



**THE DATASHEET OF
BZT52-C13S_R1_00001**





BZT52-C2V4S SERIES

SURFACE MOUNT SILICON ZENER DIODES

VOLTAGE 2.4 to 75 Volt **POWER** 200 mWatt

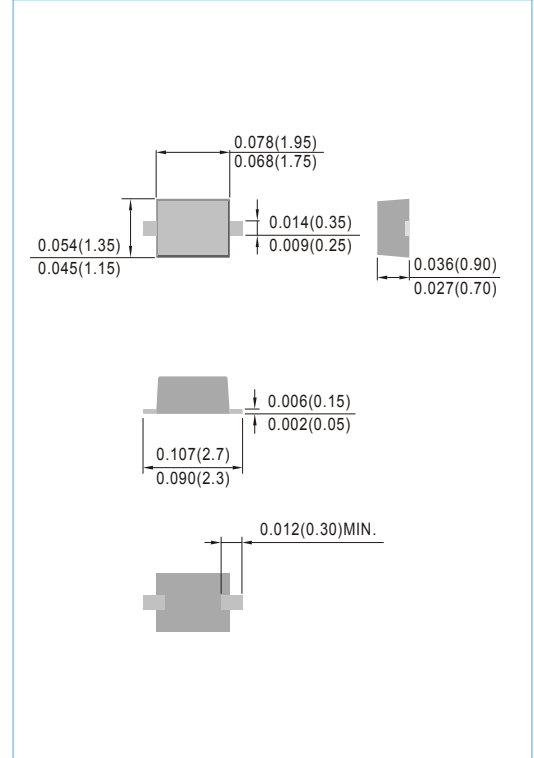
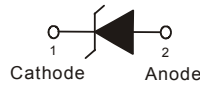
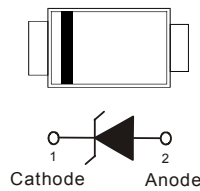
SOD-323 Unit : inch(mm)

FEATURES

- Planar Die construction
- 200mW Power Dissipation
- Zener Voltages from 2.4~75V
- Ideally Suited for Automated Assembly Processes
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case: SOD-323, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00014 ounces, 0.0041 grams
- Polarity : Color band cathode



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

| PARAMETER | SYMBOL | VALUE | UNITS |
|--|------------------|-------------|-------|
| Power Dissipation (Notes A) at T _A = 25°C | P _D | 200 | mW |
| Typical Thermal Resistance | R _{θJA} | 650 | °C/W |
| Operating Junction Temperature and Storage Temperature Range | T _J | -55 to +150 | °C |

NOTES :

- A. Mounted on a FR-4 PCB, single-sided copper, with 100cm² copper pad area
- B. Mounted on a FR-4 PCB, single-sided copper, mini pad



