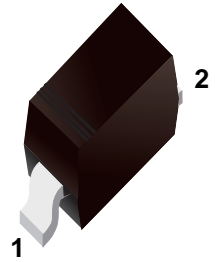


■ Zener Diodes



■ Features

- Planar die construction
- 200mW power dissipation on ceramic PBC
- General purpose, medium current
- Ideally suited for automated assembly processes
- Available in lead free version

■ Simplified outline(SOD-323)



■ Absolute Maximum Ratings Ta = 25°C

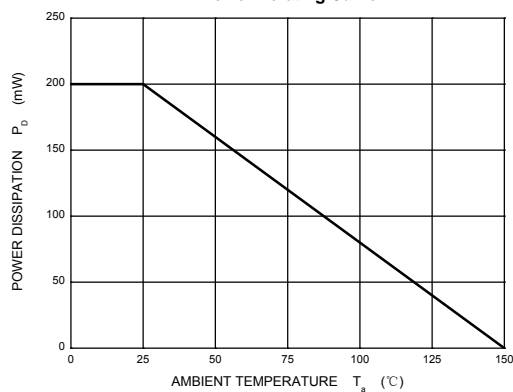
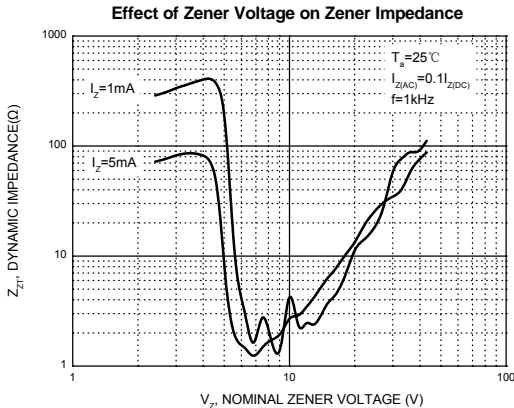
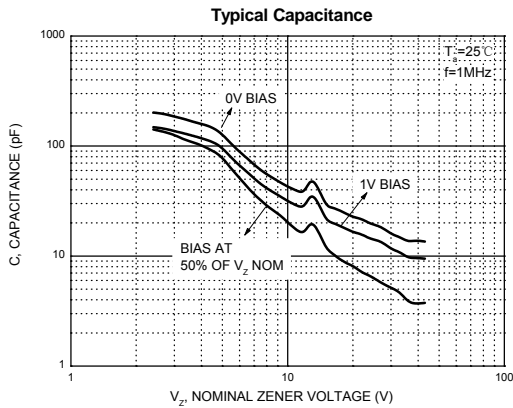
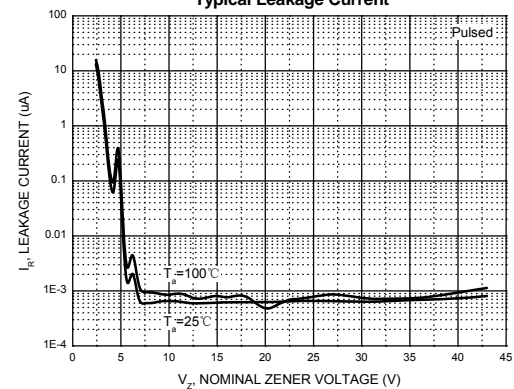
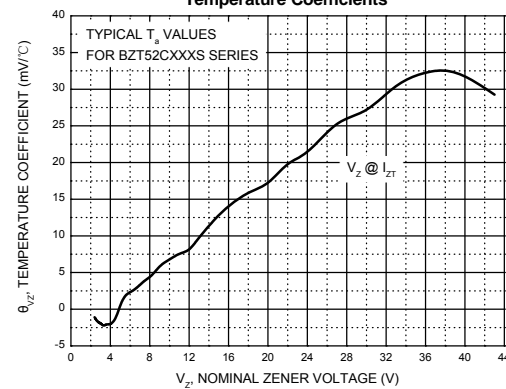
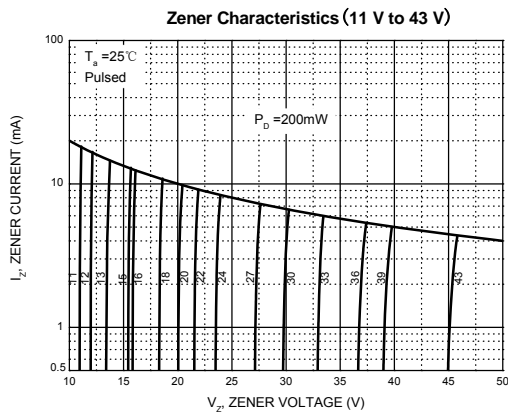
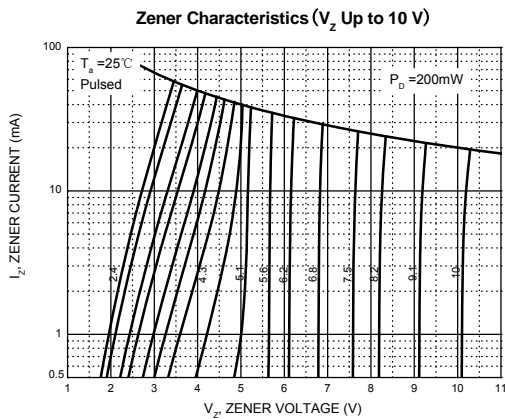
| Characteristic                                   | Symbol           | Value    | Unit |
|--|------------------|----------|------|
| Forward Voltage (Note 2) @ I <sub>F</sub> = 10mA | V <sub>F</sub>   | 0.9      | V    |
| Power Dissipation(Note 1)                        | P <sub>D</sub>   | 200      | mW   |
| Thermal Resistance from Junction to Ambient      | R <sub>θJA</sub> | 625      | °C/W |
| Junction Temperature                             | T <sub>j</sub>   | 150      | °C   |
| Storage Temperature Range                        | T <sub>stg</sub> | -55~+150 | °C   |

