

# BZT52C2V4T~BZT52C39T

## ZENER DIODES

**VOLTAGE** 2.4 to 39 Volt **POWER** 0.2 Watt

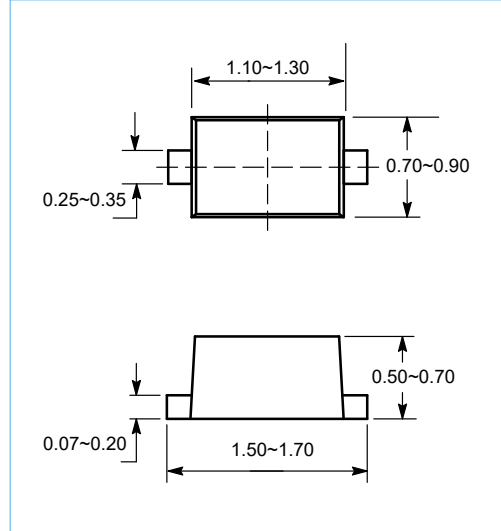
**SOD-523** Unit:mm

### FEATURES

- Planar Die Construction
- 200mW Power Dissipation
- General Purpose, Medium Current
- Lead free in compliance with EU RoHS

### MECHANICAL DATA

- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| Characteristic                              | Symbol          | Value    | Unit |
|---------------------------------------------|-----------------|----------|------|
| Forward Voltage @ $I_F = 10\text{mA}$       | $V_F$           | 0.9      | V    |
| Power Dissipation(Note 1)                   | $P_d$           | 200      | mW   |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 625      | °C/W |
| Junction Temperature                        | $T_j$           | 150      | °C   |
| Storage Temperature Range                   | $T_{stg}$       | -55~+150 | °C   |

