

# BZT52-B2V4~BZT52-B75

## SURFACE MOUNT SILICON ZENER DIODES

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

**SOD-123**

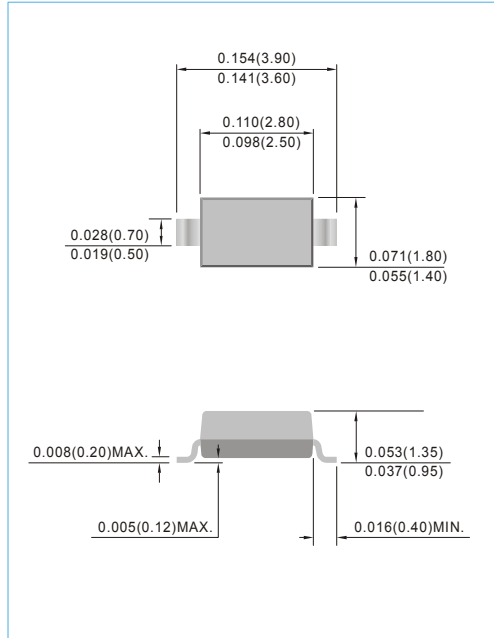
Unit : inch(mm)

### 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)

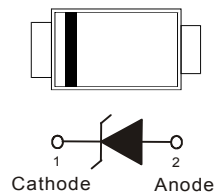
### MECHANICAL DATA

- 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 <sub>D</sub>  | 410         | mW    |
| Forward Voltage Drop at I <sub>F</sub> =10mA                 |                              | V <sub>F</sub>  | 0.9         | V     |
| Thermal Resistance                                           | Junction to Ambient (Note 2) | R <sub>JA</sub> | 430         | °C/W  |
|                                                              | Junction to Lead             | R <sub>JL</sub> | 320         |       |
| Operating Junction Temperature and Storage Temperature Range |                              | T <sub>J</sub>  | -55 to +150 | °C    |



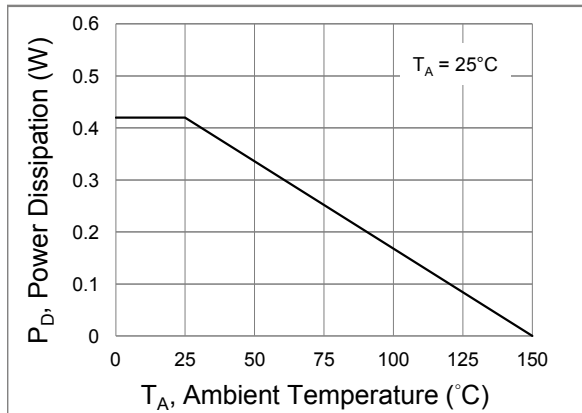
### NOTES:

1. Mounted on 48 cm<sup>2</sup> FR-4 PCB .
2. Mounted on a FR-4 PCB, with minimum recommended Pad

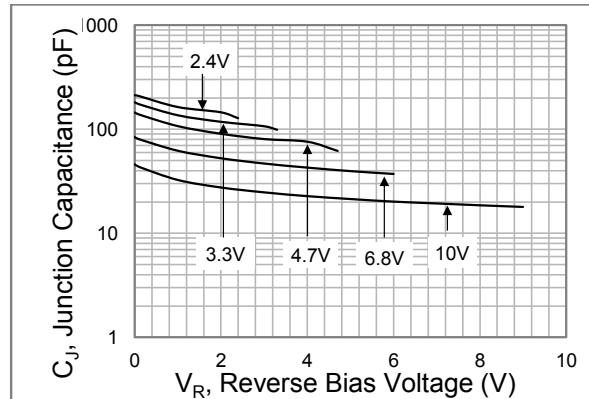
# BZT52-B2V4~BZT52-B75

| 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    |              |
| 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           |

