



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.



SOD-323

Package Marking and Ordering Information

| Product ID | Pack | Marking | Qty(PCS) |
|--------------------------|---------|---------|----------|
| BZT52B2V4S- BZT52B43S | SOD-323 | XX | 3000 |

XX=Device code, see table on page2 the marking code.
The marking bar indicates the cathode.



Absolute Maximum Ratings(Ta=25°C)

| Symbol | Parameter | Value | Unit |
|------------------|---|----------|------|
| V _F | Forward Voltage (Note 2) @ I _F =10mA | 0.9 | V |
| P _d | Power Dissipation | 200 | mW |
| R _{θJA} | Thermal Resistance From Junction To Ambient | 625 | °C/W |
| T _J | Operation Junction Temperature Range | -40~+125 | °C |
| T _{STG} | Storage Temperature Range | -55~+150 | °C |



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

| Type | Mark ing | 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} mA |
|------------|----------|-------------------------------------|-------|-------|----------------------|----------------------------------|---------------------------------|----------------------|----------------------------------|----------------|---|------|----------------------------------|
| | | V _Z @I _{ZT} (V) | | | I _{ZT} (mA) | V _Z @I _{ZT} | V _Z @I _{ZK} | I _{ZK} (mA) | I _R | V _R | Min | Max | |
| | | Nom | Min | Max | | Ω | | | μA | V | | | |
| BZT52B2V4S | 2WX | 2.4 | 2.35 | 2.45 | 5 | 100 | 600 | 1.0 | 50 | 1.0 | -3.5 | 0 | 5 |
| BZT52B2V7S | 2W1 | 2.7 | 2.65 | 2.75 | 5 | 100 | 600 | 1.0 | 20 | 1.0 | -3.5 | 0 | 5 |
| BZT52B3V0S | 2W2 | 3.0 | 2.94 | 3.06 | 5 | 95 | 600 | 1.0 | 10 | 1.0 | -3.5 | 0 | 5 |
| BZT52B3V3S | 2W3 | 3.3 | 3.23 | 3.37 | 5 | 95 | 600 | 1.0 | 5 | 1.0 | -3.5 | 0 | 5 |
| BZT52B3V6S | 2W4 | 3.6 | 3.53 | 3.67 | 5 | 90 | 600 | 1.0 | 5 | 1.0 | -3.5 | 0 | 5 |
| BZT52B3V9S | 2W5 | 3.9 | 3.82 | 3.98 | 5 | 90 | 600 | 1.0 | 3 | 1.0 | -3.5 | 0 | 5 |
| BZT52B4V3S | 2W6 | 4.3 | 4.21 | 4.39 | 5 | 90 | 600 | 1.0 | 3 | 1.0 | -3.5 | 0 | 5 |
| BZT52B4V7S | 2W7 | 4.7 | 4.61 | 4.79 | 5 | 80 | 500 | 1.0 | 3 | 2.0 | -3.5 | 0.2 | 5 |
