



# BZT52-B2V4S SERIES

## SURFACE MOUNT SILICON ZENER DIODES

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

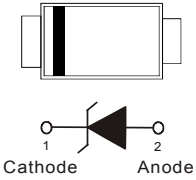
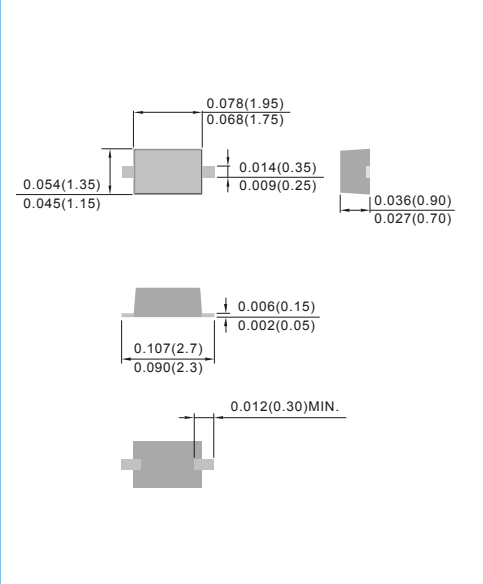
**SOD-323**    Unit : inch(mm)

### 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
- Apporx. Weight: 0.00014 ounces, 0.0041 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| Parameter   | Symbol          | Value       | Units                       |
|---|-----------------|-------------|-----------------------------|
| Power Dissipation @ $T_A=25^{\circ}\text{C}$ (Note A) | $P_D$           | 200         | mW                          |
| Typical Thermal Resistance(Note B)                    | $R_{\theta JA}$ | 650         | $^{\circ}\text{C}/\text{W}$ |
| Operating Junction and Storage Temperature Range      | $T_J$           | -55 to +150 | $^{\circ}\text{C}$          |

**NOTES:**

- A. Mounted on a FR-4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.
- B. Mounted on a FR-4 PCB, single-sided copper, mini pad.

