



# WILLAS



## BZT52-C2V4 THRU BZT52-C51

### (%0mW SURFACE MOUNT SILICON ZENER DIODES 2.4V~51V SOD-%23 PACKAGE

#### FEATURES

- Planar Die construction
- 410mW Power Dissipation
- Zener Voltages from 2.4~51V
- Ideally Suited for Automated Assembly Processes

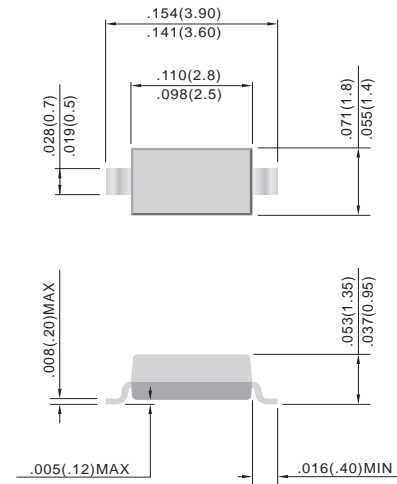
#### MECHANICAL DATA

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

#### ORDER INFORMATION

- Packing information
  - T 3K per 7" plastic Reel
- Product Type Symbol
  - RoHS product for packing code suffix "G"
  - Halogen free product for packing code suffix "H"
- September 2011 revision for product type symbol code suffix "-N"  
Example: BZT52-C2V4-TG-N ~ BZT52-C51-TG-N

#### SOD-%23



Dimensions in inches and (millimeters)

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| PARAMETER  | SYMBOL                          | VALUE       | UNIT |
|--|---------------------------------|-------------|------|
| Power Dissipation fBcH' 5L'at Tamb=25°C          | P <sub>TOT</sub>                | (%0         | mW   |
| Operating Junction and Storage Temperature Range | T <sub>J</sub> , T <sub>S</sub> | -55 to +150 | °C   |

Valid provided that leads at a distance of 10mm from case kept at ambient temperature.

#### NOTE :

- A. Mounted on 5.0mm<sup>2</sup>(.013mm thick) land areas.



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## BZT52-C2V4 THRU BZT52-C51

( $\approx$ 10mW SURFACE MOUNT SILICON ZENER DIODES 2.4V~51V  
SOD- $\approx$ 23 PACKAGE

