

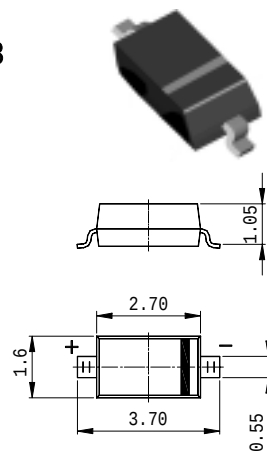
### BZT52C2V4-BZT52C51

ZENER DIODE

#### FEATURES :

- Planar Die Construction
- 500mW Power Dissipation on Ceramic PCB
- General Purpose Medium Current
- Ideally Suited for Automated Assembly Processes

SOD-123



Unit : mm

Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Characteristic                                       | Symbol                            | Value       | Unit |
|------------------------------------------------------|-----------------------------------|-------------|------|
| Forward Voltage @ I <sub>F</sub> = 10mA              | V <sub>F</sub>                    | 0.9         | V    |
| Power Dissipation (Note 1)                           | P <sub>d</sub>                    | 500         | mW   |
| Thermal Resistance, Junction to Ambient Air (Note 1) | R <sub>θJA</sub>                  | 305         | °C/W |
| Operating and Storage Temperature Range              | T <sub>J</sub> , T <sub>stg</sub> | -65 to +150 | °C   |