#### NOTES :

- 1.Part mounted on FR-4 PC board with recommended pad layout

## BZT52C2V4T~BZT52C39T

### ELECTRICAL CHARACTERISTICS @25°C

| Type Number | Marking Code | Zener Voltage                   |         |         |                 | Maximum Zener Impedance f = 1kHz |                                  |                 | Maximum Reverse Current |                 | Temperature Coefficient of Zener Voltage @I <sub>ZT</sub> = 5mA mV/°C |      |
|-------------|--------------|---------------------------------|---------|---------|-----------------|----------------------------------|----------------------------------|-----------------|-------------------------|-----------------|-----------------------------------------------------------------------|------|
|             |              | V <sub>Z</sub> @I <sub>ZT</sub> |         |         | I <sub>ZT</sub> | Z <sub>ZT</sub> @I <sub>ZT</sub> | Z <sub>ZK</sub> @I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>          | @V <sub>R</sub> | Min                                                                   | Max  |
|             |              | Nom (V)                         | Min (V) | Max (V) | (mA)            | Ω                                | mA                               | uA              | V                       |                 |                                                                       |      |
| BZT52C2V4T  | WX           | 2.4                             | 2.20    | 2.60    | 5               | 100                              | 600                              | 1.0             | 50                      | 1.0             | -3.5                                                                  | 0    |
| BZT52C2V7T  | W1           | 2.7                             | 2.5     | 2.9     | 5               | 100                              | 600                              | 1.0             | 20                      | 1.0             | -3.5                                                                  | 0    |
| BZT52C3V0T  | W2           | 3.0                             | 2.8     | 3.2     | 5               | 95                               | 600                              | 1.0             | 10                      | 1.0             | -3.5                                                                  | 0    |
| BZT52C3V3T  | W3           | 3.3                             | 3.1     | 3.5     | 5               | 95                               | 600                              | 1.0             | 5                       | 1.0             | -3.5                                                                  | 0    |
| BZT52C3V6T  | W4           | 3.6                             | 3.4     | 3.8     | 5               | 90                               | 600                              | 1.0             | 5                       | 1.0             | -3.5                                                                  | 0    |
| BZT52C3V9T  | W5           | 3.9                             | 3.7     | 4.1     | 5               | 90                               | 600                              | 1.0             | 3                       | 1.0             | -3.5                                                                  | 0    |
| BZT52C4V3T  | W6           | 4.3                             | 4.0     | 4.6     | 5               | 90                               | 600                              | 1.0             | 3                       | 1.0             | -3.5                                                                  | 0    |
| BZT52C4V7T  | W7           | 4.7                             | 4.4     | 5.0     | 5               | 80                               | 500                              | 1.0             | 2                       | 2.0             | -3.5                                                                  | 0.2  |
| BZT52C5V1T  | W8           | 5.1                             | 4.8     | 5.4     | 5               | 60                               | 480                              | 1.0             | 1                       | 2.0             | -2.7                                                                  | 1.2  |
| BZT52C5V6T  | W9           | 5.6                             | 5.2     | 6.0     | 5               | 40                               | 400                              | 1.0             | 3                       | 2.0             | -2.0                                                                  | 2.5  |
| BZT52C6V2T  | WA           | 6.2                             | 5.8     | 6.6     | 5               | 10                               | 150                              | 1.0             | 2                       | 4.0             | 0.4                                                                   | 3.7  |
| BZT52C6V8T  | WB           | 6.8                             | 6.4     | 7.2     | 5               | 15                               | 80                               | 1.0             | 1                       | 4.0             | 1.2                                                                   | 4.5  |
| BZT52C7V5T  | WC           | 7.5                             | 7.0     | 7.9     | 5               | 15                               | 80                               | 1.0             | 0.7                     | 5.0             | 2.5                                                                   | 5.3  |
| BZT52C8V2T  | WD           | 8.2                             | 7.7     | 8.7     | 5               | 15                               | 80                               | 1.0             | 0.5                     | 5.0             | 3.2                                                                   | 6.2  |
| BZT52C9V1T  | WE           | 9.1                             | 8.5     | 9.6     | 5               | 15                               | 100                              | 1.0             | 0.2                     | 6.0             | 3.8                                                                   | 7.0  |
| BZT52C10T   | WF           | 10                              | 9.4     | 10.6    | 5               | 20                               | 150                              | 1.0             | 0.1                     | 7.0             | 4.5                                                                   | 8.0  |
| BZT52C11T   | WG           | 11                              | 10.4    | 11.6    | 5               | 20                               | 150                              | 1.0             | 0.1                     | 8.0             | 5.4                                                                   | 9.0  |
| BZT52C12T   | WH           | 12                              | 11.4    | 12.7    | 5               | 25                               | 150                              | 1.0             | 0.1                     | 8.0             | 6.0                                                                   | 10.0 |
| BZT52C13T   | WI           | 13                              | 12.4    | 14.1    | 5               | 30                               | 170                              | 1.0             | 0.1                     | 8.0             | 7.0                                                                   | 11.0 |
| BZT52C15T   | WJ           | 15                              | 13.8    | 15.6    | 5               | 30                               | 200                              | 1.0             | 0.1                     | 10.5            | 9.2                                                                   | 13.0 |
| BZT52C16T   | WK           | 16                              | 15.3    | 17.1    | 5               | 40                               | 200                              | 1.0             | 0.1                     | 11.2            | 10.4                                                                  | 14.0 |
| BZT52C18T   | WL           | 18                              | 16.8    | 19.1    | 5               | 45                               | 225                              | 1.0             | 0.1                     | 12.6            | 12.4                                                                  | 16.0 |
| BZT52C20T   | WM           | 20                              | 18.8    | 21.2    | 5               | 55                               | 225                              | 1.0             | 0.1                     | 14.0            | 14.4                                                                  | 18.0 |
| BZT52C22T   | WN           | 22                              | 20.8    | 23.3    | 5               | 55                               | 250                              | 1.0             | 0.1                     | 15.4            | 16.4                                                                  | 20.0 |
| BZT52C24T   | WO           | 24                              | 22.8    | 25.6    | 5               | 70                               | 250                              | 1.0             | 0.1                     | 16.8            | 18.4                                                                  | 22.0 |
| BZT52C27T   | WP           | 27                              | 25.1    | 28.9    | 2               | 80                               | 300                              | 0.5             | 0.1                     | 18.9            | 21.4                                                                  | 25.3 |
| BZT52C30T   | WQ           | 30                              | 28.0    | 32.0    | 2               | 80                               | 300                              | 0.5             | 0.1                     | 21.0            | 24.4                                                                  | 29.4 |
| BZT52C33T   | WR           | 33                              | 31.0    | 35.0    | 2               | 80                               | 325                              | 0.5             | 0.1                     | 23.1            | 27.4                                                                  | 33.4 |
| BZT52C36T   | WS           | 36                              | 34.0    | 38.0    | 2               | 90                               | 350                              | 0.5             | 0.1                     | 25.2            | 30.4                                                                  | 37.4 |
| BZT52C39T   | WT           | 39                              | 37.0    | 41.0    | 2               | 130                              | 350                              | 0.5             | 0.1                     | 27.3            | 33.4                                                                  | 41.2 |