| Part No.   | Nominal Zener Voltage            |        |        | Max. Zener Impedance              |     |                                   |     | Max Reverse Leakage Current     |      | Marking Code | Case    |
|------------|----------------------------------|--------|--------|-----------------------------------|-----|-----------------------------------|-----|---------------------------------|------|--------------|---------|
|            | 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 | $\Omega$                          | mA  | $\Omega$                          | mA  | $\mu$ A                         | V    |              |         |
| BZT52-C2V4 | 2.4                              | 2.28   | 2.52   | 85                                | 5.0 | 600                               | 1.0 | 100                             | 1.0  | WX           | SOD-123 |
| BZT52-C2V7 | 2.7                              | 2.57   | 2.84   | 83                                | 5.0 | 600                               | 1.0 | 75                              | 1.0  | W1           | SOD-123 |
| BZT52-C3   | 3.0                              | 2.85   | 3.15   | 95                                | 5.0 | 600                               | 1.0 | 50                              | 1.0  | W2           | SOD-123 |
| BZT52-C3V3 | 3.3                              | 3.14   | 3.47   | 95                                | 5.0 | 600                               | 1.0 | 25                              | 1.0  | W3           | SOD-123 |
| BZT52-C3V6 | 3.6                              | 3.42   | 3.78   | 95                                | 5.0 | 600                               | 1.0 | 15                              | 1.0  | W4           | SOD-123 |
| BZT52-C3V9 | 3.9                              | 3.71   | 4.10   | 95                                | 5.0 | 600                               | 1.0 | 10                              | 1.0  | W5           | SOD-123 |
| BZT52-C4V3 | 4.3                              | 4.09   | 4.52   | 95                                | 5.0 | 600                               | 1.0 | 5.0                             | 1.0  | W6           | SOD-123 |
| BZT52-C4V7 | 4.7                              | 4.47   | 4.94   | 78                                | 5.0 | 500                               | 1.0 | 5.0                             | 2.0  | W7           | SOD-123 |
| BZT52-C5V1 | 5.1                              | 4.85   | 5.36   | 60                                | 5.0 | 480                               | 1.0 | 0.1                             | 0.8  | W8           | SOD-123 |
| BZT52-C5V6 | 5.6                              | 5.32   | 5.88   | 40                                | 5.0 | 400                               | 1.0 | 0.1                             | 1.0  | W9           | SOD-123 |
| BZT52-C6V2 | 6.2                              | 5.89   | 6.51   | 10                                | 5.0 | 150                               | 1.0 | 0.1                             | 2.0  | WA           | SOD-123 |
| BZT52-C6V8 | 6.8                              | 6.46   | 7.14   | 8                                 | 5.0 | 80                                | 1.0 | 0.1                             | 3.0  | WB           | SOD-123 |
| BZT52-C7V5 | 7.5                              | 7.13   | 7.88   | 7                                 | 5.0 | 80                                | 1.0 | 0.1                             | 5.0  | WC           | SOD-123 |
| BZT52-C8V2 | 8.2                              | 7.79   | 8.61   | 7                                 | 5.0 | 80                                | 1.0 | 0.1                             | 6.0  | WD           | SOD-123 |
| BZT52-C9V1 | 9.1                              | 8.65   | 9.56   | 10                                | 5.0 | 100                               | 1.0 | 0.1                             | 7.0  | WE           | SOD-123 |
