

BZV55B Series

V_Z : 2.4 to 75V

P_D : 500mW

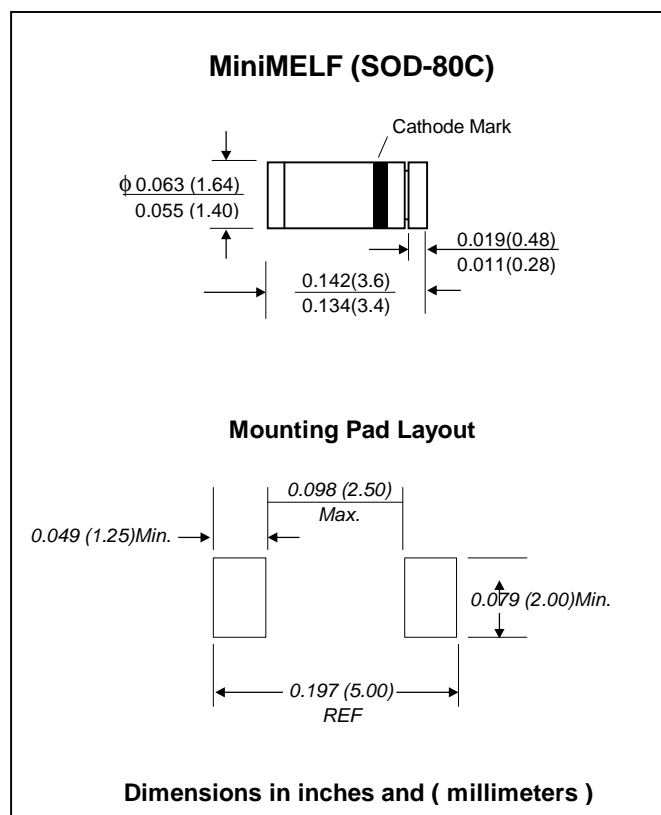
FEATURES :

- Silicon planar zener diodes
- For use as low voltage stabilizer or voltage reference.
- Standard zener voltage tolerance is $\pm 2\%$
- Pb / RoHS Free

MECHANICAL DATA :

- * Case : MiniMELF Glass Case (SOD-80C)
- * Weight : 0.05 gram (approximately)

ZENER DIODES



Maximum Ratings and Thermal Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbol | Value | Unit |
|------------------------------------------------------------------------|-----------------|---------------------|-------|
| Zener Current see Table "Characteristics" | | | |
| Maximum Forward Voltage at $I_F = 10$ mA. | V_F | 0.9 | V |
| Power Dissipation at Tflange = 50°C | P_D | 500 | mW |
| Power Dissipation at $T_a = 50^\circ\text{C}$ | P_D | 400 ⁽¹⁾ | mW |
| Continuous Forward Current | I_F | 250 | mA |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 0.38 ⁽¹⁾ | °C/mW |
| Thermal Resistance Junction to Lead | $R_{\theta JL}$ | 0.3 | °C/mW |
| Peak reverse power dissipation (non-repetitive) $t_p = 100\mu\text{s}$ | P_{ZSM} | 30 ⁽²⁾ | W |
| Junction temperature | T_J | -65 to + 200 | °C |
| Storage temperature range | T_S | -65 to + 200 | °C |

Notes: (1) Mounted on ceramic substrate 10mm x 10mm x 0.6mm

(2) $T_J = 150^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

(Ta = 25 °C unless otherwise noted)

