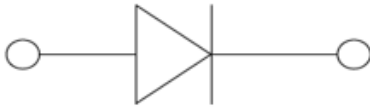


Small Signal Zener Diodes



SOD323

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Zener Voltage 2.4V~47V
- V_z -tolerance $\pm 5\%$ approximately
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- General regulation functions

Mechanical Data

- **Case:** SOD323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■ Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | VALUE |
|--------------------------------------------------|-----------------|-----------------------------|-------------|
| Power Dissipation | P_D | mW | 300 |
| Storage Temperature Range | T_{stg} | $^\circ\text{C}$ | -55~+150 |
| Junction Temperature | T_J | $^\circ\text{C}$ | -55~+150 |
| Maximum Regulator Current | I_{ZM} | mA | P_D / V_z |
| Maximum Forward Voltage (IF=10mA _{dc}) | V_F | V | 0.9 |
| Thermal Resistance Junction to Ambient Air* | $R_{\theta JA}$ | $^\circ\text{C} / \text{W}$ | 415 |

■ Ordering Information (Example)

| PREFERED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------------------------|--------------|-----------------------|----------------------|-------------------------|----------------------------|---------------|
| BZT52C2V4SQ THRU BZT52C47SQ | F2 | Approximate 0.0045 | 3000 | 30000 | 120000 | 7" reel |