| BZT52-C10  | 10.0                             | 9.50   | 10.50  | 15                                | 5.0 | 150                               | 1.0 | 0.1                             | 7.5  | WF           | SOD-123 |
| BZT52-C11  | 11.0                             | 10.45  | 11.55  | 20                                | 5.0 | 150                               | 1.0 | 0.1                             | 8.5  | WG           | SOD-123 |
| BZT52-C12  | 12.0                             | 11.40  | 12.60  | 20                                | 5.0 | 150                               | 1.0 | 0.1                             | 9.0  | WH           | SOD-123 |
| BZT52-C13  | 13.0                             | 12.35  | 13.65  | 25                                | 5.0 | 170                               | 1.0 | 0.1                             | 10.0 | WI           | SOD-123 |
| BZT52-C15  | 15.0                             | 14.25  | 15.75  | 30                                | 5.0 | 200                               | 1.0 | 0.1                             | 11.0 | WJ           | SOD-123 |
| BZT52-C16  | 16.0                             | 15.20  | 16.80  | 40                                | 5.0 | 200                               | 1.0 | 0.1                             | 12.0 | WK           | SOD-123 |
| BZT52-C18  | 18.0                             | 17.10  | 18.90  | 50                                | 5.0 | 225                               | 1.0 | 0.1                             | 14.0 | WL           | SOD-123 |
| BZT52-C20  | 20.0                             | 19.00  | 21.00  | 50                                | 5.0 | 225                               | 1.0 | 0.1                             | 15.0 | WM           | SOD-123 |
| BZT52-C22  | 22.0                             | 20.90  | 23.10  | 55                                | 5.0 | 250                               | 1.0 | 0.1                             | 17.0 | WN           | SOD-123 |
| BZT52-C24  | 24.0                             | 22.80  | 25.20  | 80                                | 5.0 | 250                               | 1.0 | 0.1                             | 18.0 | WO           | SOD-123 |
| BZT52-C27  | 27.0                             | 25.65  | 28.35  | 80                                | 5.0 | 300                               | 1.0 | 0.1                             | 20.0 | WP           | SOD-123 |
| BZT52-C30  | 30.0                             | 28.50  | 31.50  | 80                                | 5.0 | 300                               | 1.0 | 0.1                             | 22.5 | WQ           | SOD-123 |
| BZT52-C33  | 33.0                             | 31.35  | 34.65  | 80                                | 5.0 | 325                               | 1.0 | 0.1                             | 25.0 | WR           | SOD-123 |
| BZT52-C36  | 36.0                             | 34.20  | 37.80  | 90                                | 5.0 | 350                               | 1.0 | 0.1                             | 27.0 | WS           | SOD-123 |
| BZT52-C39  | 39.0                             | 37.05  | 40.95  | 90                                | 5.0 | 350                               | 1.0 | 0.1                             | 29.0 | WT           | SOD-123 |
| BZT52-C43  | 43.0                             | 40.85  | 45.15  | 100                               | 5.0 | 700                               | 1.0 | 0.1                             | 32.0 | WU           | SOD-123 |
| BZT52-C47  | 47.0                             | 44.65  | 49.35  | 100                               | 5.0 | 750                               | 1.0 | 0.1                             | 35.0 | WV           | SOD-123 |
| BZT52-C51  | 51.0                             | 48.45  | 53.55  | 100                               | 5.0 | 750                               | 1.0 | 0.1                             | 38.0 | WW           | SOD-123 |