| Type | Zener Voltage V _Z @ I _{ZT} | | Maximum Zener Impedance, f = 1kHz | | | Maximum Reverse Leakage Current | | Temp. coefficient of Zener Voltage α _{vz} (% / °C) |
|-----------|---------------------------------------------------|-------------------------|---------------------------------------------|---------------------------------------------|-------------------------|------------------------------------|--------------------------|-------------------------------------------------------------------|
| | Nom ¹⁾ (V) | I _{ZT} (mA) | Z _{ZT} @ I _{ZT} (Ω) | Z _{ZK} @ I _{ZK} (Ω) | I _{ZK} (mA) | I _R (μA) | at V _R (V) | |
| BZV55B2V4 | 2.4 | 5 | 100 | 600 | 1 | 50 | 1 | -0.08...-0.06 |
| BZV55B2V7 | 2.7 | 5 | 100 | 600 | 1 | 20 | 1 | -0.08...-0.06 |
| BZV55B3V0 | 3.0 | 5 | 95 | 600 | 1 | 10 | 1 | -0.08...-0.05 |
| BZV55B3V3 | 3.3 | 5 | 95 | 600 | 1 | 5 | 1 | -0.08...-0.05 |
| BZV55B3V6 | 3.6 | 5 | 90 | 600 | 1 | 5 | 1 | -0.08...-0.04 |
| BZV55B3V9 | 3.9 | 5 | 90 | 600 | 1 | 3 | 1 | -0.07...-0.03 |
| BZV55B4V3 | 4.3 | 5 | 90 | 600 | 1 | 3 | 1 | -0.04...-0.01 |
| BZV55B4V7 | 4.7 | 5 | 80 | 500 | 1 | 3 | 2 | -0.03...+0.01 |
| BZV55B5V1 | 5.1 | 5 | 60 | 480 | 1 | 2 | 2 | -0.02...+0.05 |
| BZV55B5V6 | 5.6 | 5 | 40 | 400 | 1 | 1 | 2 | -0.01...+0.06 |
| BZV55B6V2 | 6.2 | 5 | 10 | 150 | 1 | 3 | 4 | 0.00...0.07 |
| BZV55B6V8 | 6.8 | 5 | 15 | 80 | 1 | 2 | 4 | 0.01...0.08 |
| BZV55B7V5 | 7.5 | 5 | 15 | 80 | 1 | 1 | 5 | 0.01...0.09 |
| BZV55B8V2 | 8.2 | 5 | 15 | 80 | 1 | 0.7 | 5 | 0.01...0.09 |
| BZV55B9V1 | 9.1 | 5 | 15 | 100 | 1 | 0.5 | 6 | 0.02...0.10 |
| BZV55B10 | 10 | 5 | 20 | 150 | 1 | 0.2 | 7 | 0.03...0.11 |
| BZV55B11 | 11 | 5 | 20 | 150 | 1 | 0.1 | 8 | 0.03...0.11 |
| BZV55B12 | 12 | 5 | 25 | 150 | 1 | 0.1 | 8 | 0.03...0.11 |
| BZV55B15 | 15 | 5 | 30 | 200 | 1 | 0.05 | 10 | 0.03...0.11 |
| BZV55B16 | 16 | 5 | 40 | 200 | 1 | 0.05 | 11 | 0.03...0.11 |
| BZV55B18 | 18 | 5 | 45 | 225 | 1 | 0.05 | 13 | 0.03...0.11 |
| BZV55B20 | 20 | 5 | 55 | 225 | 1 | 0.05 | 14 | 0.03...0.11 |
| BZV55B22 | 22 | 5 | 55 | 250 | 1 | 0.05 | 15 | 0.03...0.11 |
| BZV55B24 | 24 | 5 | 70 | 250 | 1 | 0.05 | 17 | 0.04...0.12 |
| BZV55B27 | 27 | 2 | 80 | 300 | 0.5 | 0.05 | 19 | 0.04...0.12 |
| BZV55B30 | 30 | 2 | 80 | 300 | 0.5 | 0.05 | 21 | 0.04...0.12 |
| BZV55B33 | 33 | 2 | 80 | 325 | 0.5 | 0.05 | 23 | 0.04...0.12 |
| BZV55B36 | 36 | 2 | 90 | 350 | 0.5 | 0.05 | 25 | 0.04...0.12 |
| BZV55B39 | 39 | 2 | 130 | 350 | 0.5 | 0.05 | 27 | 0.04...0.12 |
| BZV55B43 | 43 | 2 | 150 | 375 | 0.5 | 0.05 | 30 | 0.04...0.12 |
| BZV55B47 | 47 | 2 | 170 | 375 | 0.5 | 0.05 | 33 | 0.04...0.12 |
| BZV55B51 | 51 | 2 | 180 | 400 | 0.5 | 0.05 | 36 | 0.04...0.12 |
| BZV55B56 | 56 | 2 | 200 | 425 | 0.5 | 0.05 | 39 | 0.1 (typ.) |
| BZV55B62 | 62 | 2 | 215 | 450 | 0.5 | 0.05 | 43 | 0.1 (typ.) |
| BZV55B68 | 68 | 2 | 240 | 475 | 0.5 | 0.05 | 48 | 0.1 (typ.) |
| BZV55B75 | 75 | 2 | 255 | 500 | 0.5 | 0.05 | 53 | 0.1 (typ.) |

Note 1) Tested with pulses tp = 5 ms

2) Valid Provided that leads are kept at ambient temperature.

3) The type number listed have a standard tolerance on the nominal zener voltage of ± 2.0%.

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