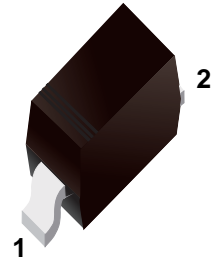


■ Zener Diodes

■ 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

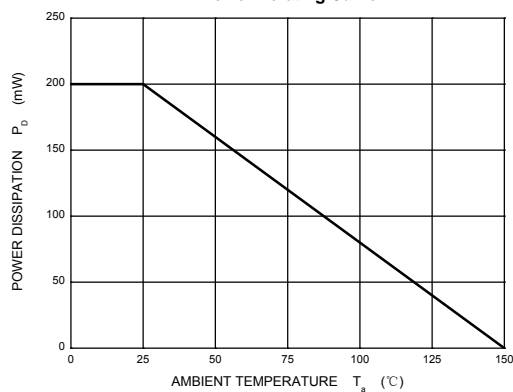
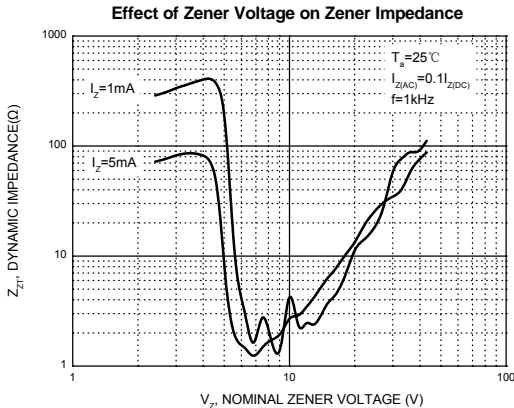
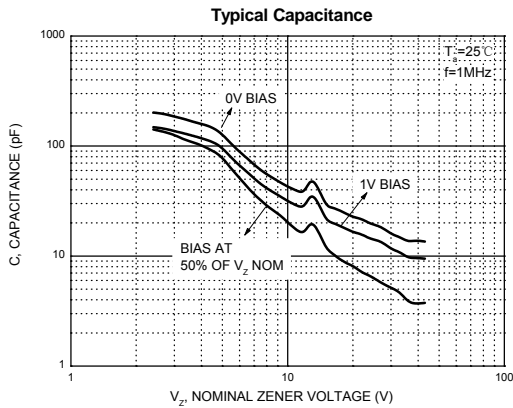
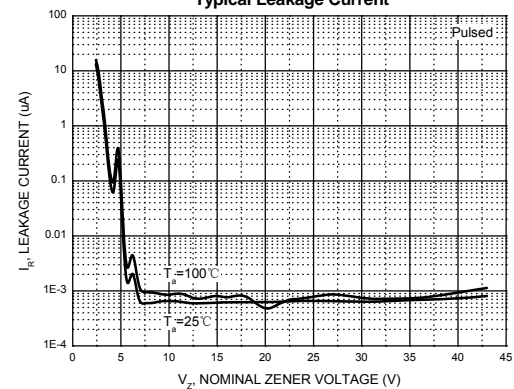
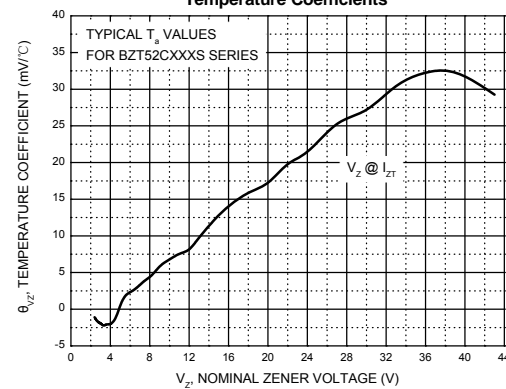
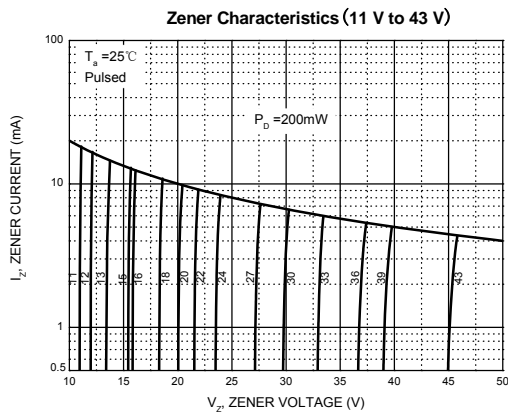
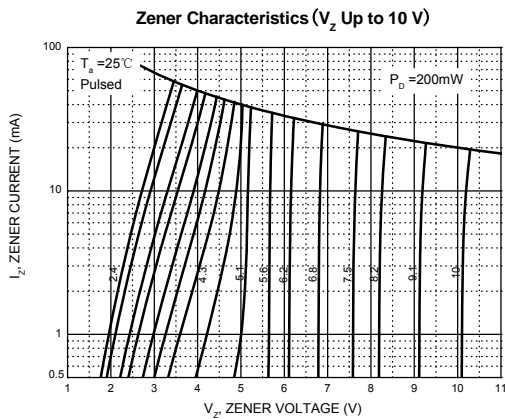
| Characteristic | Symbol | Value | Unit |
|--|------------------|----------|------|
| Forward Voltage (Note 2) @ I _F = 10mA | V _F | 0.9 | V |
| Power Dissipation(Note 1) | P _D | 200 | mW |
| Thermal Resistance from Junction to Ambient | R _{θJA} | 625 | °C/W |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature Range | T _{stg} | -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 _{ZTC} mV/°C | | Test Current I _{ZTC} |
|------------|---------|---------------------------------|--------|--------|-----------------|----------------------------------|---------------------|-----------------|----------------------------------|----------------|--|------|-------------------------------|
| | | V _Z @I _{ZT} | | | I _{ZT} | ZZT@I _{ZT} | ZZK@I _{ZK} | I _{ZK} | I _R | V _R | 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 25mm².
 2. Short duration test pulse used to minimize self-heating effect.
 3. f = 1kHz.