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

| Type Number | Marking Code (Note 3) | Zener Voltage Range (Note 2)     |         |         |                 | Maximum Zener Impedance (Note 4)  |                                   |                 | Maximum Reverse Current |                  | Typical Temperature Coefficient @ I <sub>ZTC</sub> mV/°C |      | Test Current     |
|-------------|-----------------------|----------------------------------|---------|---------|-----------------|-----------------------------------|-----------------------------------|-----------------|-------------------------|------------------|----------------------------------------------------------|------|------------------|
|             |                       | V <sub>Z</sub> @ I <sub>ZT</sub> |         |         | I <sub>ZT</sub> | Z <sub>KT</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  | I <sub>ZTC</sub> |
|             |                       | Nom (V)                          | Min (V) | Max (V) | mA              | Ω                                 |                                   | mA              | uA                      | V                |                                                          |      |                  |
| BZT52C2V4   | WX                    | 2.4                              | 2.2     | 2.6     | 5               | 100                               | 600                               | 1.0             | 50                      | 1.0              | -3.5                                                     | 0    | 5                |
| BZT52C2V7   | W1                    | 2.7                              | 2.5     | 2.9     | 5               | 100                               | 600                               | 1.0             | 20                      | 1.0              | -3.5                                                     | 0    | 5                |
| BZT52C3V0   | W2                    | 3.0                              | 2.8     | 3.2     | 5               | 95                                | 600                               | 1.0             | 10                      | 1.0              | -3.5                                                     | 0    | 5                |
| BZT52C3V3   | W3                    | 3.3                              | 3.1     | 3.5     | 5               | 95                                | 600                               | 1.0             | 5.0                     | 1.0              | -3.5                                                     | 0    | 5                |
| BZT52C3V6   | W4                    | 3.6                              | 3.4     | 3.8     | 5               | 90                                | 600                               | 1.0             | 5.0                     | 1.0              | -3.5                                                     | 0    | 5                |
| BZT52C3V9   | W5                    | 3.9                              | 3.7     | 4.1     | 5               | 90                                | 600                               | 1.0             | 3.0                     | 1.0              | -3.5                                                     | 0    | 5                |
| BZT52C4V3   | W6                    | 4.3                              | 4.0     | 4.6     | 5               | 90                                | 600                               | 1.0             | 3.0                     | 1.0              | -3.5                                                     | 0    | 5                |
| BZT52C4V7   | W7                    | 4.7                              | 4.4     | 5.0     | 5               | 80                                | 500                               | 1.0             | 3.0                     | 2.0              | -3.5                                                     | 0.2  | 5                |
| BZT52C5V1   | W8                    | 5.1                              | 4.8     | 5.4     | 5               | 60                                | 480                               | 1.0             | 2.0                     | 2.0              | -2.7                                                     | 1.2  | 5                |
| BZT52C5V6   | W9                    | 5.6                              | 5.2     | 6.0     | 5               | 40                                | 400                               | 1.0             | 1.0                     | 2.0              | -2                                                       | 2.5  | 5                |
| BZT52C6V2   | WA                    | 6.2                              | 5.8     | 6.6     | 5               | 10                                | 150                               | 1.0             | 3.0                     | 4.0              | 0.4                                                      | 3.7  | 5                |
| BZT52C6V8   | WB                    | 6.8                              | 6.4     | 7.2     | 5               | 15                                | 80                                | 1.0             | 2.0                     | 4.0              | 1.2                                                      | 4.5  | 5                |
| BZT52C7V5   | WC                    | 7.5                              | 7.0     | 7.9     | 5               | 15                                | 80                                | 1.0             | 1.0                     | 5.0              | 2.5                                                      | 5.3  | 5                |
| BZT52C8V2   | WD                    | 8.2                              | 7.7     | 8.7     | 5               | 15                                | 80                                | 1.0             | 0.7                     | 5.0              | 3.2                                                      | 6.2  | 5                |
| BZT52C9V1   | WE                    | 9.1                              | 8.5     | 9.6     | 5               | 15                                | 100                               | 1.0             | 0.5                     | 6.0              | 3.8                                                      | 7.0  | 5                |
| BZT52C10    | WF                    | 10                               | 9.4     | 10.6    | 5               | 20                                | 150                               | 1.0             | 0.2                     | 7.0              | 4.5                                                      | 8.0  | 5                |
| BZT52C11    | WG                    | 11                               | 10.4    | 11.6    | 5               | 20                                | 150                               | 1.0             | 0.1                     | 8.0              | 5.4                                                      | 9.0  | 5                |
| BZT52C12    | WH                    | 12                               | 11.4    | 12.7    | 5               | 25                                | 150                               | 1.0             | 0.1                     | 8.0              | 6.0                                                      | 10.0 | 5                |
| BZT52C13    | WI                    | 13                               | 12.4    | 14.1    | 5               | 30                                | 170                               | 1.0             | 0.1                     | 8.0              | 7.0                                                      | 11.0 | 5                |
| BZT52C15    | WJ                    | 15                               | 13.8    | 15.6    | 5               | 30                                | 200                               | 1.0             | 0.1                     | 10.5             | 9.2                                                      | 13.0 | 5                |
| BZT52C16    | WK                    | 16                               | 15.3    | 17.1    | 5               | 40                                | 200                               | 1.0             | 0.1                     | 11.2             | 10.4                                                     | 14.0 | 5                |
| BZT52C18    | WL                    | 18                               | 16.8    | 19.1    | 5               | 45                                | 225                               | 1.0             | 0.1                     | 12.6             | 12.4                                                     | 16.0 | 5                |
| BZT52C20    | WM                    | 20                               | 18.8    | 21.2    | 5               | 55                                | 225                               | 1.0             | 0.1                     | 14.0             | 14.4                                                     | 18.0 | 5                |
| BZT52C22    | WN                    | 22                               | 20.8    | 23.3    | 5               | 55                                | 250                               | 1.0             | 0.1                     | 15.4             | 16.4                                                     | 20.0 | 5                |
| BZT52C24    | WO                    | 24                               | 22.8    | 25.6    | 5               | 70                                | 250                               | 1.0             | 0.1                     | 16.8             | 18.4                                                     | 22.0 | 5                |
| BZT52C27    | WP                    | 27                               | 25.1    | 28.9    | 2               | 80                                | 300                               | 0.5             | 0.1                     | 18.9             | 21.4                                                     | 25.3 | 2                |
| BZT52C30    | WQ                    | 30                               | 28.0    | 32.0    | 2               | 80                                | 300                               | 0.5             | 0.1                     | 21.0             | 24.4                                                     | 29.4 | 2                |
| BZT52C33    | WR                    | 33                               | 31.0    | 35.0    | 2               | 80                                | 325                               | 0.5             | 0.1                     | 23.1             | 27.4                                                     | 33.4 | 2                |
| BZT52C36    | WS                    | 36                               | 34.0    | 38.0    | 2               | 90                                | 350                               | 0.5             | 0.1                     | 25.2             | 30.4                                                     | 37.4 | 2                |
| BZT52C39    | WT                    | 39                               | 37.0    | 41.0    | 2               | 130                               | 350                               | 0.5             | 0.1                     | 27.3             | 33.4                                                     | 41.2 | 2                |
| BZT52C43    | WU                    | 43                               | 40.0    | 46.0    | 5               | 100                               | 700                               | 1.0             | 0.1                     | 32               | 10.0                                                     | 12.0 | 5                |
| BZT52C47    | WV                    | 47                               | 44.0    | 50.0    | 5               | 100                               | 750                               | 1.0             | 0.1                     | 35               | 10.0                                                     | 12.0 | 5                |
| BZT52C51    | WW                    | 51                               | 48.0    | 54.0    | 5               | 100                               | 750                               | 1.0             | 0.1                     | 38               | 10.0                                                     | 12.0 | 5                |

- Notes: 1. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>.  
 2. Short duration test pulse used to minimize self-heating effect.  
 3. When provided, otherwise, parts are provided with date code only, and type number identifications appears on reel only.  
 4. f = 1KHz.