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| Part Number | Nominal Zener Voltage | | | Max. Zener Impedance | | | | Max Reverse Leakage Current | | Marking Code |
|--------------------------------|----------------------------------|--------|--------|-----------------------------------|-----|-----------------------------------|------|---------------------------------|------|--------------|
| | V _Z @ I _{ZT} | | | Z _{TT} @ I _{ZT} | | Z _{ZK} @ I _{ZK} | | I _R @ V _R | | |
| | Nom. V | Min. V | Max. V | Ω | mA | Ω | mA | μA | V | |
| 200 mWatts Zener Diodes | | | | | | | | | | |
| BZT52-C2V4S | 2.4 | 2.28 | 2.52 | 85 | 5.0 | 600 | 1.00 | 100 | 1.0 | W1 |
| BZT52-C2V7S | 2.7 | 2.57 | 2.84 | 83 | 5.0 | 600 | 1.00 | 75 | 1.0 | W2 |
| BZT52-C3S | 3.0 | 2.85 | 3.15 | 95 | 5.0 | 600 | 1.00 | 50 | 1.0 | W3 |
| BZT52-C3V3S | 3.3 | 3.14 | 3.47 | 95 | 5.0 | 600 | 1.00 | 25 | 1.0 | W4 |
| BZT52-C3V6S | 3.6 | 3.42 | 3.78 | 95 | 5.0 | 600 | 1.00 | 15 | 1.0 | W5 |
| BZT52-C3V9S | 3.9 | 3.71 | 4.10 | 95 | 5.0 | 600 | 1.00 | 10 | 1.0 | W6 |
| BZT52-C4V3S | 4.3 | 4.09 | 4.52 | 95 | 5.0 | 600 | 1.00 | 5.0 | 1.0 | W7 |
| BZT52-C4V7S | 4.7 | 4.47 | 4.94 | 78 | 5.0 | 500 | 1.00 | 5.0 | 1.0 | W8 |
| BZT52-C5V1S | 5.1 | 4.85 | 5.36 | 60 | 5.0 | 480 | 1.00 | 0.1 | 0.8 | W9 |
| BZT52-C5V6S | 5.6 | 5.32 | 5.88 | 40 | 5.0 | 400 | 1.00 | 0.1 | 1.0 | WA |
| BZT52-C6V2S | 6.2 | 5.89 | 6.51 | 10 | 5.0 | 150 | 1.00 | 0.1 | 2.0 | WB |
| BZT52-C6V8S | 6.8 | 6.46 | 7.14 | 8 | 5.0 | 80 | 1.00 | 0.1 | 3.0 | WC |
| BZT52-C7V5S | 7.5 | 7.13 | 7.88 | 7 | 5.0 | 80 | 1.00 | 0.1 | 5.0 | WD |
| BZT52-C8V2S | 8.2 | 7.79 | 8.61 | 7 | 5.0 | 80 | 1.00 | 0.1 | 6.0 | WE |
| BZT52-C8V7S | 8.7 | 8.27 | 9.14 | 7 | 5.0 | 100 | 1.00 | 0.1 | 6.5 | 87C |
| BZT52-C9V1S | 9.1 | 8.65 | 9.56 | 10 | 5.0 | 100 | 1.00 | 0.1 | 7.0 | WF |
| BZT52-C10S | 10 | 9.50 | 10.50 | 15 | 5.0 | 150 | 1.00 | 0.1 | 7.5 | WG |
