

BZX85C3V3 - BZX85C56

Zener Diodes

Tolerance = 5%



DO-41 Glass case
COLOR BAND DENOTES CATHODE

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

| Symbol | Parameter | Value | Units |
|-----------------------------------|---|-------------|-------|
| P _D | Power Dissipation @ T _L ≤ 50°C, Lead Length = 3/8" | 1.0 | W |
| | Derate above 50°C | 6.67 | 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.

Electrical Characteristics * T_A = 25°C unless otherwise noted

| Device | Zener Voltage (Note 1) | | Zener Impedance | | | | Leakage Current | |
|-----------|------------------------|------|-----------------|---------------------------------|-----------------------------------|------|---------------------------------|-------|
| | V _Z (Volts) | | I _Z | Z _Z @ I _Z | Z _{ZK} @ I _{ZK} | | I _R @ V _R | |
| | Min. | Max. | mA | (Ω) | (Ω) | (mA) | μA Max. | Volts |
| BZX85C3V3 | 3.1 | 3.5 | 80 | 20 | 400 | 1 | 60 | 1 |
| BZX85C3V6 | 3.4 | 3.8 | 60 | 15 | 500 | 1 | 30 | 1 |
| BZX85C3V9 | 3.7 | 4.1 | 60 | 15 | 500 | 1 | 5 | 1 |
| BZX85C4V3 | 4.0 | 4.6 | 50 | 13 | 500 | 1 | 3 | 1 |
| BZX85C4V7 | 4.4 | 5 | 45 | 13 | 600 | 1 | 3 | 1.5 |
| BZX85C5V1 | 4.8 | 5.4 | 45 | 10 | 500 | 1 | 1 | 2 |
| BZX85C5V6 | 5.2 | 6 | 45 | 7 | 400 | 1 | 1 | 2 |
| BZX85C6V2 | 5.8 | 6.6 | 35 | 4 | 300 | 1 | 1 | 3 |
| BZX85C6V8 | 6.4 | 7.2 | 35 | 3.5 | 300 | 1 | 1 | 4 |
| BZX85C7V5 | 7.0 | 7.9 | 35 | 3 | 200 | 0.5 | 1 | 4.5 |
| BZX85C8V2 | 7.7 | 8.7 | 25 | 5 | 200 | 0.5 | 1 | 5 |
| BZX85C9V1 | 8.5 | 9.6 | 25 | 5 | 200 | 0.5 | 1 | 6.5 |
| BZX85C10 | 9.4 | 10.6 | 25 | 7 | 200 | 0.5 | 0.5 | 7 |
| BZX85C11 | 10.4 | 11.6 | 20 | 8 | 300 | 0.5 | 0.5 | 7.7 |
| BZX85C12 | 11.4 | 12.7 | 20 | 9 | 350 | 0.5 | 0.5 | 8.4 |
| BZX85C13 | 12.4 | 14.1 | 20 | 10 | 400 | 0.5 | 0.5 | 9.1 |
| BZX85C15 | 13.8 | 15.6 | 15 | 15 | 500 | 0.5 | 0.5 | 10.5 |
| BZX85C16 | 15.3 | 17.1 | 15 | 15 | 500 | 0.5 | 0.5 | 11 |
| BZX85C18 | 16.8 | 19.1 | 15 | 20 | 500 | 0.5 | 0.5 | 12.5 |
| BZX85C20 | 18.8 | 21.2 | 10 | 24 | 600 | 0.5 | 0.5 | 14 |

| Device | Zener Voltage (Note 1) | | Zener Impedance | | | Leakage Current | |
|--|------------------------|------|-----------------|---------------------------------|-----------------------------------|---------------------------------|-------|
| | V _Z (Volts) | | I _Z | Z _Z @ I _Z | Z _{ZK} @ I _{ZK} | I _R @ V _R | |
| | Min. | Max. | mA | (Ω) | (Ω) (mA) | μ A Max. | Volts |
| BZX85C22 | 20.8 | 23.3 | 10 | 25 | 600 0.5 | 0.5 | 15.5 |
| BZX85C24 | 22.8 | 25.6 | 10 | 25 | 600 0.5 | 0.5 | 17 |
| BZX85C27 | 25.1 | 28.9 | 8 | 30 | 750 0.25 | 0.5 | 19 |
| BZX85C30 | 28 | 32 | 8 | 30 | 1000 0.25 | 0.5 | 21 |
| BZX85C33 | 31 | 35 | 8 | 35 | 1000 0.25 | 0.5 | 23 |
| BZX85C36 | 34 | 38 | 8 | 40 | 1000 0.25 | 0.5 | 25 |
| BZX85C39 | 37 | 41 | 6 | 45 | 1000 0.25 | 0.5 | 27 |
| BZX85C43 | 40 | 46 | 6 | 50 | 1000 0.25 | 0.5 | 30 |
| BZX85C47 | 44 | 50 | 4 | 90 | 1500 0.25 | 0.5 | 33 |
| BZX85C51 | 48 | 54 | 4 | 115 | 1500 0.25 | 0.5 | 36 |
| BZX85C56 | 52 | 60 | 4 | 120 | 2000 0.25 | 0.5 | 39 |
| V _F Forward Voltage = 1.2V Max @ I _F = 200mA | | | | | | | |

