

## Zener Diodes

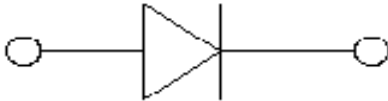


### Features

- High reliability
- Very sharp reverse characteristic
- Low reverse current level
- Zener Voltage 2.4V~75V

### Mechanical Data

- **Package:** SOD-123
- **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                          | 500         |
| 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 ( $I_F=10\text{mA}$ ) | $V_F$           | V                           | 0.9         |
| Thermal Resistance Junction to Ambient Air*   | $R_{\theta JA}$ | $^\circ\text{C} / \text{W}$ | 250         |

### ■ Ordering Information (Example)

| PREFERRED P/N           | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-------------------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| BZT52C2V4 THRU BZT52C75 | F2           | Approximate 0.009 | 3000                 | 30000                   | 120000                     | 7" reel       |



# BZT52C2V4 THRU BZT52C75

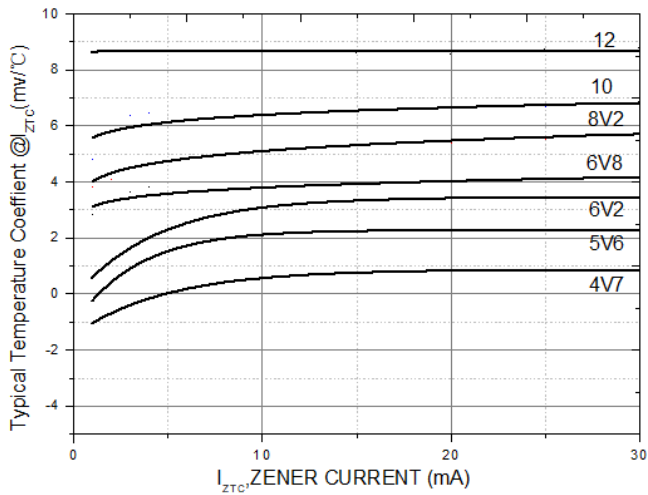
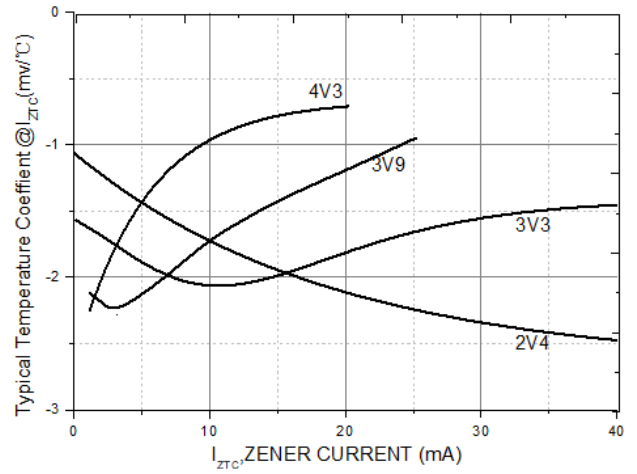
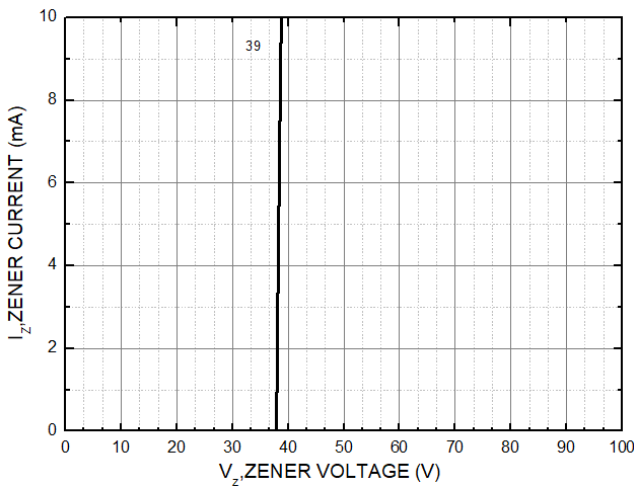
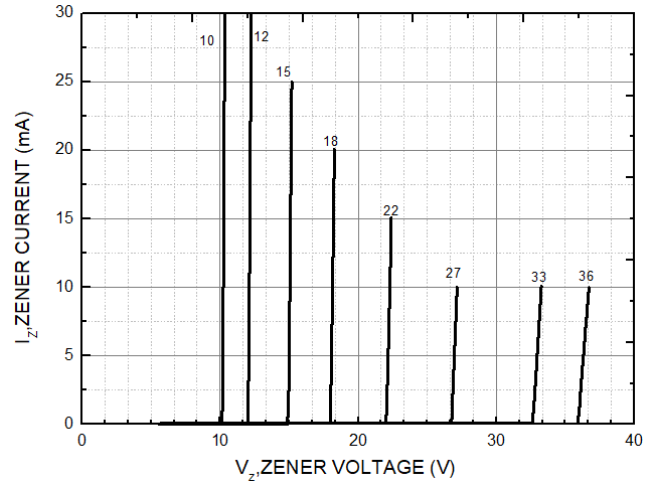
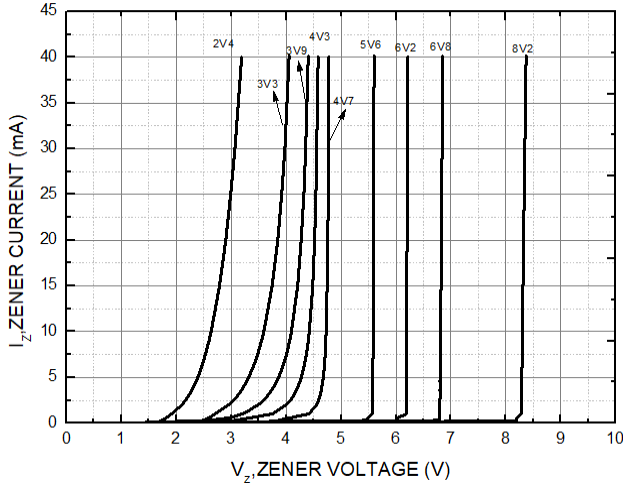
## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| Type Number | Device Marking | V <sub>z</sub> at I <sub>zt</sub> (V) |      |       | I <sub>zt</sub><br>mA | Z <sub>zt</sub> (Ω) |      | Z <sub>zk</sub> (Ω)  |      | I <sub>R</sub> (μA)@V <sub>R</sub> |                    | Typical Temperature Coefficient@ IZTC<br>mV/°C |      | Test Current IZTC<br>mA |
|-------------|----------------|---------------------------------------|------|-------|-----------------------|---------------------|------|----------------------|------|------------------------------------|--------------------|--|------|-------------------------|
|             |                | min.                                  | typ. | max.  |                       | I <sub>z</sub> (mA) | max. | I <sub>zk</sub> (mA) | max. | max                                | V <sub>R</sub> (V) | Min  | Max  |                         |
| BZT52C2V4   | WX             | 2.28                                  | 2.4  | 2.56  | 5                     | 5                   | 100  | 1.0                  | 600  | 50                                 | 1.0                | -3.5   | 0    | 5                       |
| BZT52C2V7   | W1             | 2.5                                   | 2.7  | 2.9   | 5                     | 5                   | 100  | 1.0                  | 600  | 20                                 | 1.0                | -3.5   | 0    | 5                       |
| BZT52C3V0   | W2             | 2.8                                   | 3.0  | 3.2   | 5                     | 5                   | 95   | 1.0                  | 600  | 10                                 | 1.0                | -3.5   | 0    | 5                       |
| BZT52C3V3   | W3             | 3.1                                   | 3.3  | 3.5   | 5                     | 5                   | 95   | 1.0                  | 600  | 5                                  | 1.0                | -3.5   | 0    | 5                       |
| BZT52C3V6   | W4             | 3.4                                   | 3.6  | 3.8   | 5                     | 5                   | 90   | 1.0                  | 600  | 5                                  | 1.0                | -3.5   | 0    | 5                       |
| BZT52C3V9   | W5             | 3.7                                   | 3.9  | 4.1   | 5                     | 5                   | 90   | 1.0                  | 600  | 3                                  | 1.0                | -3.5   | 0    | 5                       |
| BZT52C4V3   | W6             | 4.0                                   | 4.3  | 4.6   | 5                     | 5                   | 90   | 1.0                  | 600  | 3                                  | 1.0                | -3.5   | 0    | 5                       |