■ Electrical Characteristics Ta = 25°C

| TYPE       | Marking | Zener Voltage Range (Note 2)    |        |        |                 | Maximum Zener Impedance (Note 3) |                     |                 | Maximum Reverse Current (Note 2) |                | Typical Temperature Coefficient @ I <sub>ZTC</sub> mV/°C |      | Test Current I <sub>ZTC</sub> |
|------------|---------|---------------------------------|--------|--------|-----------------|----------------------------------|---------------------|-----------------|----------------------------------|----------------|--|------|-------------------------------|
|            |         | V <sub>Z</sub> @I <sub>ZT</sub> |        |        | I <sub>ZT</sub> | ZZT@I <sub>ZT</sub>              | ZZK@I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>                   | V <sub>R</sub> | Min  | Max  | mA                            |
|            |         | Nom(V)                          | Min(V) | Max(V) | (mA)            | Ω                                |                     | (mA)            | μA                               | V              |  |      |                               |
| BZT52C2V4S | WX      | 2.4                             | 2.20   | 2.60   | 5               | 100                              | 600                 | 1.0             | 50                               | 1.0            | -3.5   | 0    | 5                             |
| BZT52C2V7S | W1      | 2.7                             | 2.5    | 2.9    | 5               | 100                              | 600                 | 1.0             | 20                               | 1.0            | -3.5   | 0    | 5                             |
| BZT52C3V0S | W2      | 3.0                             | 2.8    | 3.2    | 5               | 95                               | 600                 | 1.0             | 10                               | 1.0            | -3.5   | 0    | 5                             |
| BZT52C3V3S | W3      | 3.3                             | 3.1    | 3.5    | 5               | 95                               | 600                 | 1.0             | 5                                | 1.0            | -3.5   | 0    | 5                             |
| BZT52C3V6S | W4      | 3.6                             | 3.4    | 3.8    | 5               | 90                               | 600                 | 1.0             | 5                                | 1.0            | -3.5   | 0    | 5                             |
| BZT52C3V9S | W5      | 3.9                             | 3.7    | 4.1    | 5               | 90                               | 600                 | 1.0             | 3                                | 1.0            | -3.5   | 0    | 5                             |
| BZT52C4V3S | W6      | 4.3                             | 4.0    | 4.6    | 5               | 90                               | 600                 | 1.0             | 3                                | 1.0            | -3.5   | 0    | 5                             |
| BZT52C4V7S | W7      | 4.7                             | 4.4    | 5.0    | 5               | 80                               | 500                 | 1.0             | 3                                | 2.0            | -3.5   | 0.2  | 5                             |
| BZT52C5V1S | W8      | 5.1                             | 4.8    | 5.4    | 5               | 60                               | 480                 | 1.0             | 2                                | 2.0            | -2.7   | 1.2  | 5                             |
| BZT52C5V6S | W9      | 5.6                             | 5.2    | 6.0    | 5               | 40                               | 400                 | 1.0             | 1                                | 2.0            | -2   | 2.5  | 5                             |
| BZT52C6V2S | WA      | 6.2                             | 5.8    | 6.6    | 5               | 10                               | 150                 | 1.0             | 3                                | 4.0            | 0.4  | 3.7  | 5                             |
| BZT52C6V8S | WB      | 6.8                             | 6.4    | 7.2    | 5               | 15                               | 80                  | 1.0             | 2                                | 4.0            | 1.2  | 4.5  | 5                             |
| BZT52C7V5S | WC      | 7.5                             | 7.0    | 7.9    | 5               | 15                               | 80                  | 1.0             | 1                                | 5.0            | 2.5  | 5.3  | 5                             |
| BZT52C8V2S | WD      | 8.2                             | 7.7    | 8.7    | 5               | 15                               | 80                  | 1.0             | 0.7                              | 5.0            | 3.2  | 6.2  | 5                             |
| BZT52C9V1S | WE      | 9.1                             | 8.5    | 9.6    | 5               | 15                               | 100                 | 1.0             | 0.5                              | 6.0            | 3.8  | 7.0  | 5                             |
| BZT52C10S  | WF      | 10                              | 9.4    | 10.6   | 5               | 20                               | 150                 | 1.0             | 0.2                              | 7.0            | 4.5  | 8.0  | 5                             |
