Maximum no. of digits per line: 3

9.0 FSC logo must be 20 % taller than the alphanumeric marking and should occupy the 2 characters of the specified line.

10.0 Marking Font: Arial (Except FSC Logo)

11.0 First character of each marking line must be aligned vertically

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| CROSSVOLT™ | FRFET™ | MicroFET™ | PowerTrench® | SuperSOT™-6 |
| DOME™ | GlobalOptoisolator™ | MicroPak™ | QFET® | SuperSOT™-8 |
| EcoSPARK™ | GTO™ | MICROWIRE™ | QS™ | SyncFET™ |
| E ² CMOST™ | HiSeC™ | MSX™ | QT Optoelectronics™ | TinyLogic® |
| EnSigna™ | I ² C™ | MSXPro™ | Quiet Series™ | TINYOPTO™ |
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|--------------------------|------------------------|---|
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