



**THE DATASHEET OF
BZT52-B5V1_R1_00001**





BZT52-B2V4~BZT52-B75

SURFACE MOUNT SILICON ZENER DIODES

VOLTAGE 2.4 to 75 Volt **POWER** 410 mWatt

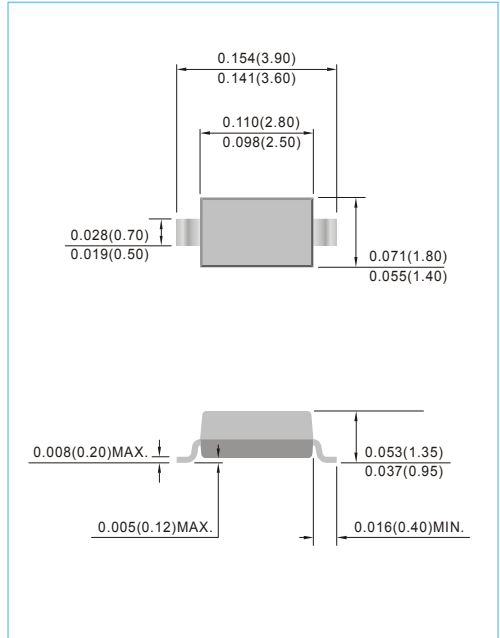
SOD-123 Unit : inch(mm)

FEATURES

- Planar Die construction
- 410mW Power Dissipation
- Zener Voltages from 2.4~75V
- Ideally Suited for Automated Assembly Processes
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
- Green molding compound as per IEC61249 Std. . (Halogen Free)

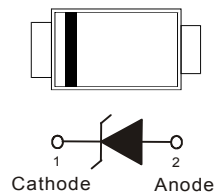
MECHANICAL DATA

- Case: SOD-123, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: See Diagram Below
- Approx. Weight: 0.0004 ounces, 0.01 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| Parameter | Symbol | Value | Units |
|--|------------------------------|------------------|-------|
| Maximum Power Dissipation (Note 1) | P _D | 410 | mW |
| Forward Voltage Drop at I _F =10mA | V _F | 0.9 | V |
| Thermal Resistance | Junction to Ambient (Note 2) | R _{θJA} | 430 |
| | Junction to Lead | R _{θJL} | 320 |
| Operating Junction Temperature and Storage Temperature Range | T _J | -55 to +150 | °C |



NOTES:

1. Mounted on 48 cm² FR-4 PCB .
2. Mounted on a FR-4 PCB, with minimum recommended Pad



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| Part Number | Nominal Zener Voltage | | | Max. Zener Impedance | | | | Max Reverse Leakage Current | | Marking Code |
|-------------------------|----------------------------------|--------|--------|-----------------------------------|-----|-----------------------------------|------|---------------------------------|------|--------------|
| | V _Z @ I _{ZT} | | | Z _{ZT} @ I _{ZT} | | Z _{ZK} @ I _{ZK} | | I _R @ V _R | | |
| | Nom. V | Min. V | Max. V | Ω | mA | Ω | mA | μA | V | |
| 410 mWatts Zener Diodes | | | | | | | | | | |
| BZT52-B2V4 | 2.4 | 2.35 | 2.45 | 85 | 5.0 | 600 | 1.00 | 100 | 1.0 | W1 |
| BZT52-B2V7 | 2.7 | 2.64 | 2.75 | 83 | 5.0 | 600 | 1.00 | 75 | 1.0 | W2 |
| BZT52-B3 | 3.0 | 2.94 | 3.06 | 95 | 5.0 | 600 | 1.00 | 50 | 1.0 | W3 |
| BZT52-B3V3 | 3.3 | 3.23 | 3.37 | 95 | 5.0 | 600 | 1.00 | 25 | 1.0 | W4 |
| BZT52-B3V6 | 3.6 | 3.52 | 3.67 | 95 | 5.0 | 600 | 1.00 | 15 | 1.0 | W5 |
| BZT52-B3V9 | 3.9 | 3.82 | 3.98 | 95 | 5.0 | 600 | 1.00 | 10 | 1.0 | W6 |
| BZT52-B4V3 | 4.3 | 4.21 | 4.39 | 95 | 5.0 | 600 | 1.00 | 5.0 | 1.0 | W7 |
| BZT52-B4V7 | 4.7 | 4.61 | 4.79 | 78 | 5.0 | 500 | 1.00 | 5.0 | 1.0 | W8 |
| BZT52-B5V1 | 5.1 | 5.00 | 5.20 | 60 | 5.0 | 480 | 1.00 | 0.1 | 0.8 | W9 |
| BZT52-B5V6 | 5.6 | 5.49 | 5.71 | 40 | 5.0 | 400 | 1.00 | 0.1 | 1.0 | WA |
| BZT52-B6V2 | 6.2 | 6.08 | 6.32 | 10 | 5.0 | 150 | 1.00 | 0.1 | 2.0 | WB |
| BZT52-B6V8 | 6.8 | 6.66 | 6.94 | 8 | 5.0 | 80 | 1.00 | 0.1 | 3.0 | WC |
| BZT52-B7V5 | 7.5 | 7.35 | 7.65 | 7 | 5.0 | 80 | 1.00 | 0.1 | 5.0 | WD |
| BZT52-B8V2 | 8.2 | 8.04 | 8.36 | 7 | 5.0 | 80 | 1.00 | 0.1 | 6.0 | WE |
| BZT52-B8V7 | 8.7 | 8.53 | 8.87 | 7 | 5.0 | 100 | 1.00 | 0.1 | 6.5 | 87C |
| BZT52-B9V1 | 9.1 | 8.92 | 9.28 | 10 | 5.0 | 100 | 1.00 | 0.1 | 7.0 | WF |