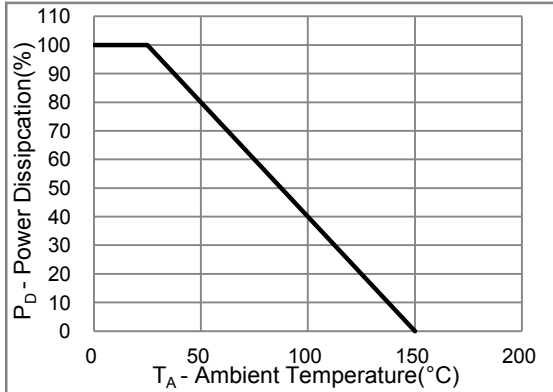


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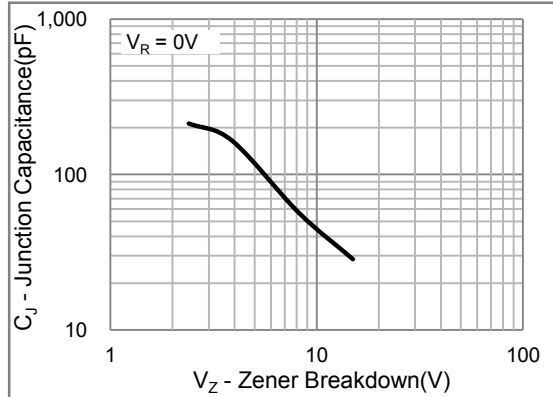
| Part Number             | Nominal Zener Voltage            |        |        | Max. Zener Impedance              |     |                                   |      | Max Reverse Leakage Current     |      | Marking Code |
|-------------------------|----------------------------------|--------|--------|-----------------------------------|-----|-----------------------------------|------|---------------------------------|------|--------------|
|                         | V <sub>Z</sub> @ I <sub>ZT</sub> |        |        | Z <sub>ZT</sub> @ I <sub>ZT</sub> |     | Z <sub>ZK</sub> @ I <sub>ZK</sub> |      | I <sub>R</sub> @ V <sub>R</sub> |      |              |
|                         | Nom. V                           | Min. V | Max. V | Ω                                 | mA  | Ω                                 | mA   | μA                              | V    |              |
| 200 mWatts Zener Diodes |                                  |        |        |                                   |     |                                   |      |                                 |      |              |
| BZT52-B2V4S             | 2.4                              | 2.35   | 2.45   | 85                                | 5.0 | 600                               | 1.00 | 100                             | 1.0  | W1           |
| BZT52-B2V7S             | 2.7                              | 2.64   | 2.75   | 83                                | 5.0 | 600                               | 1.00 | 75                              | 1.0  | W2           |
| BZT52-B3S               | 3.0                              | 2.94   | 3.06   | 95                                | 5.0 | 600                               | 1.00 | 50                              | 1.0  | W3           |
| BZT52-B3V3S             | 3.3                              | 3.23   | 3.37   | 95                                | 5.0 | 600                               | 1.00 | 25                              | 1.0  | W4           |
| BZT52-B3V6S             | 3.6                              | 3.52   | 3.67   | 95                                | 5.0 | 600                               | 1.00 | 15                              | 1.0  | W5           |
| BZT52-B3V9S             | 3.9                              | 3.82   | 3.98   | 95                                | 5.0 | 600                               | 1.00 | 10                              | 1.0  | W6           |
| BZT52-B4V3S             | 4.3                              | 4.21   | 4.39   | 95                                | 5.0 | 600                               | 1.00 | 5.0                             | 1.0  | W7           |
| BZT52-B4V7S             | 4.7                              | 4.61   | 4.79   | 78                                | 5.0 | 500                               | 1.00 | 5.0                             | 1.0  | W8           |
| BZT52-B5V1S             | 5.1                              | 5.00   | 5.20   | 60                                | 5.0 | 480                               | 1.00 | 0.1                             | 0.8  | W9           |
| BZT52-B5V6S             | 5.6                              | 5.49   | 5.71   | 40                                | 5.0 | 400                               | 1.00 | 0.1                             | 1.0  | WA           |
| BZT52-B5V8S             | 5.8                              | 5.68   | 5.92   | 30                                | 5.0 | 300                               | 1.00 | 0.1                             | 1.5  | 85C          |
| BZT52-B6V2S             | 6.2                              | 6.08   | 6.32   | 10                                | 5.0 | 150                               | 1.00 | 0.1                             | 2.0  | WB           |
| BZT52-B6V8S             | 6.8                              | 6.66   | 6.94   | 8                                 | 5.0 | 80                                | 1.00 | 0.1                             | 3.0  | WC           |
| BZT52-B7V5S             | 7.5                              | 7.35   | 7.65   | 7                                 | 5.0 | 80                                | 1.00 | 0.1                             | 5.0  | WD           |
| BZT52-B8V2S             | 8.2                              | 8.04   | 8.36   | 7                                 | 5.0 | 80                                | 1.00 | 0.1                             | 6.0  | WE           |
| BZT52-B8V7S             | 8.7                              | 8.53   | 8.87   | 7                                 | 5.0 | 100                               | 1.00 | 0.1                             | 6.5  | 87C          |
| BZT52-B9V1S             | 9.1                              | 8.92   | 9.28   | 10                                | 5.0 | 100                               | 1.00 | 0.1                             | 7.0  | WF           |
| BZT52-B10S              | 10                               | 9.80   | 10.20  | 15                                | 5.0 | 150                               | 1.00 | 0.1                             | 7.5  | WG           |
| BZT52-B11S              | 11                               | 10.78  | 11.22  | 20                                | 5.0 | 150                               | 1.00 | 0.1                             | 8.5  | WH           |
| BZT52-B12S              | 12                               | 11.76  | 12.24  | 20                                | 5.0 | 150                               | 1.00 | 0.1                             | 9.0  | WI           |
| BZT52-B13S              | 13                               | 12.74  | 13.26  | 25                                | 5.0 | 170                               | 1.00 | 0.1                             | 10.0 | WK           |
| BZT52-B14S              | 14                               | 13.72  | 14.28  | 25                                | 5.0 | 170                               | 1.00 | 0.1                             | 10.5 | WJ           |
| BZT52-B15S              | 15                               | 14.70  | 15.30  | 30                                | 5.0 | 200                               | 1.00 | 0.1                             | 11.0 | WL           |
| BZT52-B16S              | 16                               | 15.68  | 16.32  | 40                                | 5.0 | 200                               | 1.00 | 0.1                             | 12.0 | WM           |
| BZT52-B17S              | 17                               | 16.66  | 17.34  | 40                                | 5.0 | 200                               | 1.00 | 0.1                             | 13.0 | 17C          |
| BZT52-B18S              | 18                               | 17.64  | 18.36  | 50                                | 5.0 | 225                               | 1.00 | 0.1                             | 14.0 | WN           |
| BZT52-B20S              | 20                               | 19.60  | 20.40  | 50                                | 5.0 | 225                               | 1.00 | 0.1                             | 15.0 | WO           |
| BZT52-B22S              | 22                               | 21.56  | 22.44  | 55                                | 5.0 | 250                               | 1.00 | 0.1                             | 17.0 | WP           |
| BZT52-B24S              | 24                               | 23.52  | 24.48  | 80                                | 5.0 | 250                               | 1.00 | 0.1                             | 18.0 | WR           |
| BZT52-B27S              | 27                               | 26.46  | 27.54  | 80                                | 5.0 | 300                               | 1.00 | 0.1                             | 20.0 | WS           |
| BZT52-B28S              | 28                               | 27.44  | 28.56  | 80                                | 5.0 | 300                               | 1.00 | 0.1                             | 22.0 | 28C          |
| BZT52-B30S              | 30                               | 29.40  | 30.60  | 80                                | 5.0 | 300                               | 1.00 | 0.1                             | 22.5 | WT           |
| BZT52-B33S              | 33                               | 32.34  | 33.66  | 80                                | 5.0 | 325                               | 1.00 | 0.1                             | 25.0 | WU           |
| BZT52-B36S              | 36                               | 35.28  | 36.72  | 90                                | 5.0 | 350                               | 1.00 | 0.1                             | 27.0 | WW           |
| BZT52-B39S              | 39                               | 38.22  | 39.78  | 90                                | 5.0 | 350                               | 1.00 | 0.1                             | 29.0 | WX           |
| BZT52-B43S              | 43                               | 42.14  | 43.86  | 100                               | 5.0 | 375                               | 1.00 | 0.1                             | 32.0 | WY           |
| BZT52-B47S              | 47                               | 46.06  | 47.94  | 100                               | 5.0 | 375                               | 1.00 | 0.1                             | 35.0 | WZ           |
| BZT52-B51S              | 51                               | 49.98  | 52.02  | 100                               | 5.0 | 400                               | 1.00 | 0.1                             | 38.0 | XA           |
| BZT52-B56S              | 56                               | 54.88  | 57.12  | 135                               | 2.5 | 1000                              | 1.00 | 0.1                             | 42.0 | X2           |
| BZT52-B62S              | 62                               | 60.76  | 63.24  | 150                               | 2.5 | 1000                              | 1.00 | 0.1                             | 46.0 | X3           |
| BZT52-B68S              | 68                               | 66.64  | 69.36  | 200                               | 2.5 | 1000                              | 1.00 | 0.1                             | 51.0 | X4           |
| BZT52-B75S              | 75                               | 73.50  | 76.50  | 250                               | 2.5 | 1000                              | 1.00 | 0.1                             | 56.0 | X5           |