| BZT52C11S  | WG      | 11                              | 10.4   | 11.6   | 5               | 20                               | 150                 | 1.0             | 0.1                              | 8.0            | 5.4  | 9.0  | 5                             |
| BZT52C12S  | WH      | 12                              | 11.4   | 12.7   | 5               | 25                               | 150                 | 1.0             | 0.1                              | 8.0            | 6.0  | 10.0 | 5                             |
| BZT52C13S  | WI      | 13                              | 12.4   | 14.1   | 5               | 30                               | 170                 | 1.0             | 0.1                              | 8.0            | 7.0  | 11.0 | 5                             |
| BZT52C15S  | WJ      | 15                              | 13.8   | 15.6   | 5               | 30                               | 200                 | 1.0             | 0.1                              | 10.5           | 9.2  | 13   | 5                             |
| BZT52C16S  | WK      | 16                              | 15.3   | 17.1   | 5               | 40                               | 200                 | 1.0             | 0.1                              | 11.2           | 10.4   | 14   | 5                             |
| BZT52C18S  | WL      | 18                              | 16.8   | 19.1   | 5               | 45                               | 225                 | 1.0             | 0.1                              | 12.6           | 12.4   | 16   | 5                             |
| BZT52C20S  | WM      | 20                              | 18.8   | 21.2   | 5               | 55                               | 225                 | 1.0             | 0.1                              | 14.0           | 14.4   | 18.0 | 5                             |
| BZT52C22S  | WN      | 22                              | 20.8   | 23.3   | 5               | 55                               | 250                 | 1.0             | 0.1                              | 15.4           | 16.4   | 20.0 | 5                             |
| BZT52C24S  | WO      | 24                              | 22.8   | 25.6   | 5               | 70                               | 250                 | 1.0             | 0.1                              | 16.8           | 18.4   | 22.0 | 5                             |
| BZT52C27S  | WP      | 27                              | 25.1   | 28.9   | 2               | 80                               | 300                 | 0.5             | 0.1                              | 18.9           | 21.4   | 25.3 | 2                             |
| BZT52C30S  | WQ      | 30                              | 28.0   | 32.0   | 2               | 80                               | 300                 | 0.5             | 0.1                              | 21.0           | 24.4   | 29.4 | 2                             |
| BZT52C33S  | WR      | 33                              | 31.0   | 35.0   | 2               | 80                               | 325                 | 0.5             | 0.1                              | 23.1           | 27.4   | 33.4 | 2                             |
| BZT52C36S  | WS      | 36                              | 34.0   | 38.0   | 2               | 90                               | 350                 | 0.5             | 0.1                              | 25.2           | 30.4   | 37.4 | 2                             |
| BZT52C39S  | WT      | 39                              | 37.0   | 41.0   | 2               | 130                              | 350                 | 0.5             | 0.1                              | 27.3           | 33.4   | 41.2 | 2                             |
| BZT52C43S  | WU      | 43                              | 40.0   | 46.0   | 2               | 100                              | 700                 | 1               | 0.1                              | 32.0           | 10.0   | 12.0 | 5                             |
| BZT52C47S  | WV      | 47                              | 44.0   | 50.0   | 2               | 100                              | 750                 | 1.0             | 0.1                              | 35.0           | 10.0   | 12.0 | 5                             |
| BZT52C51S  | WW      | 51                              | 48.0   | 54.0   | 2               | 100                              | 750                 | 1.0             | 0.1                              | 38.0           | 10.0   | 12.0 | 5                             |
| BZT52C56S  | XW      | 56                              | 52.0   | 60.0   | 2               | 135                              | 750                 | 1.0             | 0.1                              | 39.0           | 10.0   | 12.0 | 5                             |
| BZT52C62S  | 6E      | 62                              | 58.0   | 66.0   | 2               | 200                              | 1000                | 1.0             | 0.2                              | 47.0           | 10.0   | 12.0 | 5                             |
| BZT52C68S  | 6F      | 68                              | 64.0   | 72.0   | 2               | 250                              | 1000                | 1.0             | 0.2                              | 52.0           | 10.0   | 12.0 | 5                             |
| BZT52C75S  | 6H      | 75                              | 70.0   | 79.0   | 2               | 250                              | 1000                | 1.0             | 0.2                              | 57.0           | 10.0   | 12.0 | 5                             |

