

# Plastic-Encapsulate Diodes

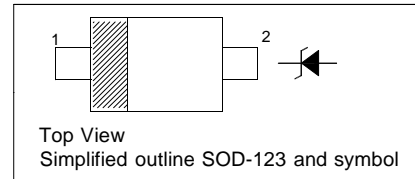
## ZENER DIODE

### FEATURE

- Planar Die Construction
- 350mW Power Dissipation on Ceramic PCB
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- Available in Lead Free Version

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



### Maximum Ratings(Ta=25°C unless otherwise specified)

| Characteristic                                   | Symbol           | Value      | Unit |
|--|------------------|------------|------|
| Forward Voltage (Note 2) @ I <sub>F</sub> = 10mA | V <sub>F</sub>   | 0.9        | V    |
| Power Dissipation(Note 1)                        | P <sub>d</sub>   | 350        | mW   |
| Thermal Resistance from Junction to Ambient      | R <sub>θJA</sub> | 357        | °C/W |
| Junction Temperature                             | T <sub>j</sub>   | 150        | °C   |
| Storage Temperature Range                        | T <sub>stg</sub> | -55 ~ +150 | °C   |

### Electrical Characteristics( T a = 25°C unless otherwise specified)

| Type Number | Type Code | Zener Voltage Range (Note 2)    |        |        |                 | Maximum Zener Impedance (Note 3) |                                  |                 | Maximum Reverse Current |                | Typical Temperature Coefficient @I <sub>ZTC</sub> |      | Test Current I <sub>ZTC</sub> |
|-------------|-----------|---------------------------------|--------|--------|-----------------|----------------------------------|----------------------------------|-----------------|-------------------------|----------------|---|------|-------------------------------|
|             |           | 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> | mV/°C   |      |                               |
|             |           | Nom(V)                          | Min(V) | Max(V) | mA              | Ω                                |                                  | mA              | μA                      | V              | Min   | Max  |                               |
| BZT52B2V4   | 2WX       | 2.4                             | 2.35   | 2.45   | 5               | 100                              | 600                              | 1.0             | 50                      | 1.0            | -3.5  | 0    | 5                             |
| BZT52B2V7   | 2W1       | 2.7                             | 2.65   | 2.75   | 5               | 100                              | 600                              | 1.0             | 20                      | 1.0            | -3.5  | 0    | 5                             |
| BZT52B3V0   | 2W2       | 3.0                             | 2.94   | 3.06   | 5               | 95                               | 600                              | 1.0             | 10                      | 1.0            | -3.5  | 0    | 5                             |
| BZT52B3V3   | 2W3       | 3.3                             | 3.23   | 3.37   | 5               | 95                               | 600                              | 1.0             | 5                       | 1.0            | -3.5  | 0    | 5                             |
| BZT52B3V6   | 2W4       | 3.6                             | 3.53   | 3.67   | 5               | 90                               | 600                              | 1.0             | 5                       | 1.0            | -3.5  | 0    | 5                             |
| BZT52B3V9   | 2W5       | 3.9                             | 3.82   | 3.98   | 5               | 90                               | 600                              | 1.0             | 3                       | 1.0            | -3.5  | 0    | 5                             |
| BZT52B4V3   | 2W6       | 4.3                             | 4.21   | 4.39   | 5               | 90                               | 600                              | 1.0             | 3                       | 1.0            | -3.5  | 0    | 5                             |
| BZT52B4V7   | 2W7       | 4.7                             | 4.61   | 4.79   | 5               | 80                               | 500                              | 1.0             | 3                       | 2.0            | -3.5  | 0.2  | 5                             |
| BZT52B5V1   | 2W8       | 5.1                             | 5.00   | 5.20   | 5               | 60                               | 480                              | 1.0             | 2                       | 2.0            | -2.7  | 1.2  | 5                             |
| BZT52B5V6   | 2W9       | 5.6                             | 5.49   | 5.71   | 5               | 40                               | 400                              | 1.0             | 1                       | 2.0            | -2.0  | 2.5  | 5                             |
| BZT52B6V2   | 2WA       | 6.2                             | 6.08   | 6.32   | 5               | 10                               | 150                              | 1.0             | 3                       | 4.0            | 0.4   | 3.7  | 5                             |
| BZT52B6V8   | 2WB       | 6.8                             | 6.66   | 6.94   | 5               | 15                               | 80                               | 1.0             | 2                       | 4.0            | 1.2   | 4.5  | 5                             |
