



SEMICONDUCTOR

BZX55-C0V8 THRU BZX55-C200

0.5W SILICON PLANAR ZENER DIODES

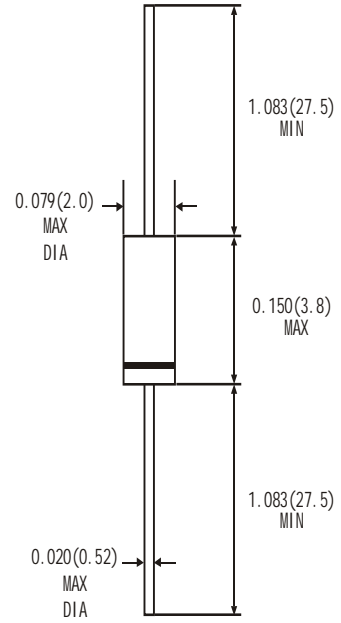
FEATURES

- The zener voltage are graded according to the international E24 standard. Other voltage tolerance and higher zener voltage on request

MECHANICAL DATA

- Case: D0 -35 glass case
- Polarity: Color band denotes cathode end
- Weight: Approx. 0.13 gram

D0 -35



Dimensions in inches and (millimeters)

ABSOLUTE MAXIMUM RATINGS (LIMITING VALUES) (T_A = 25 °C)

| | Symbols | Value | Units |
|---|------------------|-------------------|-------|
| Zener current see table "Characteristics" | | | |
| Power dissipation at T _A = 50 °C | P _{tot} | 500 ¹⁾ | mW |
| Junction temperature | T _J | 175 | °C |
| Storage temperature range | T _{STG} | -65 to +175 | °C |

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

ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

| | Symbols | Min | Typ | Max | Units |
|--|------------------|-----|-----|-------------------|-------|
| Thermal resistance junction to ambient air | R _{θJA} | | | 300 ¹⁾ | K/W |
| Forward voltage at I _F = 100mA | V _F | | | 1.0 | V |

