

BZX55C2V0 ~ BZX55C82

ZENER DIODES

V_Z : 2.0 - 82 Volts

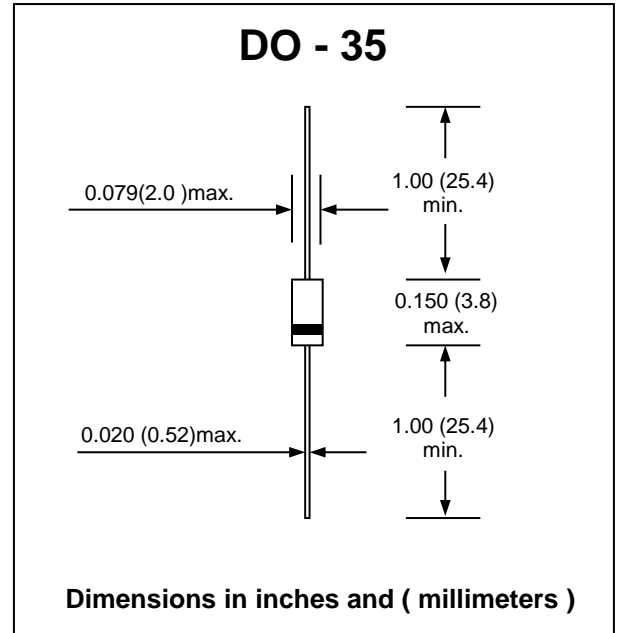
P_D : 500 mW

FEATURES :

- * Complete 2.0 to 100 Volts
- * High surge current capability
- * High peak reverse power dissipation
- * High reliability
- * Low leakage current
- * Pb / RoHS Free

MECHANICAL DATA

- * Case : Molded glass
- * Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- * Polarity : Color band denotes cathode end. When operated in zener mode, cathode will be positive with respect to anode
- * Mounting position : Any
- * Weight : 0.13 gram (approx.)



MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating | Symbol | Value | Unit |
|--|-----------------|---------------|------|
| Power Dissipation (Note1) | P_D | 500 | mW |
| Maximum Forward Voltage at $I_F = 100$ mA | V_F | 1.0 | V |
| Maximum Thermal Resistance Junction to Ambient Air (Note1) | $R_{\theta JA}$ | 300 | °C/W |
| Junction Temperature Range | T_j | - 65 to + 200 | °C |
| Storage Temperature Range | T_s | - 65 to + 200 | °C |

Note :