| BZT52B5V1S | 2W8 | 5.1 | 5.00 | 5.20 | 5 | 60 | 480 | 1.0 | 2 | 2.0 | -2.7 | 1.2 | 5 |
| BZT52B5V6S | 2W9 | 5.6 | 5.49 | 5.71 | 5 | 40 | 400 | 1.0 | 2 | 2.0 | -2 | 2.5 | 5 |
| BZT52B6V2S | 2WA | 6.2 | 6.08 | 6.32 | 5 | 10 | 150 | 1.0 | 3 | 4.0 | 0.4 | 3.7 | 5 |
| BZT52B6V8S | 2WB | 6.8 | 6.66 | 6.94 | 5 | 15 | 80 | 1.0 | 2 | 4.0 | 1.2 | 4.5 | 5 |
| BZT52B7V5S | 2WC | 7.5 | 7.35 | 7.65 | 5 | 15 | 80 | 1.0 | 1 | 5.0 | 2.5 | 5.3 | 5 |
| BZT52B8V2S | 2WD | 8.2 | 8.04 | 8.36 | 5 | 15 | 80 | 1.0 | 0.7 | 5.0 | 3.2 | 6.2 | 5 |
| BZT52B9V1S | 2WE | 9.1 | 8.92 | 9.28 | 5 | 15 | 100 | 1.0 | 0.5 | 6.0 | 3.8 | 7.0 | 5 |
| BZT52B10S | 2WF | 10 | 9.80 | 10.20 | 5 | 20 | 150 | 1.0 | 0.2 | 7.0 | 4.5 | 8.0 | 5 |
| BZT52B11S | 2WG | 11 | 10.78 | 11.22 | 5 | 20 | 150 | 1.0 | 0.1 | 8.0 | 5.4 | 9.0 | 5 |
| BZT52B12S | 2WH | 12 | 11.76 | 12.24 | 5 | 25 | 150 | 1.0 | 0.1 | 8.0 | 6.0 | 10.0 | 5 |
| BZT52B13S | 2WI | 13 | 12.74 | 13.26 | 5 | 30 | 170 | 1.0 | 0.1 | 8.0 | 7.0 | 11.0 | 5 |
| BZT52B15S | 2WJ | 15 | 14.70 | 15.30 | 5 | 30 | 200 | 1.0 | 0.1 | 10.5 | 9.2 | 13 | 5 |
| BZT52B16S | 2WK | 16 | 15.68 | 16.32 | 5 | 40 | 200 | 1.0 | 0.1 | 11.2 | 10.4 | 14 | 5 |
| BZT52B18S | 2WL | 18 | 17.64 | 18.36 | 5 | 45 | 225 | 1.0 | 0.1 | 12.6 | 12.4 | 16 | 5 |
| BZT52B20S | 2WM | 20 | 19.60 | 20.40 | 5 | 55 | 225 | 1.0 | 0.1 | 14.0 | 14.4 | 18 | 5 |
| BZT52B22S | 2WN | 22 | 21.56 | 22.44 | 5 | 55 | 250 | 1.0 | 0.1 | 15.4 | 16.4 | 20 | 5 |
| BZT52B24S | 2WO | 24 | 23.52 | 24.48 | 5 | 70 | 250 | 1.0 | 0.1 | 16.8 | 18.4 | 22 | 5 |
| BZT52B27S | 2WP | 27 | 26.46 | 27.54 | 2 | 80 | 300 | 0.5 | 0.1 | 18.9 | 21.4 | 25.3 | 2 |
| BZT52B30S | 2WQ | 30 | 29.40 | 30.60 | 2 | 80 | 300 | 0.5 | 0.1 | 21.0 | 24.4 | 29.4 | 2 |
| BZT52B33S | 2WR | 33 | 32.34 | 33.66 | 2 | 80 | 325 | 0.5 | 0.1 | 23.1 | 27.4 | 33.4 | 2 |
| BZT52B36S | 2WS | 36 | 35.28 | 36.72 | 2 | 90 | 350 | 0.5 | 0.1 | 25.2 | 30.4 | 37.4 | 2 |
| BZT52B39S | 2WT | 39 | 38.22 | 39.78 | 2 | 130 | 350 | 0.5 | 0.1 | 27.3 | 33.4 | 41.2 | 2 |
| BZT52B43S | 2WU | 43 | 42.14 | 43.86 | 2 | 100 | 700 | 1 | 0.1 | 32 | 10 | 12 | 5 |