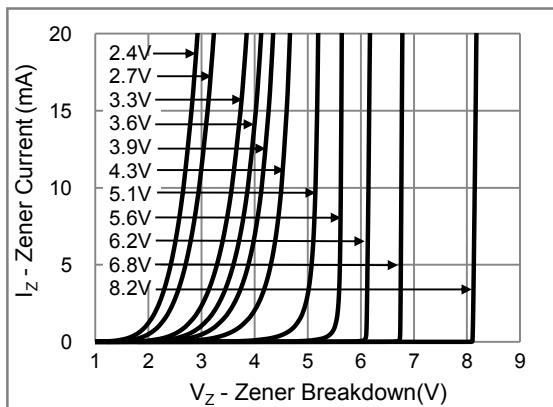
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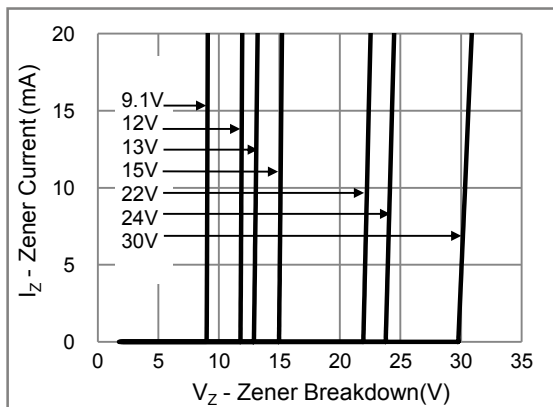
**Fig.1 Power Derating Curve**