| BZT52-B10 | 10 | 9.80 | 10.20 | 15 | 5.0 | 150 | 1.00 | 0.1 | 7.5 | WG |
| BZT52-B11 | 11 | 10.78 | 11.22 | 20 | 5.0 | 150 | 1.00 | 0.1 | 8.5 | WH |
| BZT52-B12 | 12 | 11.76 | 12.24 | 20 | 5.0 | 150 | 1.00 | 0.1 | 9.0 | WI |
| BZT52-B13 | 13 | 12.74 | 13.26 | 25 | 5.0 | 170 | 1.00 | 0.1 | 10.0 | WK |
| BZT52-B14 | 14 | 13.72 | 14.28 | 25 | 5.0 | 170 | 1.00 | 0.1 | 10.5 | WJ |
| BZT52-B15 | 15 | 14.70 | 15.30 | 30 | 5.0 | 200 | 1.00 | 0.1 | 11.0 | WL |
| BZT52-B16 | 16 | 15.68 | 16.32 | 40 | 5.0 | 200 | 1.00 | 0.1 | 12.0 | WM |
| BZT52-B17 | 17 | 16.66 | 17.34 | 40 | 5.0 | 200 | 1.00 | 0.1 | 13.0 | 17C |
| BZT52-B18 | 18 | 17.64 | 18.36 | 50 | 5.0 | 225 | 1.00 | 0.1 | 14.0 | WN |
| BZT52-B20 | 20 | 19.60 | 20.40 | 50 | 5.0 | 225 | 1.00 | 0.1 | 15.0 | WO |
| BZT52-B22 | 22 | 21.56 | 22.44 | 55 | 5.0 | 250 | 1.00 | 0.1 | 17.0 | WP |
| BZT52-B24 | 24 | 23.52 | 24.48 | 80 | 5.0 | 250 | 1.00 | 0.1 | 18.0 | WR |
| BZT52-B27 | 27 | 26.46 | 27.54 | 80 | 5.0 | 300 | 1.00 | 0.1 | 20.0 | WS |
| BZT52-B28 | 28 | 27.44 | 28.56 | 80 | 5.0 | 300 | 1.00 | 0.1 | 22.0 | 28C |
| BZT52-B30 | 30 | 29.40 | 30.60 | 80 | 5.0 | 300 | 1.00 | 0.1 | 22.5 | WT |
| BZT52-B33 | 33 | 32.34 | 33.66 | 80 | 5.0 | 325 | 1.00 | 0.1 | 25.0 | WU |
| BZT52-B36 | 36 | 35.28 | 36.72 | 90 | 5.0 | 350 | 1.00 | 0.1 | 27.0 | WW |
| BZT52-B39 | 39 | 38.22 | 39.78 | 90 | 5.0 | 350 | 1.00 | 0.1 | 29.0 | WX |
| BZT52-B43 | 43 | 42.14 | 43.86 | 100 | 5.0 | 375 | 1.00 | 0.1 | 32.0 | WY |
| BZT52-B47 | 47 | 46.06 | 47.94 | 100 | 5.0 | 375 | 1.00 | 0.1 | 35.0 | WZ |
| BZT52-B51 | 51 | 49.98 | 52.02 | 100 | 5.0 | 400 | 1.00 | 0.1 | 38.0 | XA |
| BZT52-B56 | 56 | 54.88 | 57.12 | 135 | 2.5 | 1000 | 1.00 | 0.1 | 42.0 | X2 |
| BZT52-B62 | 62 | 60.76 | 63.24 | 150 | 2.5 | 1000 | 1.00 | 0.1 | 46.0 | X3 |
| BZT52-B68 | 68 | 66.64 | 69.36 | 200 | 2.5 | 1000 | 1.00 | 0.1 | 51.0 | X4 |
| BZT52-B75 | 75 | 73.50 | 76.50 | 250 | 2.5 | 1000 | 1.00 | 0.1 | 56.0 | X5 |