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## BZT52-C2V4 THRU BZT52-C51

### ( $\approx 10$ mW SURFACE MOUNT SILICON ZENER DIODES 2.4V~51V SOD- $\frac{1}{23}$ PACKAGE

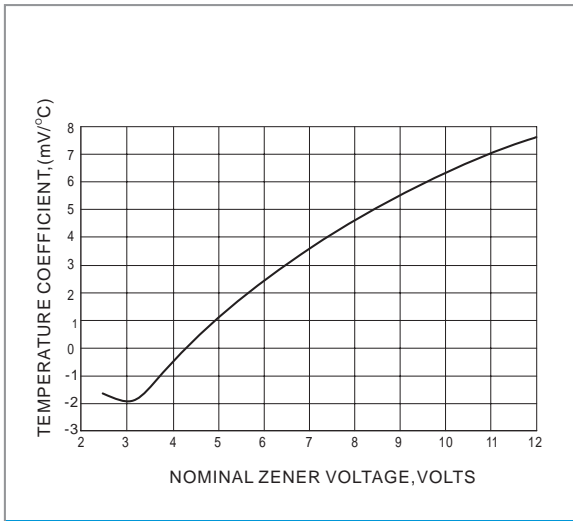


Fig.1 TEMPERATURE COEFFICIENTS

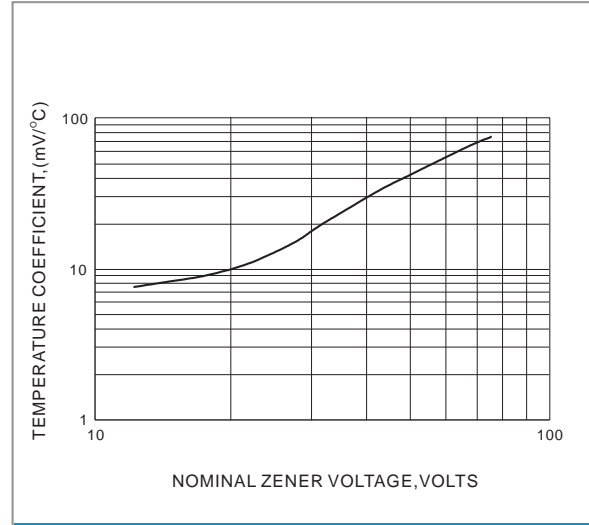


Fig.2 TEMPERATURE COEFFICIENTS

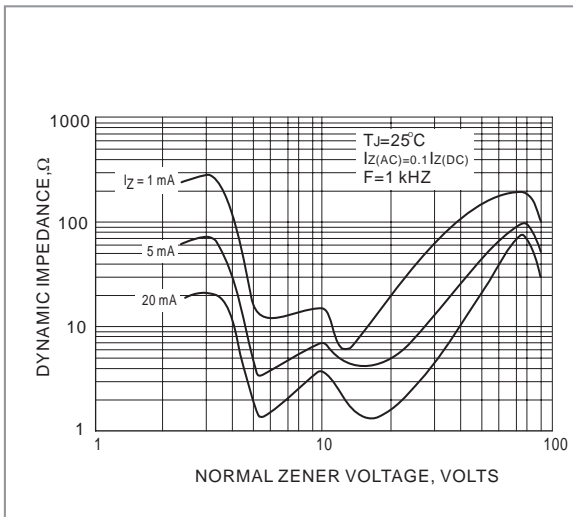


Fig.3 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

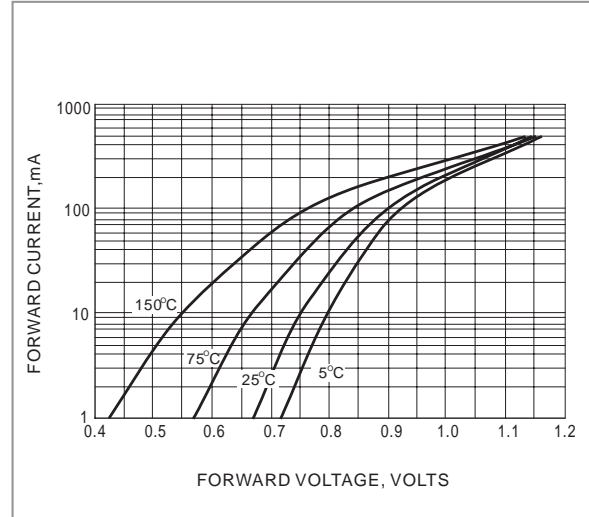


Fig.4 TYPICAL FORWARD VOLTAGE

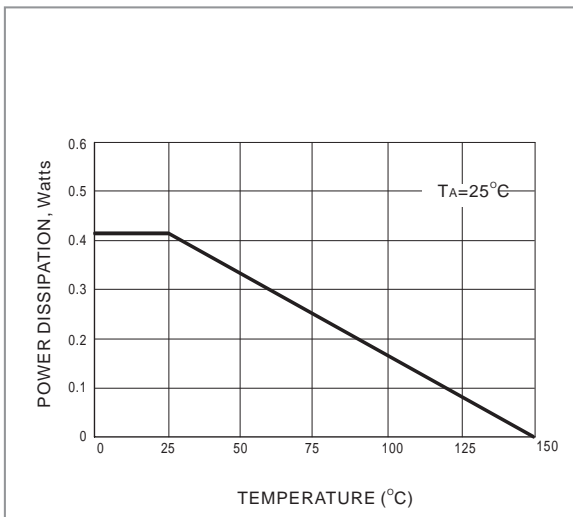


Fig.5 STEADY STATE POWER DERATING

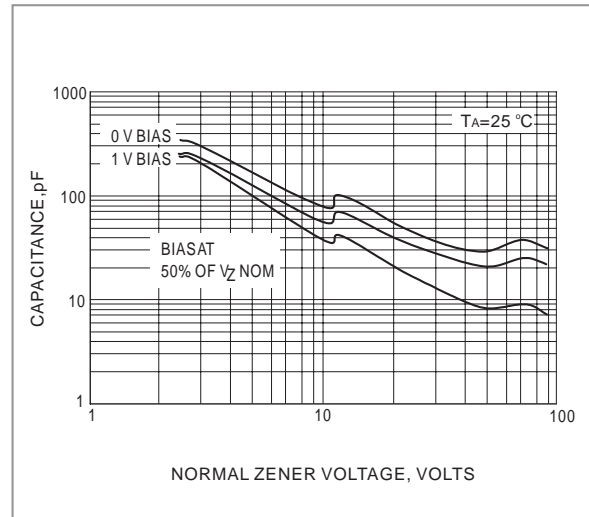


Fig.6 TYPICAL CAPACITANCE



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**BZT52-C2V4  
THRU  
BZT52-C51**