| BZT52B7V5   | 2WC       | 7.5                             | 7.35   | 7.65   | 5               | 15                               | 80                               | 1.0             | 1                       | 5.0            | 2.5   | 5.3  | 5                             |
| BZT52B8V2   | 2WD       | 8.2                             | 8.04   | 8.36   | 5               | 15                               | 80                               | 1.0             | 0.7                     | 5.0            | 3.2   | 6.2  | 5                             |
| BZT52B9V1   | 2WE       | 9.1                             | 8.92   | 9.28   | 5               | 15                               | 100                              | 1.0             | 0.5                     | 6.0            | 3.8   | 7.0  | 5                             |
| BZT52B10    | 2WF       | 10                              | 9.8    | 10.20  | 5               | 20                               | 150                              | 1.0             | 0.2                     | 7.0            | 4.5   | 8.0  | 5                             |
| BZT52B11    | 2WG       | 11                              | 10.78  | 11.22  | 5               | 20                               | 150                              | 1.0             | 0.1                     | 8.0            | 5.4   | 9.0  | 5                             |
| BZT52B12    | 2WH       | 12                              | 11.76  | 12.24  | 5               | 25                               | 150                              | 1.0             | 0.1                     | 8.0            | 6.0   | 10.0 | 5                             |
| BZT52B13    | 2WI       | 13                              | 12.74  | 13.26  | 5               | 30                               | 170                              | 1.0             | 0.1                     | 8.0            | 7.0   | 11.0 | 5                             |
| BZT52B15    | 2WJ       | 15                              | 14.70  | 15.30  | 5               | 30                               | 200                              | 1.0             | 0.1                     | 10.5           | 9.2   | 13.0 | 5                             |
| BZT52B16    | 2WK       | 16                              | 15.68  | 16.32  | 5               | 40                               | 200                              | 1.0             | 0.1                     | 11.2           | 10.4  | 14.0 | 5                             |
| BZT52B18    | 2WL       | 18                              | 17.64  | 18.36  | 5               | 45                               | 225                              | 1.0             | 0.1                     | 12.6           | 12.4  | 16.0 | 5                             |
| BZT52B20    | 2WM       | 20                              | 19.60  | 20.40  | 5               | 55                               | 225                              | 1.0             | 0.1                     | 14.0           | 14.4  | 18.0 | 5                             |
| BZT52B22    | 2WN       | 22                              | 21.56  | 22.44  | 5               | 55                               | 250                              | 1.0             | 0.1                     | 15.4           | 16.4  | 20.0 | 5                             |
| BZT52B24    | 2WO       | 24                              | 23.52  | 24.48  | 5               | 70                               | 250                              | 1.0             | 0.1                     | 16.8           | 18.4  | 22.0 | 5                             |
| BZT52B27    | 2WP       | 27                              | 26.46  | 27.54  | 2               | 80                               | 300                              | 0.5             | 0.1                     | 18.9           | 21.4  | 25.3 | 2                             |
| BZT52B30    | 2WQ       | 30                              | 29.40  | 30.60  | 2               | 80                               | 300                              | 0.5             | 0.1                     | 21.0           | 24.4  | 29.4 | 2                             |
| BZT52B33    | 2WR       | 33                              | 32.34  | 33.66  | 2               | 80                               | 325                              | 0.5             | 0.1                     | 23.1           | 27.4  | 33.4 | 2                             |
| BZT52B36    | 2WS       | 36                              | 35.28  | 36.72  | 2               | 90                               | 350                              | 0.5             | 0.1                     | 25.2           | 30.4  | 37.4 | 2                             |
| BZT52B39    | 2WT       | 39                              | 38.22  | 39.78  | 2               | 130                              | 350                              | 0.5             | 0.1                     | 27.3           | 33.4  | 41.2 | 2                             |
| BZT52B43    | 2WU       | 43                              | 41.16  | 42.84  | 2               | 130                              | 350                              | 0.5             | 0.1                     | 29.4           | 36.4  | 45.2 | 2                             |

- 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. f = 1kHz

## **PACKAGE OUTLINE**

**Plastic surface mounted package; 2 leads**

**SOD-123**

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