| BZT52C4V7   | W7             | 4.4                                   | 4.7  | 5.0   | 5                     | 5                   | 80   | 1.0                  | 500  | 3                                  | 2.0                | -3.5   | 0    | 5                       |
| BZT52C5V1   | W8             | 4.8                                   | 5.1  | 5.4   | 5                     | 5                   | 60   | 1.0                  | 480  | 2                                  | 2.0                | -2.7   | 1.2  | 5                       |
| BZT52C5V6   | W9             | 5.2                                   | 5.6  | 6.0   | 5                     | 5                   | 40   | 1.0                  | 400  | 1                                  | 2.0                | -2   | 2.5  | 5                       |
| BZT52C6V2   | WA             | 5.8                                   | 6.2  | 6.6   | 5                     | 5                   | 10   | 1.0                  | 150  | 3                                  | 4.0                | 0.4  | 3.7  | 5                       |
| BZT52C6V8   | WB             | 6.4                                   | 6.8  | 7.2   | 5                     | 5                   | 15   | 1.0                  | 80   | 2                                  | 4.0                | 1.2  | 4.5  | 5                       |
| BZT52C7V5   | WC             | 7.0                                   | 7.5  | 7.9   | 5                     | 5                   | 15   | 1.0                  | 80   | 1                                  | 5.0                | 2.5  | 5.3  | 5                       |
| BZT52C8V2   | WD             | 7.7                                   | 8.2  | 8.7   | 5                     | 5                   | 15   | 1.0                  | 80   | 0.7                                | 5.0                | 3.2  | 6.2  | 5                       |
| BZT52C9V1   | WE             | 8.5                                   | 9.1  | 9.6   | 5                     | 5                   | 15   | 1.0                  | 100  | 0.5                                | 6.0                | 3.8  | 7.0  | 5                       |
| BZT52C10    | WF             | 9.4                                   | 10   | 10.6  | 5                     | 5                   | 20   | 1.0                  | 150  | 0.2                                | 7.0                | 4.5  | 8.0  | 5                       |
| BZT52C11    | WG             | 10.4                                  | 11   | 11.6  | 5                     | 5                   | 20   | 1.0                  | 150  | 0.1                                | 8.0                | 5.4  | 9.0  | 5                       |
| BZT52C12    | WH             | 11.4                                  | 12   | 12.7  | 5                     | 5                   | 25   | 1.0                  | 150  | 0.1                                | 8.0                | 6.0  | 10.0 | 5                       |
| BZT52C13    | WI             | 12.4                                  | 13   | 14.1  | 5                     | 5                   | 30   | 1.0                  | 170  | 0.1                                | 8.0                | 7.0  | 11.0 | 5                       |
| BZT52C15    | WJ             | 14.25                                 | 15   | 15.75 | 5                     | 5                   | 30   | 1.0                  | 200  | 0.1                                | 10.5               | 9.2  | 13.0 | 5                       |
| BZT52C16    | WK             | 15.3                                  | 16   | 17.1  | 5                     | 5                   | 40   | 1.0                  | 200  | 0.1                                | 11.2               | 10.4   | 14.0 | 5                       |
| BZT52C18    | WL             | 16.8                                  | 18   | 19.1  | 5                     | 5                   | 45   | 1.0                  | 225  | 0.1                                | 12.6               | 12.4   | 16.0 | 5                       |