BZT52C2V4SQ THRU BZT52C47SQ

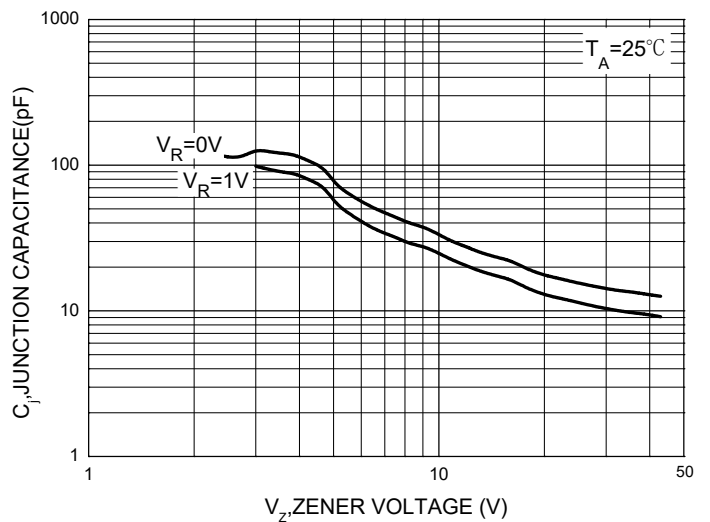
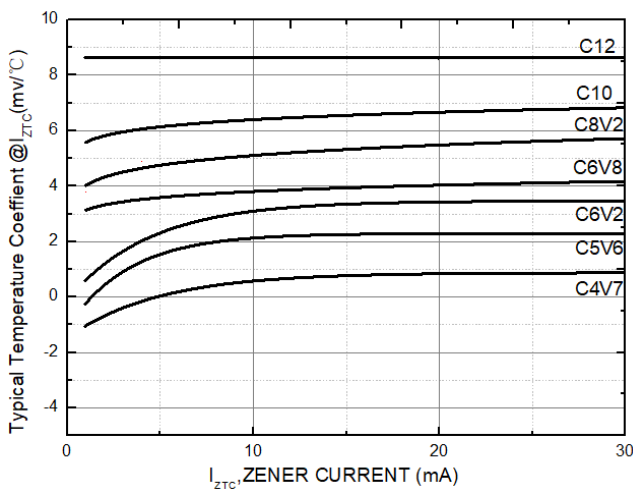
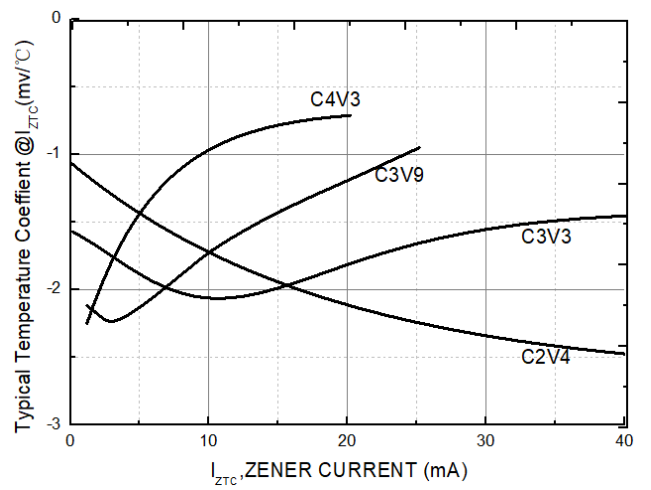
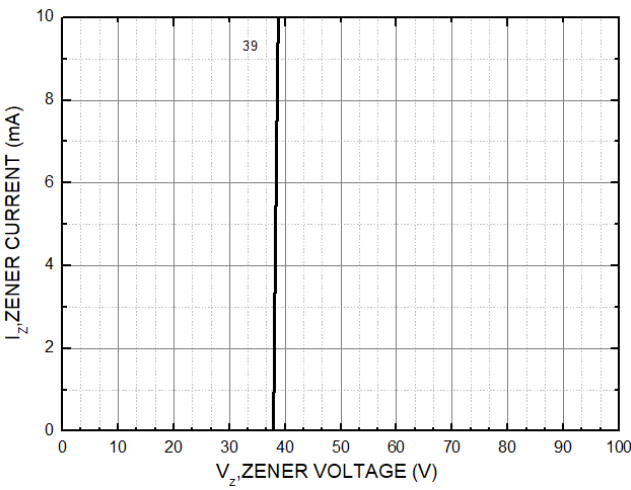
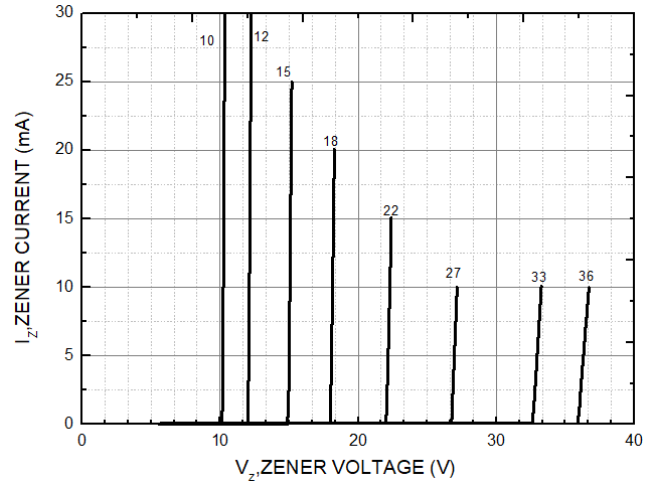
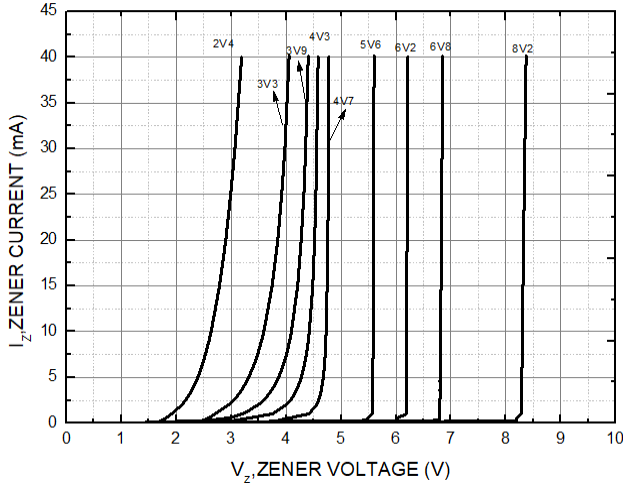
■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