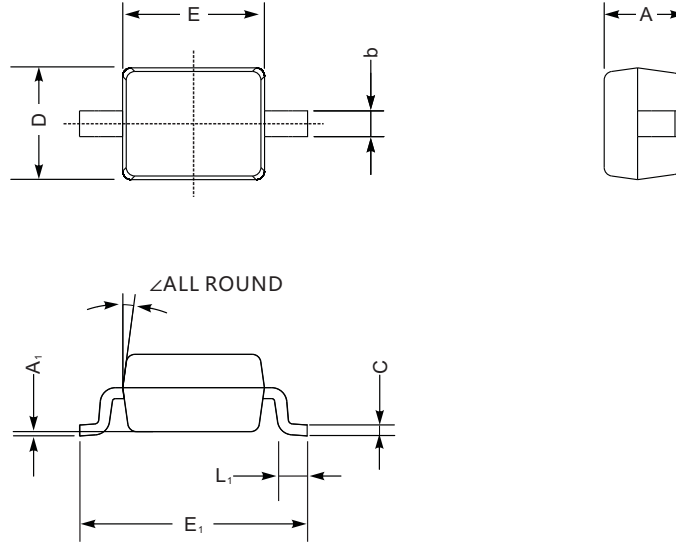
■ Typical Characteristics



Package Outline

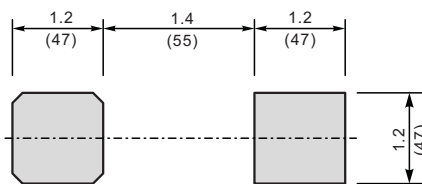
SOD-323

Plastic surface mounted package; 2 leads



| UNIT | | A | C | D | E | E ₁ | b | L ₁ | A ₁ | ∠ |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|----|
| 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 |