



ON Semiconductor®

BZX79C2V4 - BZX79C56

Zener Diodes

Tolerance = 5%



DO-35 Glass case

COLOR BAND DENOTES CATHODE

Absolute Maximum Ratings * $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|----------------|---|-------------|----------------------|
| P_D | Power Dissipation @ $T_L \leq 75^\circ\text{C}$, Lead Length = 3/8" | 500 | mW |
| | Derate above 75°C | 4.0 | mW/ $^\circ\text{C}$ |
| T_J, T_{STG} | Operating and Storage Temperature Range | -65 to +200 | $^\circ\text{C}$ |

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

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

| Device | Zener Voltage (Note 1) | | | $Z_Z @ I_Z (\Omega)$ | Leakage Current | | $T_C (mV / ^\circ\text{C})$ | | C (pF) |
|-----------|------------------------|------|------------|----------------------|-----------------|-----------|-----------------------------|------|---------------------|
| | Min. | Max. | $I_Z (mA)$ | Max. | $I_R (\mu A)$ | $V_R (V)$ | Min. | Max. | $V_Z = 0, f = 1MHz$ |
| BZX79C2V4 | 2.2 | 2.6 | 5 | 100 | 100 | 1 | -3.5 | 0 | 255 |
| BZX79C2V7 | 2.5 | 2.9 | 5 | 100 | 75 | 1 | -3.5 | 0 | 230 |
| BZX79C3V0 | 2.8 | 3.2 | 5 | 95 | 50 | 1 | -3.5 | 0 | 215 |
| BZX79C3V3 | 3.1 | 3.5 | 5 | 95 | 25 | 1 | -3.5 | 0 | 200 |
| BZX79C3V6 | 3.4 | 3.8 | 5 | 90 | 15 | 1 | -3.5 | 0 | 185 |
| BZX79C3V9 | 3.7 | 4.1 | 5 | 90 | 10 | 1 | -3.5 | +0.3 | 175 |
| BZX79C4V3 | 4 | 4.6 | 5 | 90 | 5 | 1 | -3.5 | +1 | 160 |
| BZX79C4V7 | 4.4 | 5 | 5 | 80 | 3 | 2 | -3.5 | +0.2 | 130 |
| BZX79C5V1 | 4.8 | 5.4 | 5 | 60 | 2 | 2 | -2.7 | +1.2 | 110 |
| BZX79C5V6 | 5.2 | 6 | 5 | 40 | 1 | 2 | -2 | +2.5 | 95 |
| BZX79C6V2 | 5.8 | 6.6 | 5 | 10 | 3 | 4 | 0.4 | 3.7 | 90 |
| BZX79C6V8 | 6.4 | 7.2 | 5 | 15 | 2 | 4 | 1.2 | 4.5 | 85 |
| BZX79C7V5 | 7 | 7.9 | 5 | 15 | 1 | 5 | 2.5 | 5.3 | 80 |
| BZX79C8V2 | 7.7 | 8.7 | 5 | 15 | 0.7 | 5 | 3.2 | 6.2 | 75 |
| BZX79C9V1 | 8.5 | 9.6 | 5 | 15 | 0.5 | 6 | 3.8 | 7 | 70 |
| BZX79C10 | 9.4 | 10.6 | 5 | 20 | 0.2 | 7 | 4.5 | 8 | 70 |
| BZX79C11 | 10.4 | 11.6 | 5 | 20 | 0.1 | 8 | 5.4 | 9 | 65 |
| BZX79C12 | 11.4 | 12.7 | 5 | 25 | 0.1 | 8 | 6 | 10 | 65 |
| BZX79C13 | 12.4 | 14.1 | 5 | 30 | 0.1 | 8 | 7 | 11 | 60 |
| BZX79C15 | 13.8 | 15.6 | 5 | 30 | 0.05 | 10.5 | 9.2 | 13 | 55 |
| BZX79C16 | 15.3 | 17.1 | 5 | 40 | 0.05 | 11.2 | 10.4 | 14 | 52 |
| BZX79C18 | 16.8 | 19.1 | 5 | 45 | 0.05 | 12.6 | 12.9 | 16 | 47 |
| BZX79C20 | 18.8 | 21.2 | 5 | 55 | 0.05 | 14 | 14.4 | 18 | 36 |
| BZX79C22 | 20.8 | 23.3 | 5 | 55 | 0.05 | 15.4 | 16.4 | 20 | 34 |
| BZX79C24 | 22.8 | 25.6 | 5 | 70 | 0.05 | 16.8 | 18.4 | 22 | 33 |