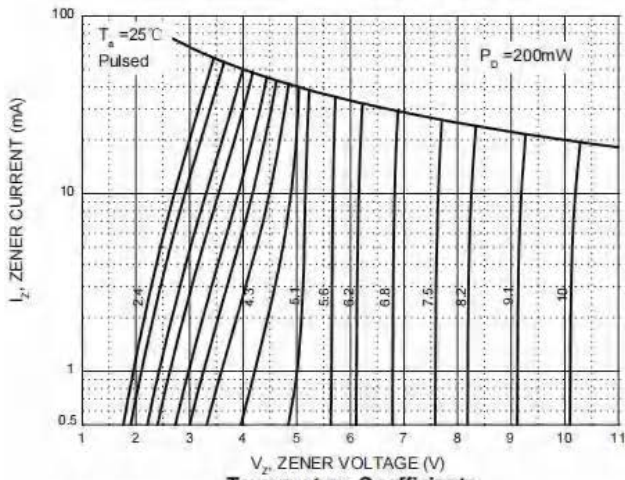
Notes:

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.

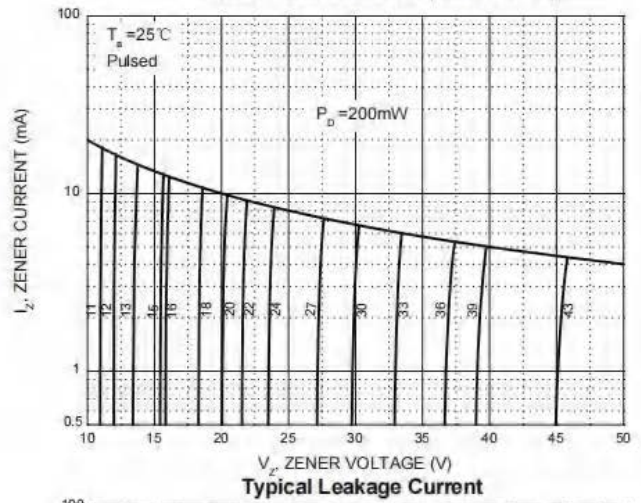


Typical Characteristics

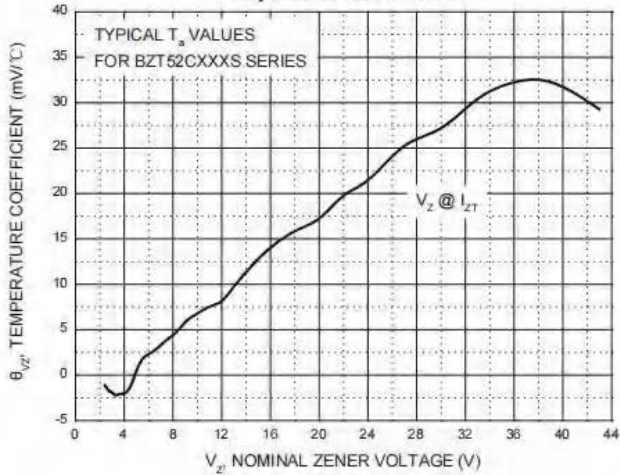
Zener Characteristics (V_z Up to 10 V)



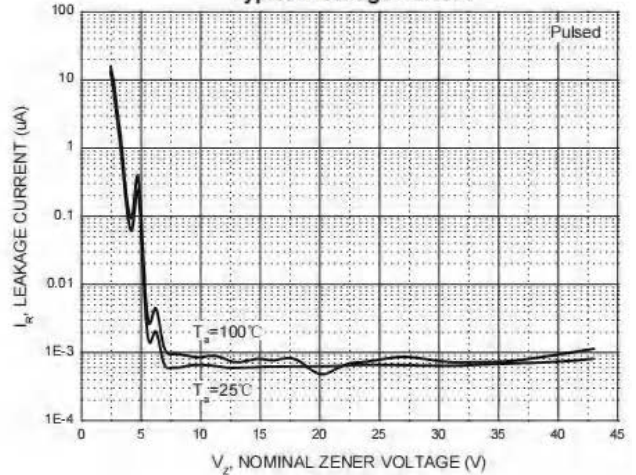
Zener Characteristics (11 V to 43 V)