# BZT52C2V4T~BZT52C39T

## RATING AND CHARACTERISTIC CURVES

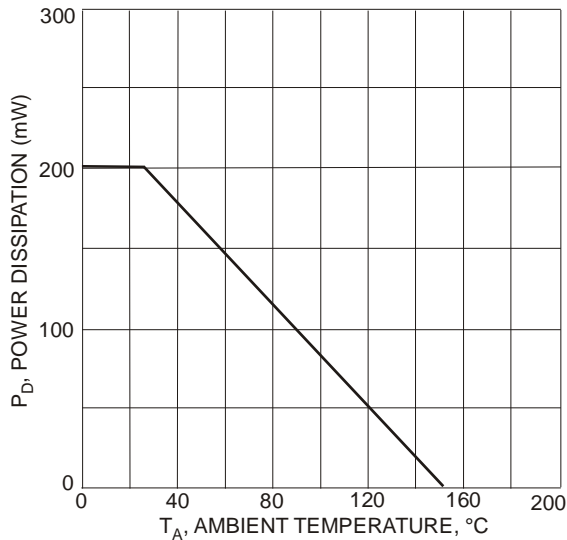


Fig. 1 Power Derating Curve

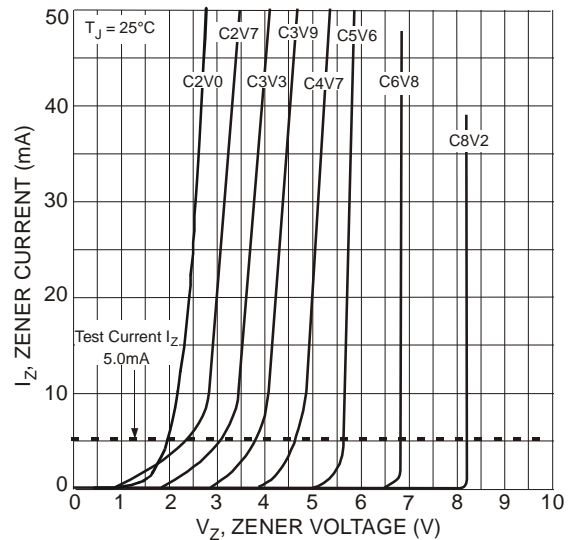


Fig. 2 Typical Zener Breakdown Characteristics

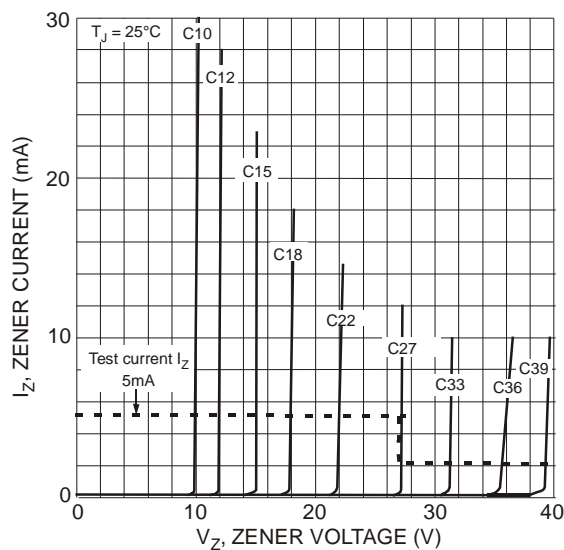


Fig. 3 Typical Zener Breakdown Characteristics

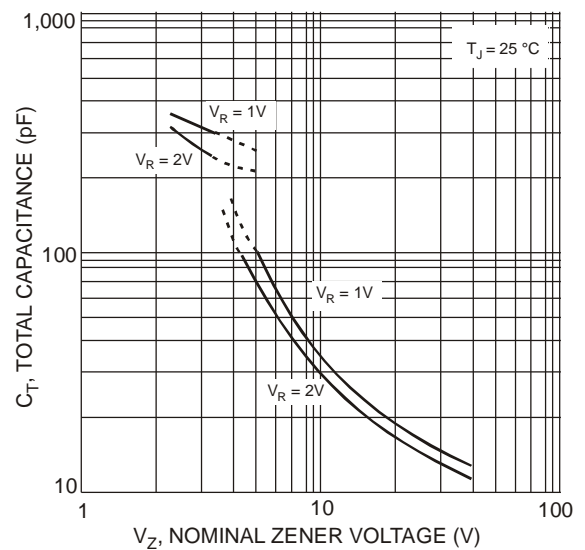


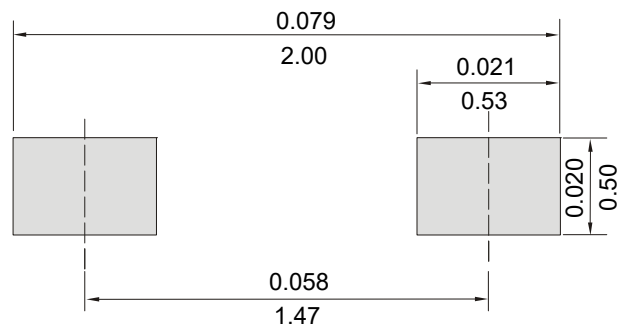
Fig. 4 Typical Total Capacitance vs. Nominal Zener Voltage

# BZT52C2V4T~BZT52C39T

## MOUNTING PAD LAYOUT

**SOD-523**

Unit:Inch(mm)



## ORDER INFORMATION

- Packing information

| Part Number          | Case    | Reel Size | QUANTITY |
|----------------------|---------|-----------|----------|
| BZT52C2V4T~BZT52C39T | SOD-523 | 7 Inch    | 8000     |