(1) Valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

| Type Number | Marking Code | Zener Voltage $V_Z @ I_{ZT}$ | | | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current, I_R | | | Temp. coefficient of Zener Voltage | Admissible Zener Current ⁽²⁾ |
|-------------|--------------|---------------------------------|--------------------|--------------------|----------|-------------------------|-------------------|----------|--|-------------|----------|------------------------------------|---|
| | | Nom ⁽¹⁾ | Min ⁽²⁾ | Max ⁽²⁾ | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | I_{ZK} | Ta = 25 °C | Ta = 150 °C | at V_R | TK _{VZ} (% / K) | I_{ZM} (mA) |
| | | (V) | (V) | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (μA) | (V) | | |
| BZX55C2V0 | C2V0 | 2.0 | 1.90 | 2.10 | 5.0 | 85 | 600 | 1.0 | 100 | 200 | 1.0 | -0.09...-0.06 | 175 |
| BZX55C2V2 | C2V2 | 2.2 | 2.09 | 2.31 | 5.0 | 85 | 600 | 1.0 | 50 | 100 | 1.0 | -0.09...-0.06 | 160 |
| BZX55C2V4 | C2V4 | 2.4 | 2.28 | 2.56 | 5.0 | 85 | 600 | 1.0 | 50 | 100 | 1.0 | -0.09...-0.06 | 145 |
| BZX55C2V7 | C2V7 | 2.7 | 2.5 | 2.9 | 5.0 | 85 | 600 | 1.0 | 10 | 50 | 1.0 | -0.09...-0.06 | 135 |
| BZX55C3V0 | C3V0 | 3.0 | 2.8 | 3.2 | 5.0 | 85 | 600 | 1.0 | 4.0 | 40 | 1.0 | -0.08...-0.05 | 125 |
| BZX55C3V3 | C3V3 | 3.3 | 3.1 | 3.5 | 5.0 | 85 | 600 | 1.0 | 2.0 | 40 | 1.0 | -0.08...-0.05 | 115 |
| BZX55C3V6 | C3V6 | 3.6 | 3.4 | 3.8 | 5.0 | 85 | 600 | 1.0 | 2.0 | 40 | 1.0 | -0.08...-0.05 | 105 |
| BZX55C3V9 | C3V9 | 3.9 | 3.7 | 4.1 | 5.0 | 85 | 600 | 1.0 | 2.0 | 40 | 1.0 | -0.08...-0.05 | 95 |
| BZX55C4V3 | C4V3 | 4.3 | 4.0 | 4.6 | 5.0 | 75 | 600 | 1.0 | 1.0 | 20 | 1.0 | -0.06...-0.03 | 90 |
| BZX55C4V7 | C4V7 | 4.7 | 4.4 | 5.0 | 5.0 | 60 | 600 | 1.0 | 0.5 | 10 | 1.0 | -0.05...+0.02 | 85 |
| BZX55C5V1 | C5V1 | 5.1 | 4.8 | 5.4 | 5.0 | 35 | 550 | 1.0 | 0.1 | 2.0 | 1.0 | -0.02...+0.02 | 80 |
| BZX55C5V6 | C5V6 | 5.6 | 5.2 | 6.0 | 5.0 | 25 | 450 | 1.0 | 0.1 | 2.0 | 1.0 | -0.05...+0.05 | 70 |
| BZX55C6V2 | C6V2 | 6.2 | 5.8 | 6.6 | 5.0 | 10 | 200 | 1.0 | 0.1 | 2.0 | 2.0 | 0.03...0.06 | 64 |
| BZX55C6V8 | C6V8 | 6.8 | 6.4 | 7.2 | 5.0 | 8 | 150 | 1.0 | 0.1 | 2.0 | 3.0 | 0.03...0.07 | 58 |
| BZX55C7V5 | C7V5 | 7.5 | 7.0 | 7.9 | 5.0 | 7 | 50 | 1.0 | 0.1 | 2.0 | 5.0 | 0.03...0.07 | 53 |
| BZX55C8V2 | C8V2 | 8.2 | 7.7 | 8.7 | 5.0 | 7 | 50 | 1.0 | 0.1 | 2.0 | 6.2 | 0.03...0.08 | 47 |
| BZX55C9V1 | C9V1 | 9.1 | 8.5 | 9.6 | 5.0 | 10 | 50 | 1.0 | 0.1 | 2.0 | 6.8 | 0.03...0.09 | 43 |