| Device | Zener Voltage (Note 1) | | | $Z_Z @ I_Z$ (Ω) | Leakage Current | | T_C (mV / $^{\circ}\text{C}$) | | C (pF) |
|----------|------------------------|------|------------|--------------------------|-------------------------|-----------|----------------------------------|------|-------------------------------|
| | Min. | Max. | I_Z (mA) | Max. | I_R (μA) | V_R (V) | Min. | Max. | $V_Z = 0$, $f = 1\text{MHz}$ |
| BZX79C27 | 25.1 | 28.9 | 2 | 80 | 0.05 | 18.9 | - | 23.5 | 30 |
| BZX79C30 | 28 | 32 | 2 | 80 | 0.05 | 21 | - | 26 | 27 |
| BZX79C33 | 31 | 35 | 2 | 80 | 0.05 | 23.1 | - | 29 | 25 |
| BZX79C36 | 34 | 38 | 2 | 90 | 0.05 | 25.2 | - | 31 | 23 |
| BZX79C39 | 37 | 41 | 2 | 130 | 0.05 | 27.3 | - | 34 | 21 |
| BZX79C43 | 40 | 46 | 2 | 150 | 0.05 | 30.1 | - | 37 | 21 |
| BZX79C47 | 44 | 50 | 2 | 170 | 0.05 | 32.9 | - | 40 | 19 |
| BZX79C51 | 48 | 54 | 2 | 180 | 0.5 | 35.7 | - | 44 | 19 |
| BZX79C56 | 52 | 60 | 2 | 200 | 0.05 | 39.2 | - | 47 | 18 |

V_F Forward Voltage = 1.5V Max @ $I_F = 100\text{mA}$

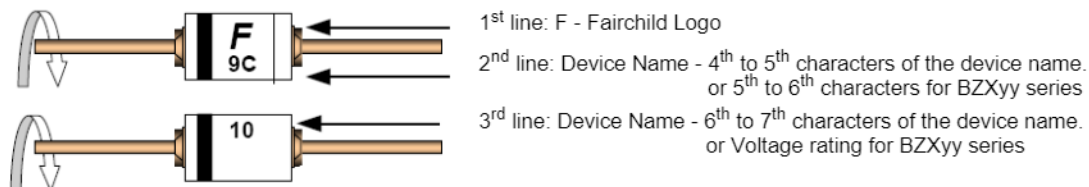
Notes:

1. 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.

Top Mark Information


| Device | Line 1 | Line 2 | Line 3 |
|-----------|--------|--------|--------|
| BZX79C2V4 | LOGO | 9C | 2V4 |
| BZX79C2V7 | LOGO | 9C | 2V7 |
| BZX79C3V0 | LOGO | 9C | 3V0 |
| BZX79C3V3 | LOGO | 9C | 3V3 |
| BZX79C3V6 | LOGO | 9C | 3V6 |
| BZX79C3V9 | LOGO | 9C | 3V9 |
| BZX79C4V3 | LOGO | 9C | 4V3 |
| BZX79C4V7 | LOGO | 9C | 4V7 |
| BZX79C5V1 | LOGO | 9C | 5V1 |
| BZX79C5V6 | LOGO | 9C | 5V6 |
| BZX79C6V2 | LOGO | 9C | 6V2 |
| BZX79C6V8 | LOGO | 9C | 6V8 |
| BZX79C7V5 | LOGO | 9C | 7V5 |
| BZX79C8V2 | LOGO | 9C | 8V2 |
| BZX79C9V1 | LOGO | 9C | 9V1 |
| BZX79C10 | LOGO | 9C | 10 |
| BZX79C11 | LOGO | 9C | 11 |
| BZX79C12 | LOGO | 9C | 12 |
| BZX79C13 | LOGO | 9C | 13 |
| BZX79C15 | LOGO | 9C | 15 |
| BZX79C16 | LOGO | 9C | 16 |
| BZX79C18 | LOGO | 9C | 18 |
| BZX79C20 | LOGO | 9C | 20 |
| BZX79C22 | LOGO | 9C | 22 |
| BZX79C24 | LOGO | 9C | 24 |
| BZX79C27 | LOGO | 9C | 27 |
| BZX79C30 | LOGO | 9C | 30 |
| BZX79C33 | LOGO | 9C | 33 |
| BZX79C36 | LOGO | 9C | 36 |
| BZX79C39 | LOGO | 9C | 39 |
| BZX79C43 | LOGO | 9C | 43 |
| BZX79C47 | LOGO | 9C | 47 |
| BZX79C51 | LOGO | 9C | 51 |
| BZX79C56 | LOGO | 9C | 56 |

Top Mark Information (Continued)



General Requirements:

- 1.0 Cathode Band
- 2.0 First Line: F - Fairchild Logo
- 3.0 Second Line: Device name - For 1Nxx series: 4th to 5th characters of the device name.
For BZxx series: 5th 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 Devices shall be marked as required in the device specification (PID or FSC Test Spec).
- 6.0 Maximum no. of marking lines: 3
- 7.0 Maximum no. of digits per line: 2
- 8.0 FSC logo must be 20 % taller than the alphanumeric marking and should occupy the 2 characters of the specified line.
- 9.0 Marking Font: Arial (Except FSC Logo)
- 10.0 First character of each marking line must be aligned vertically.
- 11.0 All device markings must be based on Fairchild device specification.

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