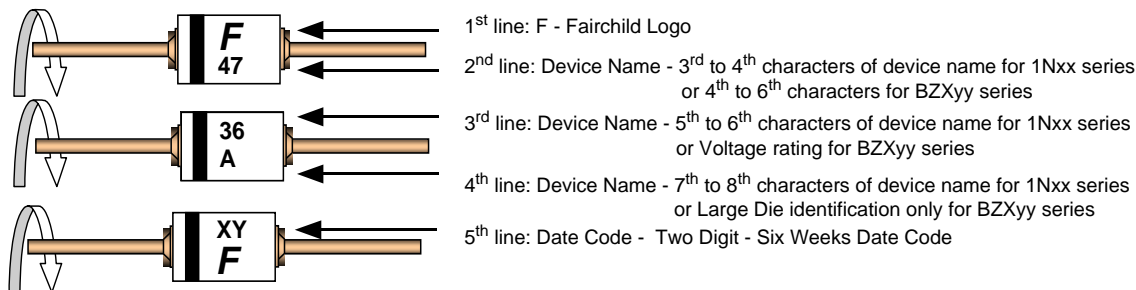
Notes:

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°C \pm 1°C and 3/8" lead length.

Top Mark Information

| Device | Line 1 | Line 2 | Line 3 | Line 4 | Line 5 |
|-----------|--------|--------|--------|--------|--------|
| BZX85C3V3 | LOGO | 85C | 3V3 | | XY |
| BZX85C3V6 | LOGO | 85C | 3V6 | | XY |
| BZX85C3V9 | LOGO | 85C | 3V9 | | XY |
| BZX85C4V3 | LOGO | 85C | 4V3 | | XY |
| BZX85C4V7 | LOGO | 85C | 4V7 | | XY |
| BZX85C5V1 | LOGO | 85C | 5V1 | | XY |
| BZX85C5V6 | LOGO | 85C | 5V6 | | XY |
| BZX85C6V2 | LOGO | 85C | 6V2 | | XY |
| BZX85C6V8 | LOGO | 85C | 6V8 | | XY |
| BZX85C7V5 | LOGO | 85C | 7V5 | | XY |
| BZX85C8V2 | LOGO | 85C | 8V2 | | XY |
| BZX85C9V1 | LOGO | 85C | 9V1 | | XY |
| BZX85C10 | LOGO | 85C | 10 | | XY |
| BZX85C11 | LOGO | 85C | 11 | | XY |
| BZX85C12 | LOGO | 85C | 12 | | XY |
| BZX85C13 | LOGO | 85C | 13 | | XY |
| BZX85C15 | LOGO | 85C | 15 | | XY |
| BZX85C16 | LOGO | 85C | 16 | | XY |
| BZX85C18 | LOGO | 85C | 18 | | XY |
| BZX85C20 | LOGO | 85C | 20 | | XY |
| BZX85C22 | LOGO | 85C | 22 | | XY |
| BZX85C24 | LOGO | 85C | 24 | | XY |
| BZX85C27 | LOGO | 85C | 27 | | XY |
| BZX85C30 | LOGO | 85C | 30 | | XY |
| BZX85C33 | LOGO | 85C | 33 | | XY |
| BZX85C36 | LOGO | 85C | 36 | | XY |
| BZX85C39 | LOGO | 85C | 39 | | XY |
| BZX85C43 | LOGO | 85C | 43 | | XY |
| BZX85C47 | LOGO | 85C | 47 | | XY |
| BZX85C51 | LOGO | 85C | 51 | | XY |
| BZX85C56 | LOGO | 85C | 56 | | XY |

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: 3rd to 4th characters of the device name.
For BZXxx series: 4th to 6th characters of the device name.
- 4.0 Third Line: Device name - For 1Nxx series: 5th to 6th characters of the device name.
For BZXyy series: Voltage rating
- 5.0 Third Line: Device name - For 1Nxx series: 7th to 8th characters of the device name.
(the 8th character is the large die identification)
For BZXyy series: Large Die Identification character
- 6.0 Fourth Line: Date Code - Two Digit - Six Weeks Date Code
Where: X represents the last digit of the calendar year
Y represents the Six weeks numeric code
- 7.0 Devices shall be marked as required in the device specification (PID or FSC Test Spec).
- 8.0 Maximum no. of marking lines: 5
- 9.0 Maximum no. of digits per line: 3
- 10.0 FSC logo must be 20 % taller than the alphanumeric marking and should occupy the 2 characters of the specified line.
- 11.0 Marking Font: Arial (Except FSC Logo)
- 12.0 First character of each marking line must be aligned vertically
- 13.0 All device markings must be based on Fairchild device specification.



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| Build it Now [™] | IntelliMAX [™] | QS [™] | TinyWire [™] |
| CoolFET [™] | ISOPLANAR [™] | QT Optoelectronics [™] | TruTranslation [™] |
| CROSSVOL [™] | MICROCOUPLER [™] | Quiet Series [™] | μSerDes [™] |
| CTL [™] | MicroPak [™] | RapidConfigure [™] | UHC [®] |
| Current Transfer Logic [™] | MICROWIRE [™] | RapidConnect [™] | UniFET [™] |
| DOME [™] | MSX [™] | ScalarPump [™] | VCX [™] |
| E ² CMOS [™] | MSXPro [™] | SMART START [™] | Wire [™] |
| EcoSPARK [®] | OCX [™] | SPM [™] | |
| EnSigna [™] | OCXPro [™] | SuperFET [™] | |
| FACT Quiet Series [™] | OPTOLOGIC [®] | SuperSOT [™] -3 | |
| FACT [®] | OPTOPLANAR [™] | SuperSOT [™] -6 | |
| FAST [®] | PACMAN [™] | SuperSOT [™] -8 | |
| FASTr [™] | POP [™] | TCM [™] | |
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