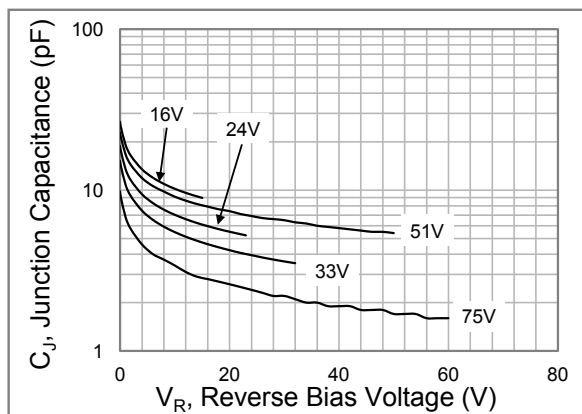
## BZT52-B2V4~BZT52-B75



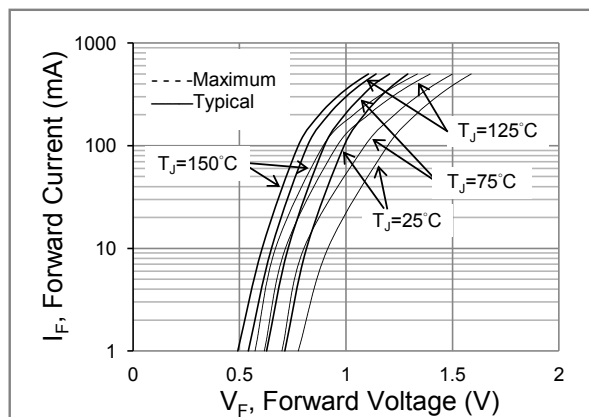
**Fig.1 Power Derating Curve**



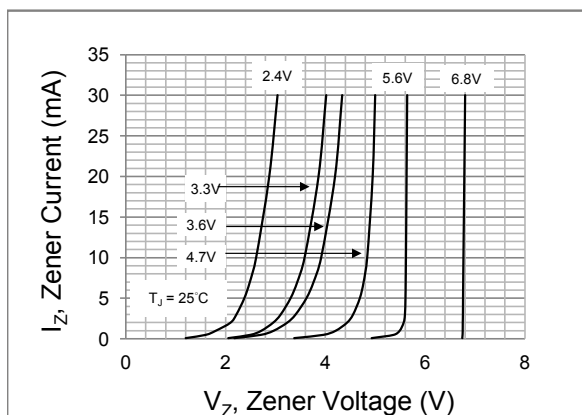
**Fig.2 Typical Junction Capacitance**



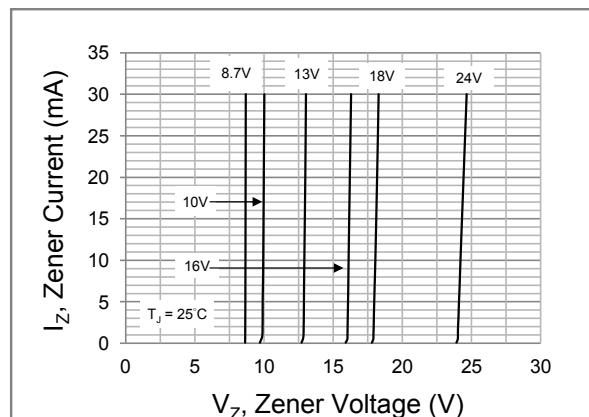
**Fig.3 Typical Junction Capacitance**



**Fig.4 Typical Forward Characteristics**

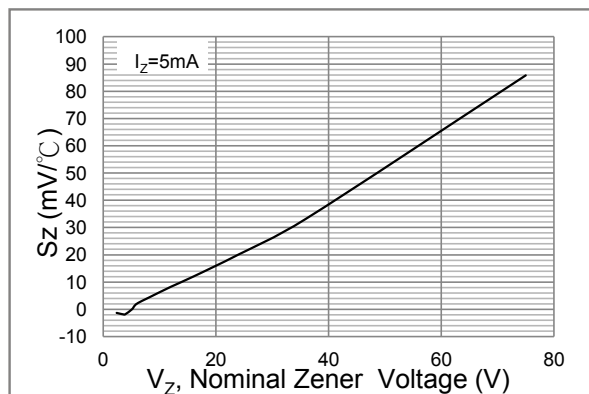
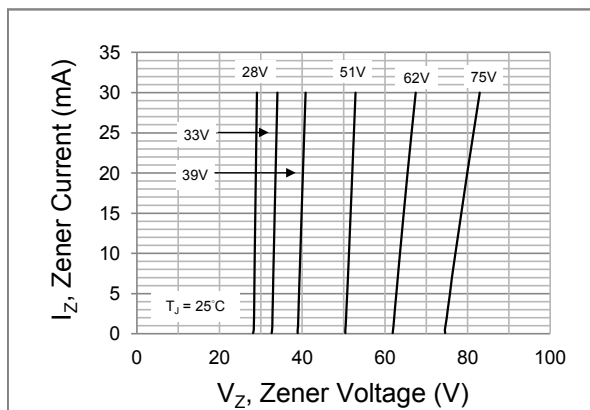


**Fig.5 Typical Zener Characteristics**



**Fig.6 Typical Zener Characteristics**

## BZT52-B2V4~BZT52-B75

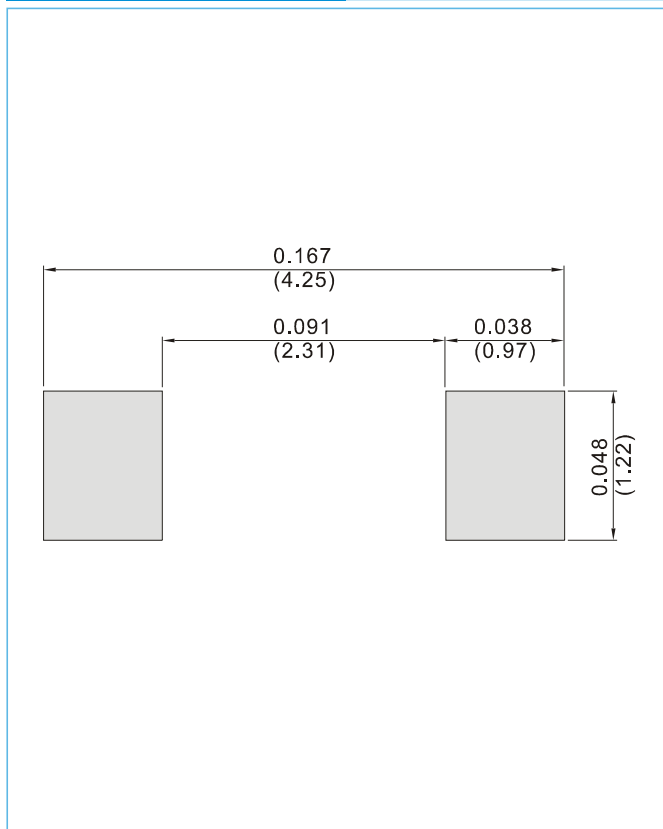


# BZT52-B2V4~BZT52-B75

## MOUNTING PAD LAYOUT

SOD-123

Unit : inch(mm)



## ORDER INFORMATION

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

## **BZT52-B2V4~BZT52-B75**

---

### **Disclaimer**

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.