

BZX2C3V6 THRU BZX2C220V

SILICON PLANAR ZENER DIODES

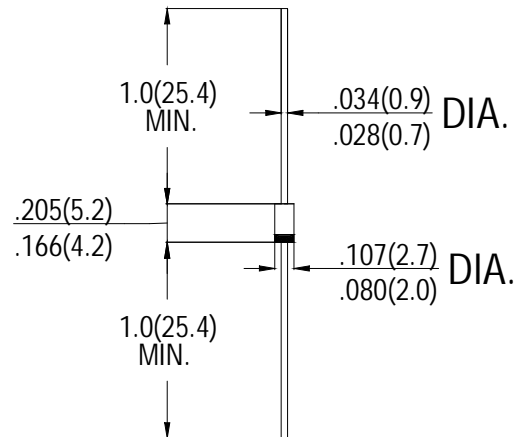
FEATURES

- Voltage Range: 3.6V to 220V
- Double siug type construction

MECHANICAL DATA

- **Case:** Molded plastic
- **Epoxy:** UL94V-0 rate flame retardant
- **Lead:** MIL-STD- 202E, Method 208 guaranteed
- **Polarity:** Color band denotes cathode end
- **Mounting position:** Any
- **Weight:** 0.33 grams

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

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

| | SYMBOL | VALUE | units |
|---|-----------|-------------------|-------|
| Zener Current see Table "Characterstics" | | | |
| Power Dissipation at $T_{amb}=25^\circ\text{C}$ | P_{tot} | 2.0 ¹⁾ | W |
| Junction Temperature | T_J | 175 | °C |

¹⁾ Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

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

| | SYMBOL | Min. | Typ. | Max. | units |
|---------------------------------------|--------|------|------|------|-------|
| Forward Voltage at $I_F=200\text{mA}$ | V_F | -- | -- | 1.2 | V |