Temperature Coefficients

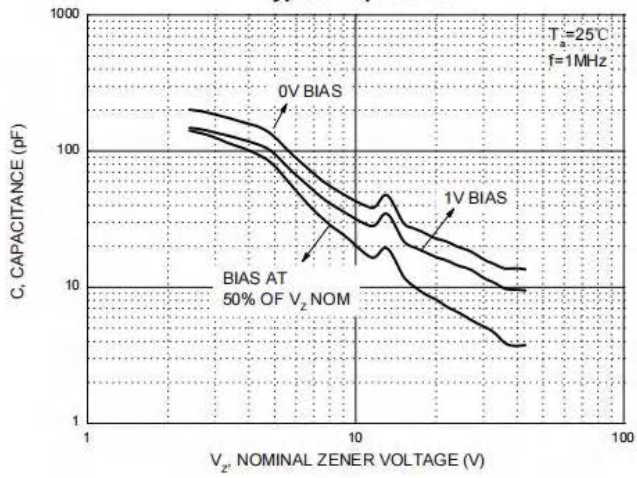


Typical Leakage Current

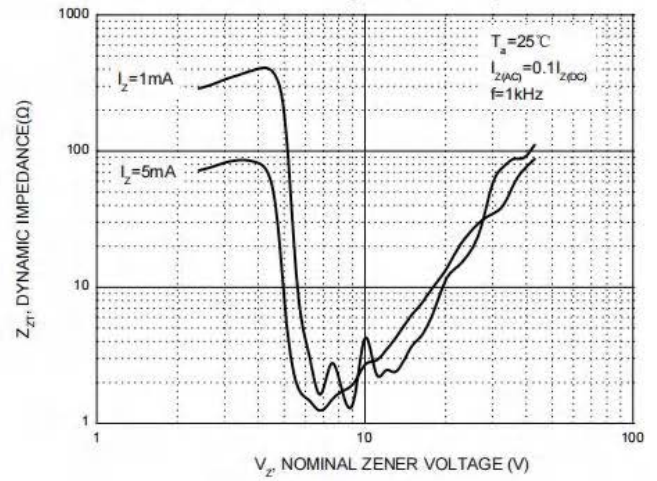




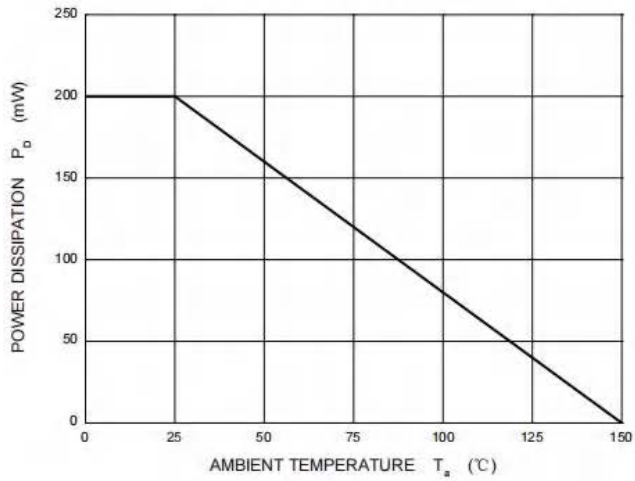
Typical Capacitance



Effect of Zener Voltage on Zener Impedance

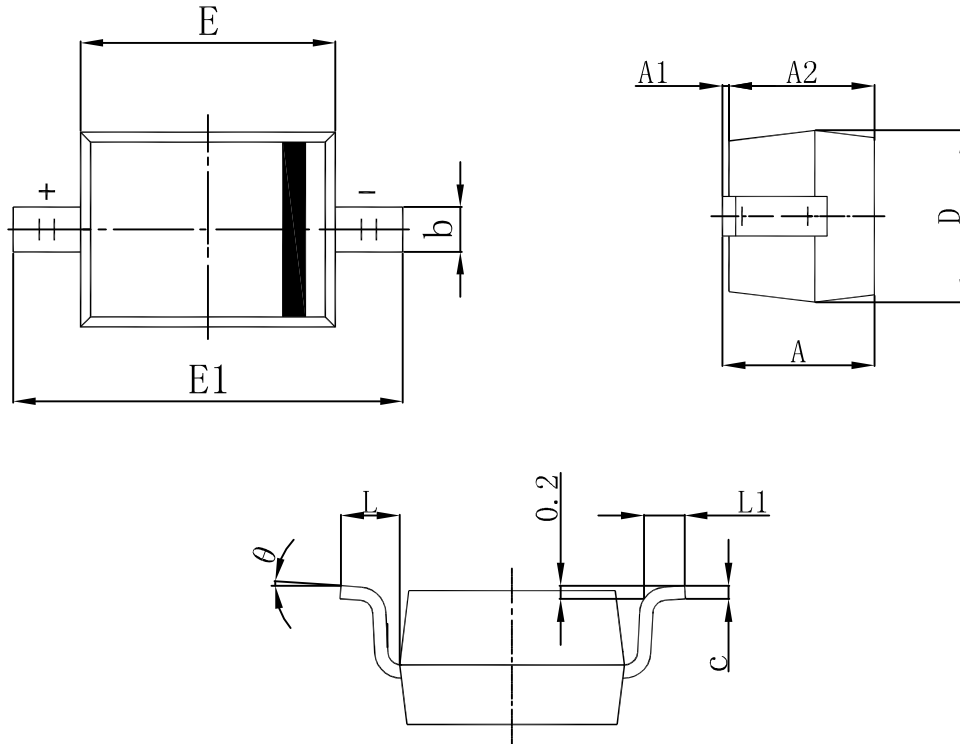


Power Derating Curve





SOD-323 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | | 1.100 | | 0.043 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.800 | 1.000 | 0.031 | 0.039 |
| b | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.200 | 1.400 | 0.047 | 0.055 |
| E | 1.600 | 1.800 | 0.063 | 0.071 |
| E1 | 2.500 | 2.750 | 0.098 | 0.108 |
| L | 0.475 REF | | 0.019 REF | |
| L1 | 0.250 | 0.400 | 0.010 | 0.016 |
| θ | 0° | 8° | 0° | 8° |



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