**(10mW SURFACE MOUNT SILICON ZENER DIODES 2.4V~51V  
SOD-23 PACKAGE**

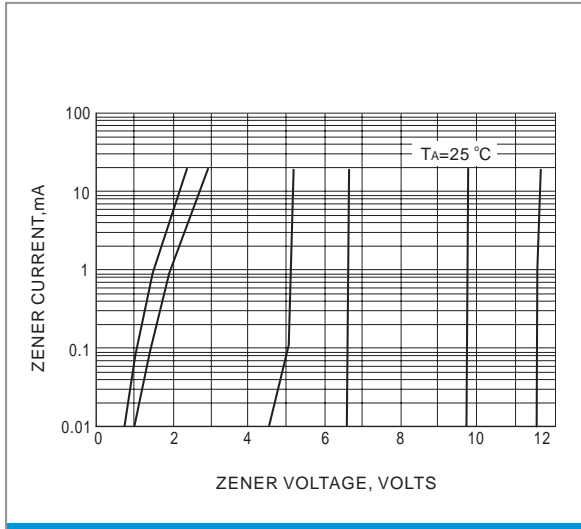


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

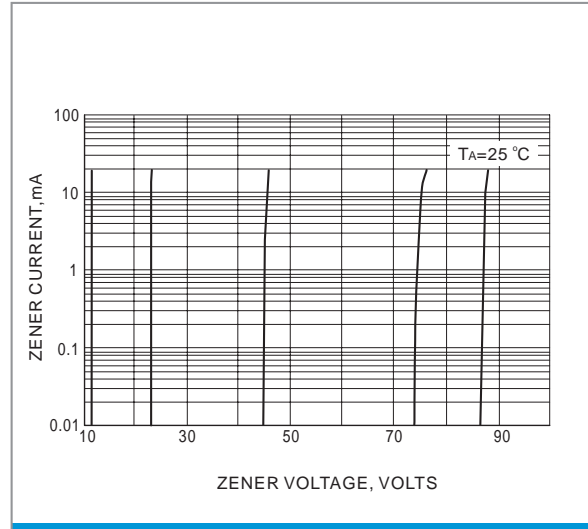


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

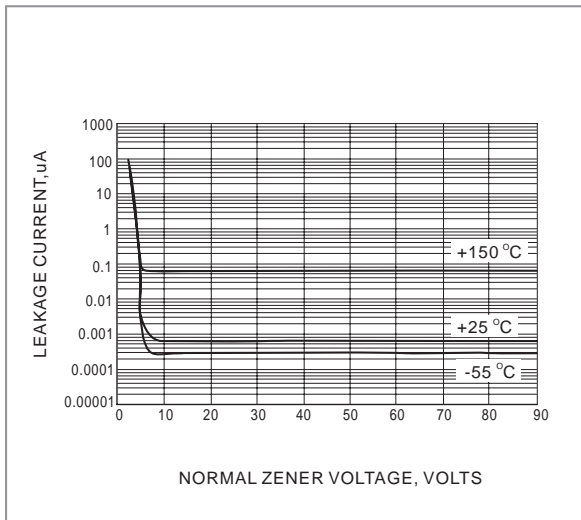
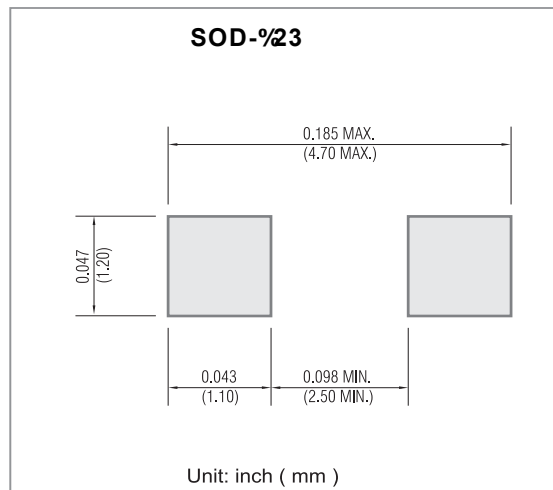


Fig.9 TYPICAL LEAKAGE CURRENT

### MOUNTING PAD LAYOUT





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**BZT52-C2V4  
THRU  
BZT52-C51**

**( 0mW SURFACE MOUNT SILICON ZENER DIODES 2.4V~51V  
SOD-3 PACKAGE**

### Ordering Information:

| Device PN  | Packing                           |
|--|-----------------------------------|
| Part Number -T <sup>(1)</sup> G <sup>(2)</sup> -N <sup>(3)</sup> -WS | Tape & Reel Packing :3000pcs/Reel |

**Note:** 1. Packing code, T: Tape & 7" Reel Packing;

2. RoHS product for packing code suffix "G", Halogen free product for packing code suffix "H" .

3. September 2011 revision for product type symbol code suffix "-N"

### \*\*\*Disclaimer\*\*\*

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