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

BZX55... SILICON PLANAR ZENER DIODES

| Type | Zener Voltage range ¹⁾ | | | Dynamic resistance | | | Reverse leakage current | | | Temp Coefficient of zener voltage | | |
|------------------------------|-----------------------------------|---|-------------|--|------|----|--|-------------|-------------|-----------------------------------|---------------|-------------|
| | V _{ZNOM} | I _{ZT} for V _{ZT} ²⁾ | | r _{ZT} and r _{ZK} at I _{ZK} | | | I _R and I _{R2} at V _R | | | TK _{VZ} | | |
| | V | mA | V | Ω | Ω | mA | μA | μA | V | %/K | | |
| BZX 55/C 0 V 8 ³⁾ | 0.8 | 5 | 0.73...0.83 | <8 | <50 | 1 | -- | -- | -- | -0.26...-0.23 | | |
| BZX 55/C 2 V 0 | 2.0 | | 1.9...2.1 | <85 | <600 | | <100 | <200 | 1 | -0.09...-0.06 | | |
| BZX 55/C 2 V 4 | 2.4 | | 2.28...2.56 | | | | <50 | <100 | | | | |
| BZX 55/C 2 V 7 | 2.7 | | 2.5...2.9 | | | | <10 | <50 | | | | |
| BZX 55/C 3 V 0 | 3.0 | | 2.8...3.2 | | | | <4 | <40 | | 1 | -0.08...-0.05 | |
| BZX 55/C 3 V 3 | 3.3 | | 3.1...3.5 | | | | | | | | | |
| BZX 55/C 3 V 6 | 3.6 | | 3.4...3.8 | | | | <2 | <20 | | -0.06...-0.03 | | |
| BZX 55/C 3 V 9 | 3.9 | | 3.7...4.1 | | | | <1 | <10 | | -0.05...+0.02 | | |
| BZX 55/C 4 V 3 | 4.3 | | 4.0...4.6 | | | | <75 | <0.5 | | <10 | -0.02...+0.02 | |
| BZX 55/C 4 V 7 | 4.7 | | 4.4...5.0 | | | | <60 | <0.1 | | <2 | 2 | 0.03...0.06 |
| BZX 55/C 5 V 1 | 5.1 | | 4.8...5.4 | | | | <35 | | | | <550 | 3 |
| BZX 55/C 5 V 6 | 5.6 | | 5.2...6.0 | <25 | <450 | | 5 | | 0.03...0.07 | | | |
| BZX 55/C 6 V 2 | 6.2 | | 5.8...6.6 | <10 | <200 | | 6.2 | | 0.03...0.08 | | | |
| BZX 55/C 6 V 8 | 6.8 | | 6.4...7.2 | <8 | <150 | | 6.8 | | 0.03...0.09 | | | |
| BZX 55/C 7 V 5 | 7.5 | | 7.0...7.9 | <7 | <50 | | 7.5 | | 0.03...0.1 | | | |
| BZX 55/C 8 V 2 | 8.2 | | 7.7...8.7 | <7 | | | 8.2 | | 0.03...0.11 | | | |
| BZX 55/C 8 V 2 | 8.2 | | 7.7...8.7 | <7 | 9.1 | | | | | | | |
| BZX 55/C 9 V 1 | 9.1 | | 8.5...9.6 | <10 | 10 | | | | | | | |
| BZX 55/C 10 | 10 | | 9.4...10.6 | <15 | <70 | | 11 | | | | | |
| BZX 55/C 11 | 11 | | 10.4...11.6 | <20 | <70 | | 12 | | | | | |
| BZX 55/C 12 | 12 | | 11.4...12.7 | <20 | <90 | | 13 | | | | | |
| BZX 55/C 13 | 13 | | 12.4...14.1 | <26 | <110 | | 14 | | | | | |
| BZX 55/C 15 | 15 | | 13.8...15.6 | <30 | <110 | | 15 | | | | | |
| BZX 55/C 16 | 16 | | 15.3...17.1 | <40 | <170 | | 16 | | | | | |
| BZX 55/C 18 | 18 | | 16.8...19.1 | <50 | <170 | | 18 | | | | | |
| BZX 55/C 20 | 20 | | 18.8...21.2 | <55 | <220 | | 20 | 0.04...0.12 | | | | |
| BZX 55/C 22 | 22 | | 20.8...23.3 | <55 | | | 22 | | | | | |
| BZX 55/C 24 | 24 | 22.8...25.6 | <80 | 24 | | | | | | | | |
| BZX 55/C 27 | 27 | 25.1...28.9 | <80 | 27 | | | | | | | | |