| BZT52-C11S | 11 | 10.45 | 11.55 | 20 | 5.0 | 150 | 1.00 | 0.1 | 8.5 | WH |
| BZT52-C12S | 12 | 11.40 | 12.60 | 20 | 5.0 | 150 | 1.00 | 0.1 | 9.0 | WI |
| BZT52-C13S | 13 | 12.35 | 13.65 | 25 | 5.0 | 170 | 1.00 | 0.1 | 10.0 | WK |
| BZT52-C14S | 14 | 13.30 | 14.70 | 25 | 5.0 | 170 | 1.00 | 0.1 | 10.5 | WJ |
| BZT52-C15S | 15 | 14.25 | 15.75 | 30 | 5.0 | 200 | 1.00 | 0.1 | 11.0 | WL |
| BZT52-C16S | 16 | 15.20 | 16.80 | 40 | 5.0 | 200 | 1.00 | 0.1 | 12.0 | WM |
| BZT52-C17S | 17 | 16.15 | 17.85 | 40 | 5.0 | 200 | 1.00 | 0.1 | 13.0 | 17C |
| BZT52-C18S | 18 | 17.10 | 18.90 | 50 | 5.0 | 225 | 1.00 | 0.1 | 14.0 | WN |
| BZT52-C20S | 20 | 19.00 | 21.00 | 50 | 5.0 | 225 | 1.00 | 0.1 | 15.0 | WO |
| BZT52-C22S | 22 | 20.90 | 23.10 | 55 | 5.0 | 250 | 1.00 | 0.1 | 17.0 | WP |
| BZT52-C24S | 24 | 22.80 | 25.20 | 80 | 5.0 | 250 | 1.00 | 0.1 | 18.0 | WR |
| BZT52-C27S | 27 | 25.65 | 28.35 | 80 | 5.0 | 300 | 1.00 | 0.1 | 20.0 | WS |
| BZT52-C28S | 28 | 26.60 | 29.40 | 80 | 5.0 | 300 | 1.00 | 0.1 | 22.0 | 28C |
| BZT52-C30S | 30 | 28.50 | 31.50 | 80 | 5.0 | 300 | 1.00 | 0.1 | 22.5 | WT |
| BZT52-C33S | 33 | 31.35 | 34.65 | 80 | 5.0 | 325 | 1.00 | 0.1 | 25.0 | WU |
| BZT52-C36S | 36 | 34.20 | 37.80 | 90 | 5.0 | 350 | 1.00 | 0.1 | 27.0 | WW |
| BZT52-C39S | 39 | 37.05 | 40.95 | 90 | 5.0 | 350 | 1.00 | 0.1 | 29.0 | WX |
| BZT52-C43S | 43 | 40.85 | 45.15 | 100 | 5.0 | 375 | 1.00 | 0.1 | 32.0 | WY |
| BZT52-C47S | 47 | 44.65 | 49.35 | 100 | 5.0 | 375 | 1.00 | 0.1 | 35.0 | WZ |
| BZT52-C51S | 51 | 48.45 | 53.55 | 100 | 5.0 | 400 | 1.00 | 0.1 | 38.0 | XA |
| BZT52-C56S | 56 | 53.20 | 58.80 | 135 | 2.5 | 1000 | 1.00 | 0.1 | 42.0 | X2 |
| BZT52-C62S | 62 | 58.90 | 65.10 | 150 | 2.5 | 1000 | 1.00 | 0.1 | 46.0 | X3 |
| BZT52-C68S | 68 | 64.60 | 71.40 | 200 | 2.5 | 1000 | 1.00 | 0.1 | 51.0 | X4 |
| BZT52-C75S | 75 | 71.25 | 78.75 | 250 | 2.5 | 1000 | 1.00 | 0.1 | 56.0 | X5 |