| Type Number | Device Marking | V _z at I _{zt} (V) | | | I _{zt} mA | Z _{zt} (Ω) | | Z _{zk} (Ω) | | I _R (μA)@V _R | | Typical Temperature Coefficient@ I _{ztc} mV/°C | | Test Current I _{ztc} mA |
|-------------|----------------|---------------------------------------|------|------|-----------------------|----------------------|------|----------------------|------|------------------------------------|--------------------|------------------------------------------------------------|------|----------------------------------------|
| | | min. | typ. | max. | | I _{zt} (mA) | max. | I _{zk} (mA) | max. | uA | V _R (V) | Min | Max | |
| BZT52C2V4SQ | WX | 2.28 | 2.4 | 2.56 | 5 | 5 | 100 | 1.0 | 600 | 50 | 1.0 | -3.5 | 0 | 5 |
| BZT52C2V7SQ | W1 | 2.5 | 2.7 | 2.9 | 5 | 5 | 100 | 1.0 | 600 | 20 | 1.0 | -3.5 | 0 | 5 |
| BZT52C3V0SQ | W2 | 2.8 | 3.0 | 3.2 | 5 | 5 | 95 | 1.0 | 600 | 10 | 1.0 | -3.5 | 0 | 5 |
| BZT52C3V3SQ | W3 | 3.1 | 3.3 | 3.5 | 5 | 5 | 95 | 1.0 | 600 | 5 | 1.0 | -3.5 | 0 | 5 |
| BZT52C3V6SQ | W4 | 3.4 | 3.6 | 3.8 | 5 | 5 | 90 | 1.0 | 600 | 5 | 1.0 | -3.5 | 0 | 5 |
| BZT52C3V9SQ | W5 | 3.7 | 3.9 | 4.1 | 5 | 5 | 90 | 1.0 | 600 | 3 | 1.0 | -3.5 | 0 | 5 |
| BZT52C4V3SQ | W6 | 4.0 | 4.3 | 4.6 | 5 | 5 | 90 | 1.0 | 600 | 3 | 1.0 | -3.5 | 0 | 5 |
| BZT52C4V7SQ | W7 | 4.4 | 4.7 | 5.0 | 5 | 5 | 80 | 1.0 | 500 | 3 | 2.0 | -3.5 | 0.2 | 5 |
| BZT52C5V1SQ | W8 | 4.8 | 5.1 | 5.4 | 5 | 5 | 60 | 1.0 | 480 | 2 | 2.0 | -2.7 | 1.2 | 5 |
| BZT52C5V6SQ | W9 | 5.2 | 5.6 | 6.0 | 5 | 5 | 40 | 1.0 | 400 | 1 | 2.0 | -2 | 2.5 | 5 |
| BZT52C6V2SQ | WA | 5.8 | 6.2 | 6.6 | 5 | 5 | 10 | 1.0 | 150 | 3 | 4.0 | 0.4 | 3.7 | 5 |
| BZT52C6V8SQ | WB | 6.4 | 6.8 | 7.2 | 5 | 5 | 15 | 1.0 | 80 | 2 | 4.0 | 1.2 | 4.5 | 5 |
| BZT52C7V5SQ | WC | 7.0 | 7.5 | 7.9 | 5 | 5 | 15 | 1.0 | 80 | 1 | 5.0 | 2.5 | 5.3 | 5 |
| BZT52C8V2SQ | WD | 7.7 | 8.2 | 8.7 | 5 | 5 | 15 | 1.0 | 80 | 0.7 | 5.0 | 3.2 | 6.2 | 5 |
| BZT52C9V1SQ | WE | 8.5 | 9.1 | 9.6 | 5 | 5 | 15 | 1.0 | 100 | 0.5 | 6.0 | 3.8 | 7.0 | 5 |
| BZT52C10SQ | WF | 9.4 | 10 | 10.6 | 5 | 5 | 20 | 1.0 | 150 | 0.2 | 7.0 | 4.5 | 8.0 | 5 |
| BZT52C11SQ | WG | 10.4 | 11 | 11.6 | 5 | 5 | 20 | 1.0 | 150 | 0.1 | 8.0 | 5.4 | 9.0 | 5 |
| BZT52C12SQ | WH | 11.4 | 12 | 12.7 | 5 | 5 | 25 | 1.0 | 150 | 0.1 | 8.0 | 6.0 | 10.0 | 5 |
| BZT52C13SQ | WI | 12.4 | 13 | 14.1 | 5 | 5 | 30 | 1.0 | 170 | 0.1 | 8.0 | 7.0 | 11.0 | 5 |
| BZT52C15SQ | WJ | 13.8 | 15 | 15.6 | 5 | 5 | 30 | 1.0 | 200 | 0.1 | 10.5 | 9.2 | 13.0 | 5 |
| BZT52C16SQ | WK | 15.3 | 16 | 17.1 | 5 | 5 | 40 | 1.0 | 200 | 0.1 | 11.2 | 10.4 | 14.0 | 5 |
| BZT52C18SQ | WL | 16.8 | 18 | 19.1 | 5 | 5 | 45 | 1.0 | 225 | 0.1 | 12.6 | 12.4 | 16.0 | 5 |
| BZT52C20SQ | WM | 18.8 | 20 | 21.2 | 5 | 5 | 55 | 1.0 | 225 | 0.1 | 14.0 | 14.4 | 18.0 | 5 |
| BZT52C22SQ | WN | 20.8 | 22 | 23.3 | 5 | 5 | 55 | 1.0 | 250 | 0.1 | 15.4 | 16.4 | 20.0 | 5 |
| BZT52C24SQ | WO | 22.8 | 24 | 25.6 | 5 | 5 | 70 | 1.0 | 250 | 0.1 | 16.8 | 18.4 | 22.0 | 5 |
| BZT52C27SQ | WP | 25.1 | 27 | 28.9 | 2 | 2 | 80 | 0.5 | 300 | 0.1 | 18.9 | 21.4 | 25.3 | 2 |
| BZT52C30SQ | WQ | 28 | 30 | 32 | 2 | 2 | 80 | 0.5 | 300 | 0.1 | 21.0 | 24.4 | 29.4 | 2 |
| BZT52C33SQ | WR | 31 | 33 | 35 | 2 | 2 | 80 | 0.5 | 325 | 0.1 | 23.1 | 27.4 | 33.4 | 2 |
| BZT52C36SQ | WS | 34 | 36 | 38 | 2 | 2 | 90 | 0.5 | 350 | 0.1 | 25.2 | 30.4 | 37.4 | 2 |
| BZT52C39SQ | WT | 37 | 39 | 41 | 2 | 2 | 130 | 0.5 | 350 | 0.1 | 27.3 | 33.4 | 41.2 | 2 |
| BZT52C43SQ | WU | 40 | 43 | 46 | 2 | 2 | 100 | 0.5 | 700 | 0.1 | 32 | 37.6 | 50.6 | 2 |
| BZT52C47SQ | WV | 44 | 47 | 50 | 2 | 2 | 100 | 0.5 | 750 | 0.1 | 35 | 42.0 | 55.8 | 2 |