BZX55... SILICON PLANAR ZENER DIODES

| Type | Zener Voltage range ¹⁾ | | | Dynamic resistance | | | Reverse leakage current | | | Temp Coefficient of zener voltage |
|--------------|-----------------------------------|---|---------|--|-------|-----|---|------|-----|-----------------------------------|
| | V _{ZNOM} | I _{ZT} for V _{ZT} ²⁾ | | r _{ZD} and r _{ZK} at I _{ZK} | | | I _R and I _R ²⁾ at V _R | | | TK _{VZ} |
| | V | mA | V | Ω | Ω | mA | μA | μA | V | %/K |
| BZX 55/C 30 | 30 | 5 | 28...32 | <80 | <220 | 1 | <0.1 | <2 | 22 | 0.04...0.12 |
| BZX 55/C 33 | 33 | | 31...35 | | | | | | 24 | |
| BZX 55/C 36 | 36 | | 34...38 | | | | | | 27 | |
| BZX 55/C 39 | 39 | 2.5 | 37...41 | <90 | <500 | 0.5 | | <5 | 30 | |
| BZX 55/C 43 | 43 | | 40...46 | <90 | <500 | | | | 33 | |
| BZX 55/C 47 | 47 | | 44...50 | <110 | <600 | | | | 36 | |
| BZX 55/C 51 | 51 | | 48...54 | <125 | <700 | | | | 39 | |
| BZX 55/C 56 | 56 | | 52...60 | <135 | <700 | | | | 43 | |
| BZX 55/C 62 | 62 | | 58...66 | <150 | <1000 | | | | 47 | |
| BZX 55/C 68 | 68 | | 64...72 | <200 | | | | 51 | | |
| BZX 55/C 75 | 75 | | 70...79 | <250 | | | | 56 | | |
| BZX 55/C 82 | 82 | | 77...87 | <300 | <1500 | | | 0.25 | <10 | |
| BZX 55/C 91 | 91 | 85...96 | <450 | <2000 | 0.1 | 68 | | | | |
| BZX 55/C 100 | 100 | 94...106 | <450 | <5000 | | 75 | | | | |
| BZX 55/C 110 | 110 | 104...116 | <600 | <5000 | | 82 | | | | |
| BZX 55/C 120 | 120 | 114...127 | <800 | <5500 | | 91 | | | | |
| BZX 55/C 130 | 130 | 124...141 | <950 | <6000 | | 100 | | | | |
| BZX 55/C 150 | 150 | 138...156 | <1250 | <6500 | | 110 | | | | |
| BZX 55/C 160 | 160 | 153...171 | <1400 | <7000 | | 120 | | | | |
| BZX 55/C 180 | 180 | 168...191 | <1700 | <8500 | | 130 | | | | |
| BZX 55/C 200 | 200 | 188...212 | <2000 | <10000 | | 0.1 | 150 | | | |

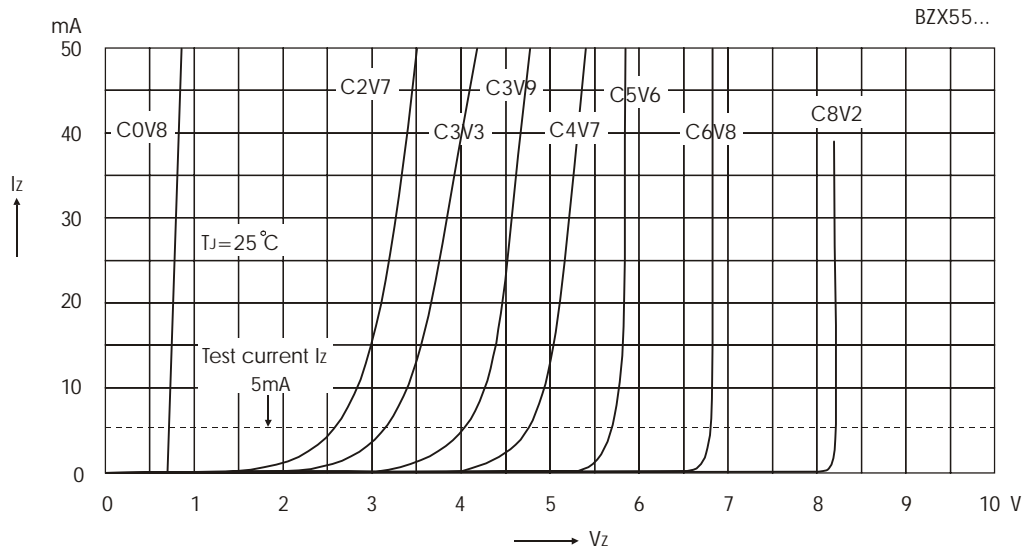
1) Teated with pulses tp=20ms

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

3) The BZX55-C0V8 is a silicon diode with operation in forward direction. Hence, the index of all parameters should be "F" instead of "Z". Connect the cathode lead to the negative pole.

BZX55... SILICON PLANAR ZENER DIODES

BREAKDOWN CHARACTERISTICS AT $T_J = \text{CONSTANT}$ (PULSED)



BREAKDOWN CHARACTERISTICS AT $T_J = \text{CONSTANT}$ (PULSED)