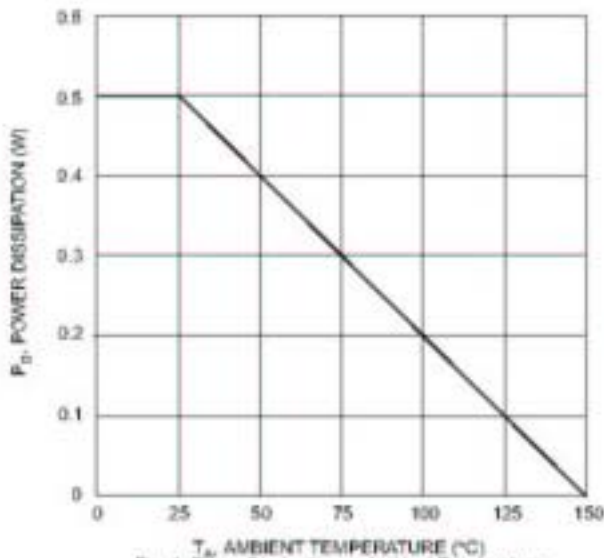


Fig. 1 Power Dissipation vs Ambient Temperature

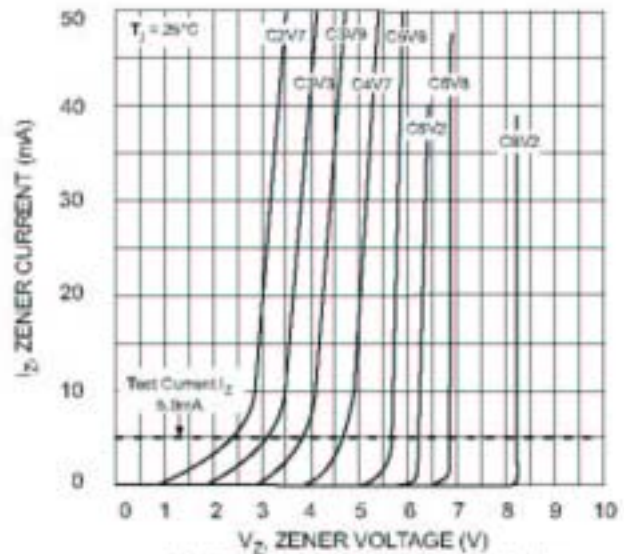


Fig. 2 Zener Breakdown Characteristics

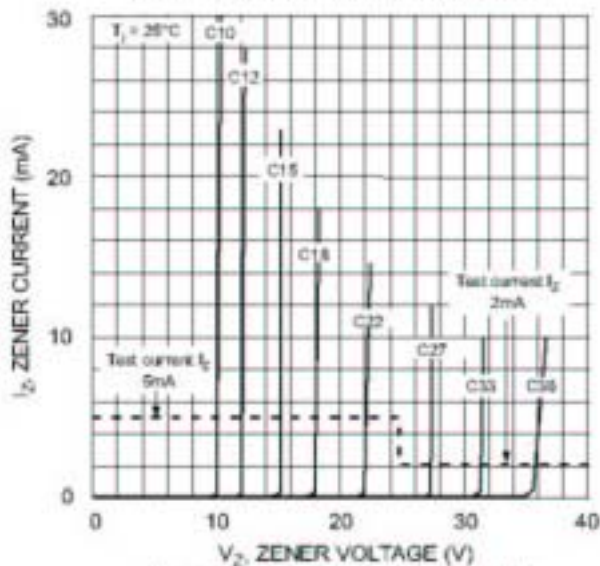


Fig. 3 Zener Breakdown Characteristics

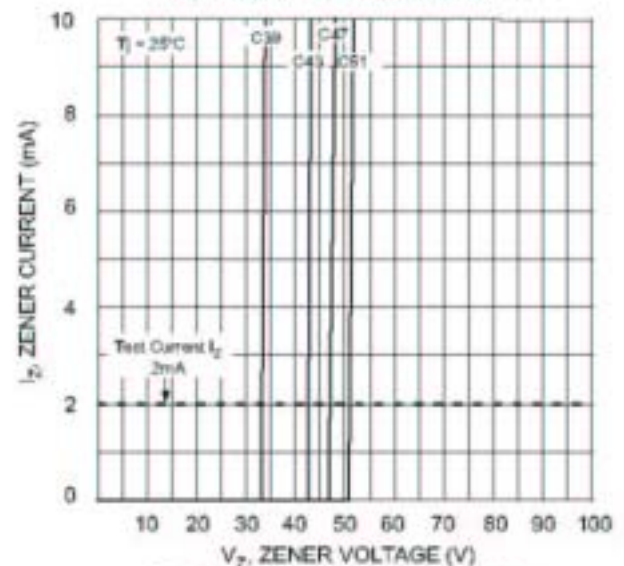


Fig. 4 Zener Breakdown Characteristics

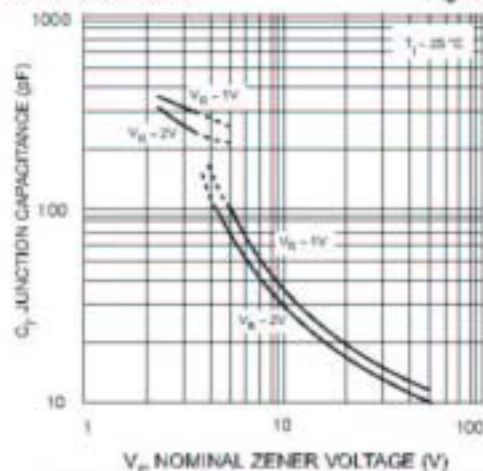


Fig. 5 Junction Capacitance vs Nominal Zener Voltage