BZT52C2V4SQ THRU BZT52C47SQ

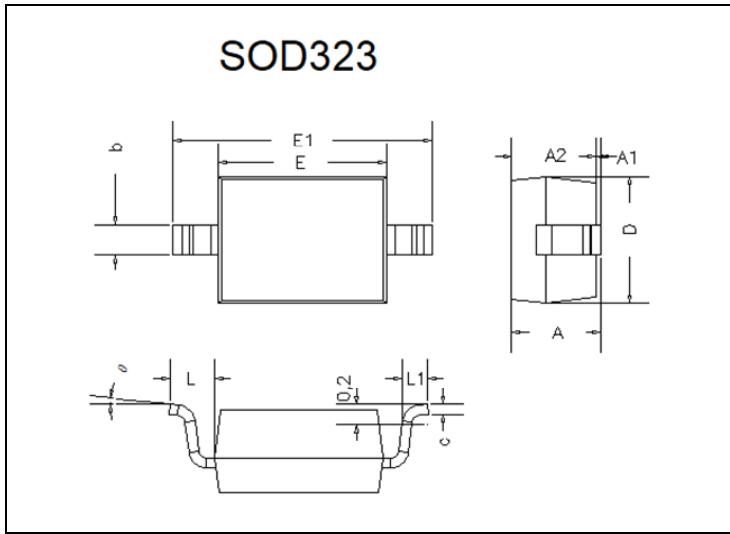
■ Characteristics (Typical)





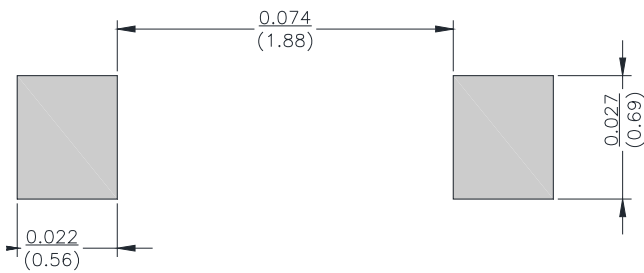
BZT52C2V4SQ THRU BZT52C47SQ

■ Outline Dimensions



| DIM | INCHES | | MM | | NOTE |
|-----|----------|-------|----------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | - | 0.039 | - | 1.00 | |
| A1 | 0.000 | 0.004 | 0.00 | 0.10 | |
| A2 | 0.031 | 0.035 | 0.80 | 0.90 | |
| b | 0.010 | 0.016 | 0.25 | 0.40 | |
| c | 0.003 | 0.007 | 0.08 | 0.17 | |
| D | 0.047 | 0.055 | 1.20 | 1.40 | |
| E | 0.063 | 0.071 | 1.60 | 1.80 | |
| E1 | 0.098 | 0.106 | 2.50 | 2.70 | |
| L | 0.019REF | | 0.475REF | | |
| L1 | 0.008 | 0.016 | 0.20 | 0.40 | |
| θ | 0° | 8° | 0° | 8° | |

■ Soldering Footprint



Unit: $\frac{\text{inch}}{\text{mm}}$



BZT52C2V4SQ THRU BZT52C47SQ

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