SILICON PLANAR POWER ZENER DIODES

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

| TYPE | Nomonal Zener Voltage | Zener Voltage Range | | Dynamic Recsistance | | | Reverse leakage current | | Maximum DC Zener Current |
|-----------|-----------------------|---------------------|---------------|---------------------|-----------------|---------------|-------------------------|-----------------|--------------------------|
| | | V | I_{ZT} (mA) | Ohm at I_{ZT} | Ohm at I_{ZK} | I_{ZK} (mA) | $I_R(\mu\text{A})$ | $V_R(\text{V})$ | |
| BZX2C3V6 | 3.6 | 3.4...3.8 | 139 | 5 | 400 | 1 | 50 | 1 | 504 |
| BZX2C3V9 | 3.9 | 3.7...4.1 | 128 | 5 | 400 | 1 | 30 | 1 | 468 |
| BZX2C4V3 | 4.3 | 4.0...4.6 | 116 | 4.5 | 400 | 1 | 20 | 1 | 434 |
| BZX2C4V7 | 4.7 | 4.4...5.0 | 106 | 4.5 | 550 | 1 | 5 | 1 | 386 |
| BZX2C5V1 | 5.1 | 4.8...5.4 | 98 | 3.5 | 600 | 1 | 5 | 1 | 356 |
| BZX2C5V6 | 5.6 | 5.2...6.0 | 89.5 | 2.5 | 500 | 1 | 5 | 3 | 324 |
| BZX2C6V2 | 6.2 | 5.8...6.6 | 80.5 | 1.5 | 700 | 1 | 5 | 3 | 292 |
| BZX2C6V8 | 6.8 | 6.4...7.2 | 73.5 | 2 | 700 | 1 | 5 | 4 | 266 |
| BZX2C7V5 | 7.5 | 7.0...7.9 | 66.5 | 2 | 700 | 0.5 | 5 | 5 | 242 |
| BZX2C8V2 | 8.2 | 7.7...8.7 | 61 | 2.3 | 700 | 0.5 | 5 | 6 | 220 |
| BZX2C9V1 | 9.1 | 8.5...9.6 | 55 | 2.5 | 700 | 0.5 | 2 | 7 | 200 |
| BZX2C10V | 10 | 9.4...10.6 | 50 | 3.5 | 700 | 0.25 | 3 | 7.6 | 182 |
| BZX2C11V | 11 | 10.4...11.6 | 45.5 | 4 | 700 | 0.25 | 1 | 8.4 | 166 |
| BZX2C12V | 12 | 11.4...12.7 | 41.5 | 4.5 | 700 | 0.25 | 1 | 9.1 | 152 |
| BZX2C13V | 13 | 12.4...14.1 | 38.5 | 5 | 700 | 0.25 | 0.5 | 9.9 | 138 |
| BZX2C15V | 15 | 13.8...15.6 | 33.4 | 7 | 700 | 0.25 | 0.5 | 11.4 | 122 |
| BZX2C16V | 16 | 15.3...17.1 | 31.2 | 8 | 700 | 0.25 | 0.5 | 12.2 | 114 |
| BZX2C18V | 18 | 16.8...19.1 | 27.8 | 10 | 750 | 0.25 | 0.5 | 13.7 | 100 |
| BZX2C20V | 20 | 18.8...21.2 | 25 | 11 | 750 | 0.25 | 0.5 | 15.2 | 90 |
| BZX2C22V | 22 | 20.8...23.3 | 22.8 | 12 | 750 | 0.25 | 0.5 | 16.7 | 82 |
| BZX2C24V | 24 | 22.8...25.6 | 20.8 | 13 | 750 | 0.25 | 0.5 | 18.2 | 76 |
| BZX2C27V | 27 | 25.1...28.9 | 18.5 | 18 | 750 | 0.25 | 0.5 | 20.6 | 68 |
| BZX2C30V | 30 | 28...32 | 16.6 | 20 | 1000 | 0.25 | 0.5 | 22.5 | 60 |
| BZX2C33V | 33 | 31...35 | 15.1 | 23 | 1000 | 0.25 | 0.5 | 25.1 | 55 |
| BZX2C36V | 36 | 34...38 | 13.9 | 25 | 1000 | 0.25 | 0.5 | 27.4 | 50 |
| BZX2C39V | 39 | 37...41 | 12.8 | 30 | 1000 | 0.25 | 0.5 | 29.7 | 47 |
| BZX2C43V | 43 | 40...46 | 11.6 | 35 | 1500 | 0.25 | 0.5 | 32.7 | 43 |
| BZX2C47V | 47 | 44...50 | 10.6 | 40 | 1500 | 0.25 | 0.5 | 35.8 | 39 |
| BZX2C51V | 51 | 48...54 | 9.8 | 48 | 1500 | 0.25 | 0.5 | 38.8 | 36 |
| BZX2C56V | 56 | 52...60 | 9 | 55 | 2000 | 0.25 | 0.5 | 42.6 | 32 |
| BZX2C62V | 62 | 58...66 | 8.1 | 60 | 2000 | 0.25 | 0.5 | 47.1 | 29 |
| BZX2C68V | 68 | 64...72 | 7.4 | 75 | 2000 | 0.25 | 0.5 | 51.7 | 27 |
| BZX2C75V | 75 | 70...87 | 6.1 | 90 | 3000 | 0.25 | 0.5 | 56 | 24 |
| BZX2C82V | 82 | 77...87 | 6.1 | 100 | 3000 | 0.25 | 0.5 | 62.2 | 22 |
| BZX2C91V | 91 | 85...96 | 5.5 | 125 | 3000 | 0.25 | 0.5 | 69.2 | 20 |
| BZX2C100V | 100 | 94...106 | 5 | 175 | 3000 | 0.25 | 0.5 | 76 | 18 |



| | | | | | | | | | |
|-----------|-----|-----------|-----|-----|------|------|-----|-------|----|
| BZX2C110V | 110 | 104...116 | 4.5 | 250 | 4000 | 0.25 | 0.5 | 83.6 | 17 |
| BZX2C120V | 120 | 114...127 | 4.2 | 325 | 4500 | 0.25 | 0.5 | 91.2 | 15 |
| BZX2C130V | 130 | 124...141 | 3.8 | 400 | 5000 | 0.25 | 0.5 | 98.8 | 14 |
| BZX2C150V | 150 | 138...156 | 3.3 | 575 | 6000 | 0.25 | 0.5 | 114 | 12 |
| BZX2C160V | 160 | 153...171 | 3.1 | 650 | 6500 | 0.25 | 0.5 | 121.6 | 11 |
| BZX2C180V | 180 | 168...191 | 2.8 | 725 | 7000 | 0.25 | 0.5 | 136.8 | 10 |
| BZX2C200V | 200 | 188...212 | 2.5 | 900 | 7500 | 0.25 | 0.5 | 152 | 9 |
| BZX2C220V | 220 | 218...232 | 2.3 | 990 | 8000 | 0.25 | 0.5 | 167.2 | 8 |

¹⁾ Tested with pulses $t_p=20$ ms.

²⁾ Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.