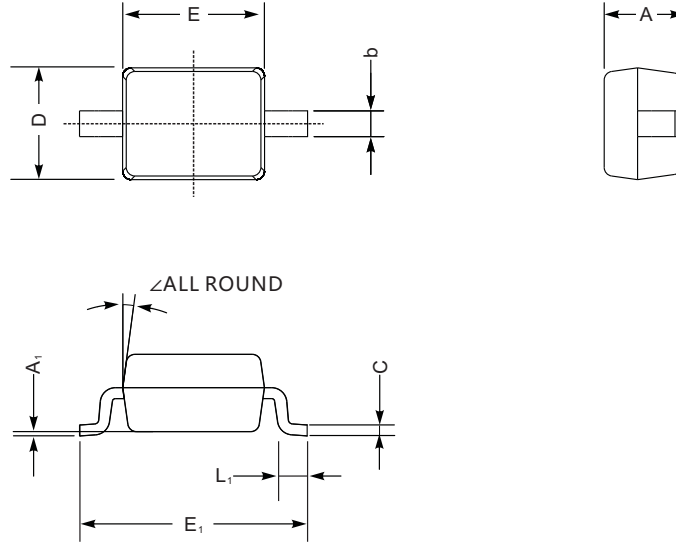
Notes: 1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>.  
 2. Short duration test pulse used to minimize self-heating effect.  
 3. f = 1kHz.

■ Typical Characteristics



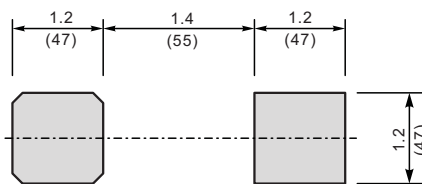
**Package Outline SOD-323**

Plastic surface mounted package; 2 leads



| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | b    | L <sub>1</sub> | A <sub>1</sub> | ∠  |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|----|
| mm   | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75           | 0.4  | 0.45           | 0.2            | 9° |
|      | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55           | 0.25 | 0.2            | —              |    |
| mil  | max | 43  | 5.9  | 55  | 70  | 108            | 16   | 16             | 8              |    |
|      | min | 32  | 3.1  | 47  | 63  | 100            | 9.8  | 7.9            | —              |    |

**The recommended mounting pad size**



Unit:  $\frac{\text{mm}}{\text{(mil)}}$

**Summary of Packing Options**

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SOD-323 | Tape/Reel, 7" reel  | 3000             | EIA-481-1         |