| BZX55C10 | C10 | 10 | 9.4 | 10.6 | 5.0 | 15 | 70 | 1.0 | 0.1 | 2.0 | 7.5 | 0.03...0.10 | 40 |
| BZX55C11 | C11 | 11 | 10.4 | 11.6 | 5.0 | 20 | 70 | 1.0 | 0.1 | 2.0 | 8.2 | 0.03...0.11 | 36 |
| BZX55C12 | C12 | 12 | 11.4 | 12.7 | 5.0 | 20 | 90 | 1.0 | 0.1 | 2.0 | 9.1 | 0.03...0.11 | 32 |
| BZX55C13 | C13 | 13 | 12.4 | 14.1 | 5.0 | 26 | 110 | 1.0 | 0.1 | 2.0 | 10.0 | 0.03...0.11 | 29 |
| BZX55C15 | C15 | 15 | 13.8 | 15.6 | 5.0 | 30 | 110 | 1.0 | 0.1 | 2.0 | 11 | 0.03...0.11 | 27 |
| BZX55C16 | C16 | 16 | 15.3 | 17.1 | 5.0 | 40 | 170 | 1.0 | 0.1 | 2.0 | 12 | 0.03...0.11 | 24 |
| BZX55C18 | C18 | 18 | 16.8 | 19.1 | 5.0 | 50 | 170 | 1.0 | 0.1 | 2.0 | 13 | 0.03...0.11 | 21 |
| BZX55C20 | C20 | 20 | 18.8 | 21.2 | 5.0 | 55 | 220 | 1.0 | 0.1 | 2.0 | 15 | 0.03...0.11 | 20 |
| BZX55C22 | C22 | 22 | 20.8 | 23.3 | 5.0 | 55 | 220 | 1.0 | 0.1 | 2.0 | 16 | 0.04...0.12 | 18 |
| BZX55C24 | C24 | 24 | 22.8 | 25.6 | 5.0 | 80 | 220 | 1.0 | 0.1 | 2.0 | 18 | 0.04...0.12 | 16 |
| BZX55C27 | C27 | 27 | 25.1 | 28.9 | 5.0 | 80 | 220 | 1.0 | 0.1 | 2.0 | 20 | 0.04...0.12 | 14 |
| BZX55C30 | C30 | 30 | 28 | 32 | 5.0 | 80 | 220 | 1.0 | 0.1 | 2.0 | 22 | 0.04...0.12 | 13 |
| BZX55C33 | C33 | 33 | 31 | 35 | 5.0 | 80 | 220 | 1.0 | 0.1 | 2.0 | 24 | 0.04...0.12 | 12 |
| BZX55C36 | C36 | 36 | 34 | 38 | 5.0 | 80 | 220 | 1.0 | 0.1 | 2.0 | 27 | 0.04...0.12 | 11 |
| BZX55C39 | C39 | 39 | 37 | 41 | 2.5 | 90 | 500 | 0.5 | 0.1 | 5.0 | 30 | 0.04...0.12 | 10 |
| BZX55C43 | C43 | 43 | 40 | 46 | 2.5 | 90 | 500 | 0.5 | 0.1 | 5.0 | 33 | 0.04...0.12 | 9.2 |
| BZX55C47 | C47 | 47 | 44 | 50 | 2.5 | 110 | 600 | 0.5 | 0.1 | 5.0 | 36 | 0.04...0.12 | 8.5 |
| BZX55C51 | C51 | 51 | 48 | 54 | 2.5 | 125 | 700 | 0.5 | 0.1 | 10 | 39 | 0.04...0.12 | 7.8 |
| BZX55C56 | C56 | 56 | 52 | 60 | 2.5 | 135 | 700 | 0.5 | 0.1 | 10 | 43 | typ. 0.1 ⁽⁴⁾ | 7.0 |
| BZX55C62 | C62 | 62 | 58 | 66 | 2.5 | 150 | 1000 | 0.5 | 0.1 | 10 | 47 | typ. 0.1 ⁽⁴⁾ | 6.4 |
| BZX55C68 | C68 | 68 | 64 | 72 | 2.5 | 200 | 1000 | 0.5 | 0.1 | 10 | 51 | typ. 0.1 ⁽⁴⁾ | 5.9 |
| BZX55C75 | C75 | 75 | 70 | 79 | 2.5 | 250 | 1000 | 0.5 | 0.1 | 10 | 56 | typ. 0.1 ⁽⁴⁾ | 5.3 |
| BZX55C82 | C82 | 82 | 77 | 87 | 2.5 | 300 | 1500 | 0.5 | 0.1 | 10 | 62 | typ. 0.1 ⁽⁴⁾ | 4.8 |

Notes:

- (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
- (3) For $\pm 2\%$ tolerance altered the sixth letter of type from "C" to be "B"
- (4) at $I_z = 2.5$ mA