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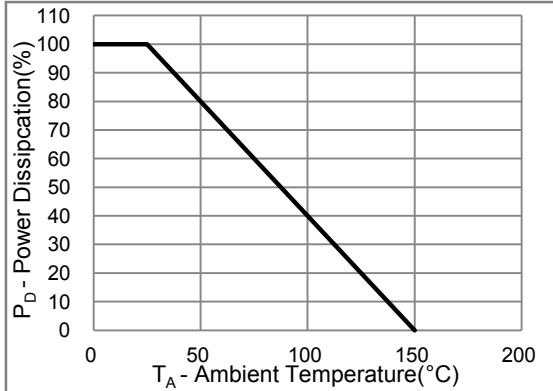


Fig.1 Power Derating Curve

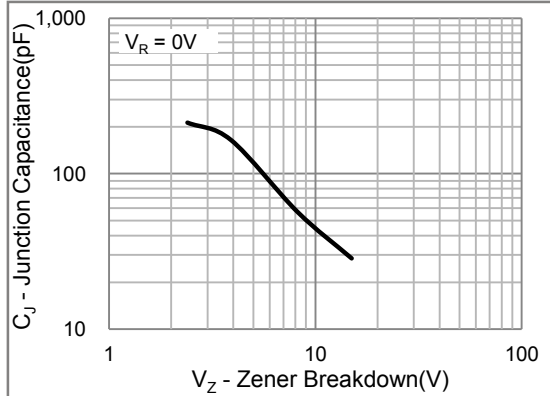


Fig.2 Typical Junction Capacitance

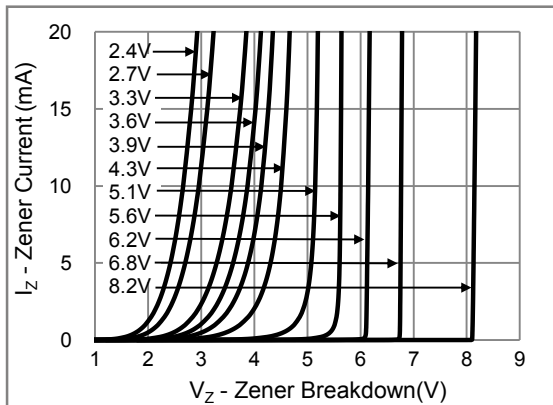


Fig.3 Typical Zener Breakdown

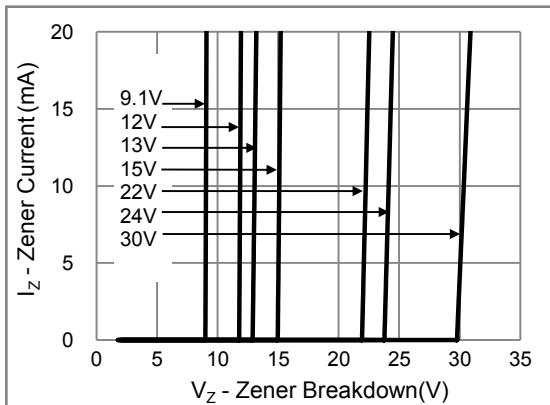


Fig.4 Typical Zener Breakdown

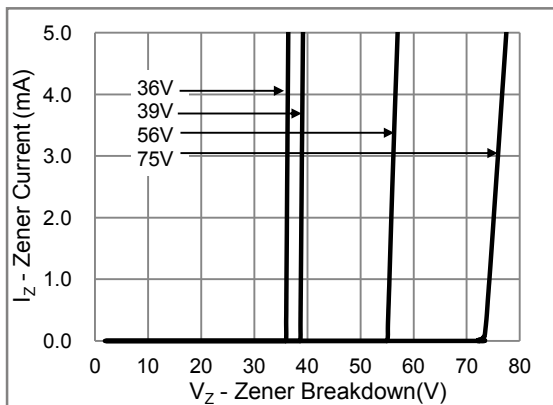


Fig.5 Typical Zener Breakdown

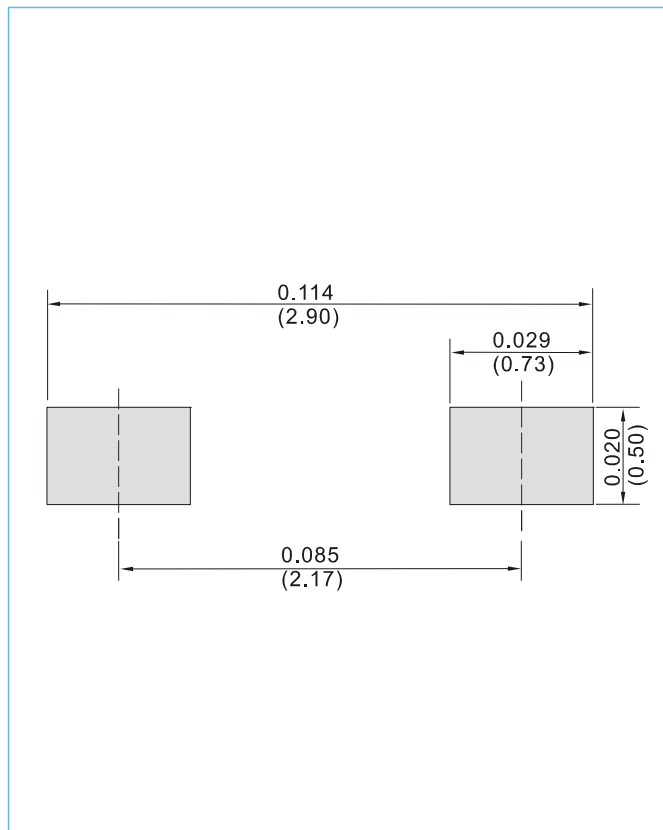


BZT52-C2V4S SERIES

MOUNTING PAD LAYOUT

SOD-323

Unit : inch(mm)



ORDER INFORMATION

- Packing information
T/R - 12K per 13" plastic Reel
T/R - 5K per 7" plastic Reel



BZT52-C2V4S SERIES

Part No._packing code_Version

BZT52-C2V4S_R1_00001

BZT52-C2V4S_R2_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| 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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