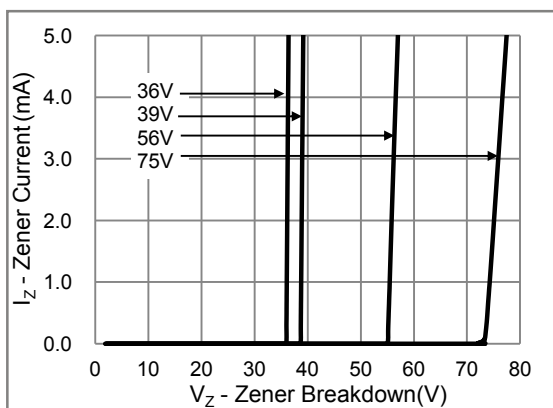
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Zener Breakdown**



**Fig.4 Typical Zener Breakdown**

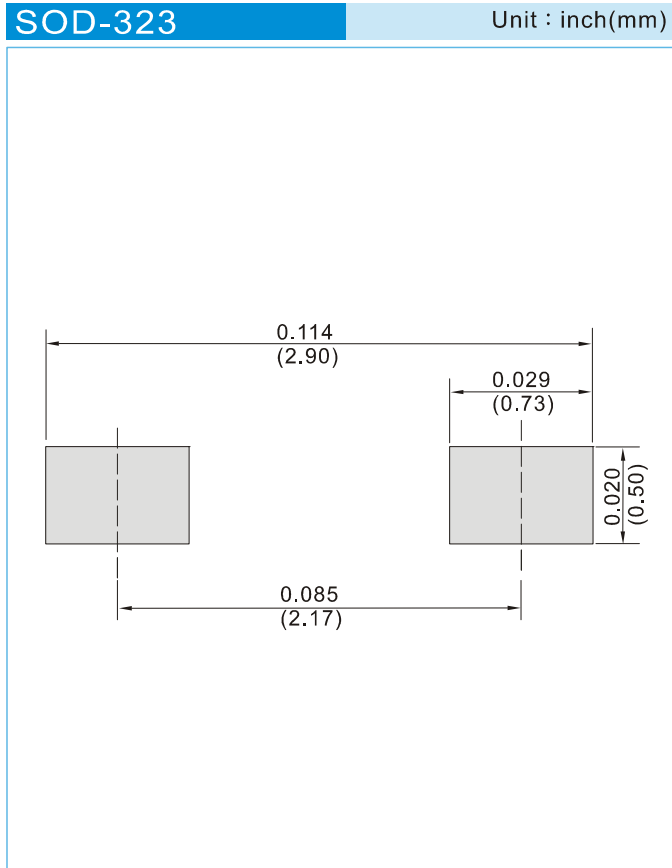


**Fig.5 Typical Zener Breakdown**



## BZT52-B2V4S SERIES

### MOUNTING PAD LAYOUT



### ORDER INFORMATION

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



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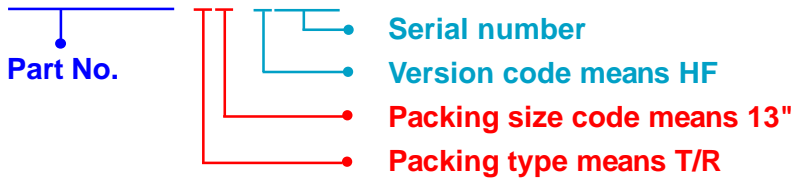
### Part No\_packing code\_Version

BZT52-B2V4S\_R1\_00001

BZT52-B2V4S\_R2\_00001

For example :

**RB500V-40** **R2** **00001**



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