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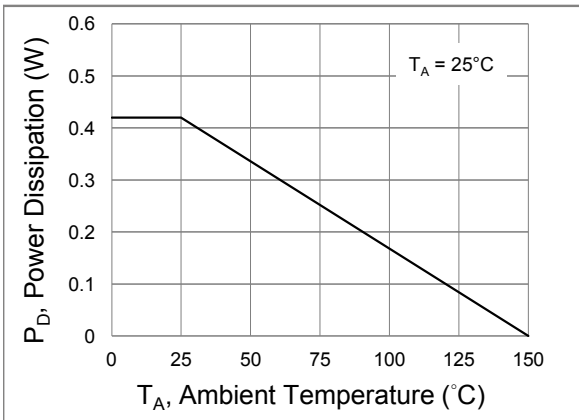


Fig.1 Power Derating Curve



Fig.2 Typical Junction Capacitance

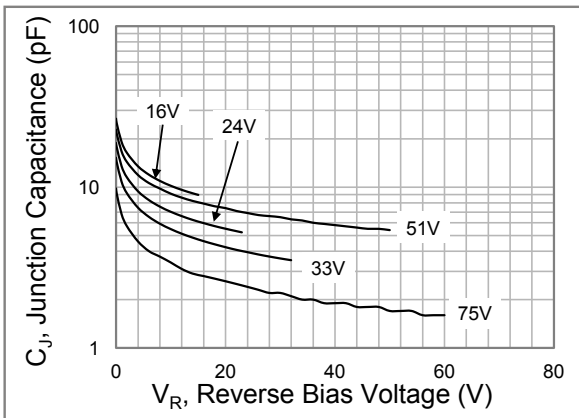


Fig.3 Typical Junction Capacitance



Fig.4 Typical Forward Characteristics

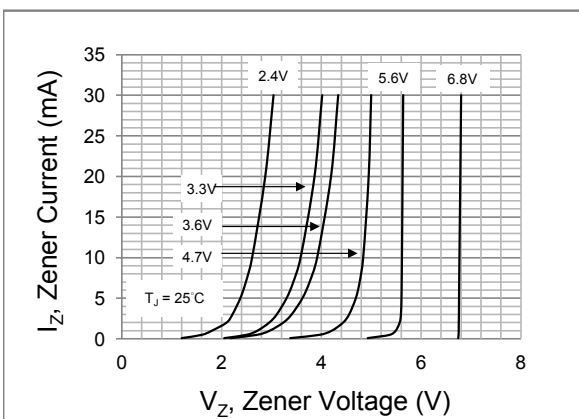


Fig.5 Typical Zener Characteristics

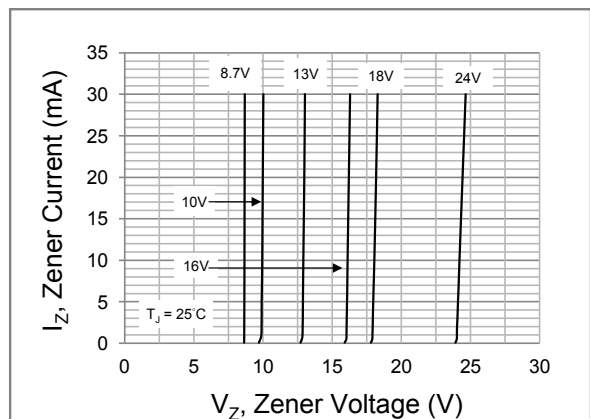


Fig.6 Typical Zener Characteristics



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Fig.7 Typical Zener Characteristics

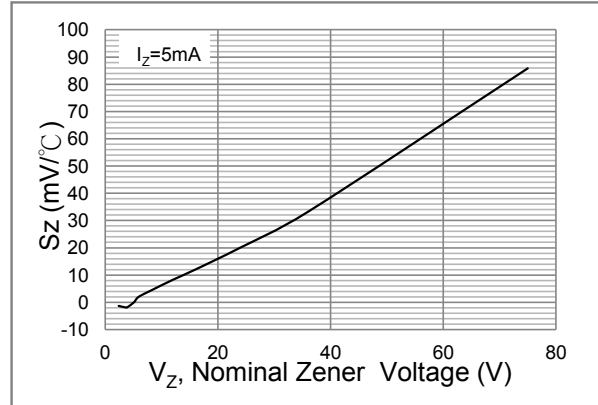
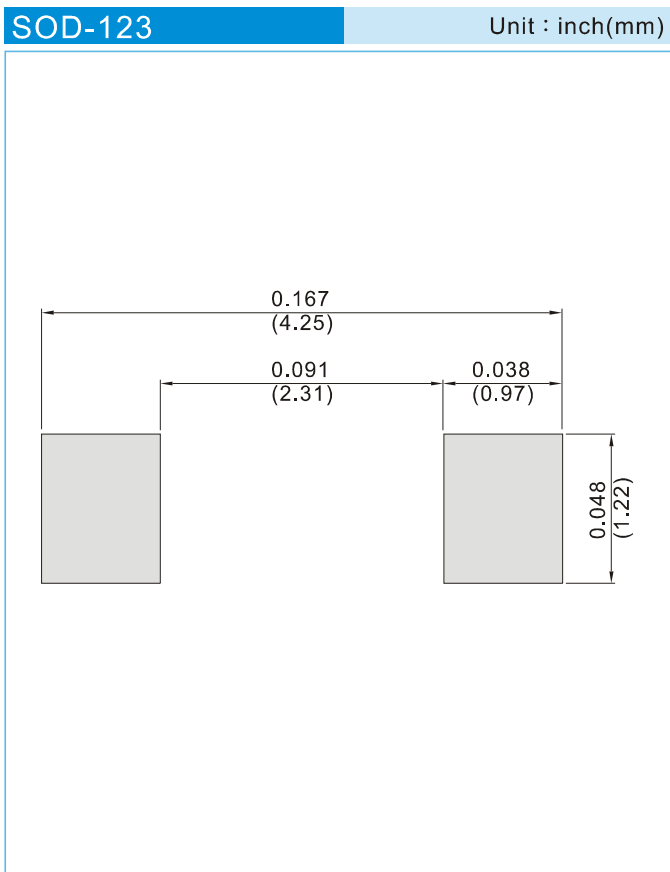


Fig.8 Temperature coefficient as a function of working current; typical values



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R - 10K per 13" plastic Reel
T/R - 3K per 7" plastic Reel



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Part No_packing code_Version

BZT52-B2V4_R1_00001

BZT52-B2V4_R2_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|----------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |





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