| BZT52C20    | WM             | 18.8                                  | 20   | 21.2  | 5                     | 5                   | 55   | 1.0                  | 225  | 0.1                                | 14.0               | 14.4   | 18.0 | 5                       |
| BZT52C22    | WN             | 20.8                                  | 22   | 23.3  | 5                     | 5                   | 55   | 1.0                  | 250  | 0.1                                | 15.4               | 16.4   | 20.0 | 5                       |
| BZT52C24    | WO             | 22.8                                  | 24   | 25.6  | 5                     | 5                   | 70   | 1.0                  | 250  | 0.1                                | 16.8               | 18.4   | 22.0 | 5                       |
| BZT52C27    | WP             | 25.1                                  | 27   | 28.9  | 2                     | 2                   | 80   | 0.5                  | 300  | 0.1                                | 18.9               | 21.4   | 25.3 | 2                       |
| BZT52C30    | WQ             | 28                                    | 30   | 32    | 2                     | 2                   | 80   | 0.5                  | 300  | 0.1                                | 21.0               | 24.4   | 29.4 | 2                       |
| BZT52C33    | WR             | 31                                    | 33   | 35    | 2                     | 2                   | 80   | 0.5                  | 325  | 0.1                                | 23.1               | 27.4   | 33.4 | 2                       |
| BZT52C36    | WS             | 34                                    | 36   | 38    | 2                     | 2                   | 90   | 0.5                  | 350  | 0.1                                | 25.2               | 30.4   | 37.4 | 2                       |
| BZT52C39    | WT             | 37                                    | 39   | 41    | 2                     | 2                   | 130  | 0.5                  | 350  | 0.1                                | 27.3               | 33.4   | 41.2 | 2                       |
| BZT52C43    | WU             | 40                                    | 43   | 46    | 5                     | 5                   | 100  | 1.0                  | 750  | 0.1                                | 32                 | 37.6   | 46.6 | 2                       |
| BZT52C47    | WV             | 44                                    | 47   | 50    | 5                     | 5                   | 100  | 1.0                  | 750  | 0.1                                | 35                 | 42.0   | 51.8 | 2                       |
| BZT52C51    | WW             | 48                                    | 51   | 54    | 2                     | 2                   | 180  | 0.5                  | 400  | 0.05                               | 35.7               | 46.6   | 57.2 | 2                       |
| BZT52C56    | X1             | 53                                    | 56   | 59    | 2                     | 2                   | 200  | 1                    | 1000 | 0.1                                | 42                 | 52.2   | 63.8 | 2                       |
| BZT52C62    | 5X2            | 58                                    | 62   | 66    | 2                     | 2                   | 215  | 0.5                  | 450  | 0.05                               | 43.4               | 58.8   | 71.6 | 2                       |
| BZT52C68    | 5X3            | 64                                    | 68   | 72    | 2                     | 2                   | 240  | 0.5                  | 475  | 0.05                               | 47.6               | 65.6   | 79.8 | 2                       |
| BZT52C75    | 5X4            | 70                                    | 75   | 79    | 2                     | 2                   | 255  | 0.5                  | 500  | 0.05                               | 52.5               | 73.4   | 88.6 | 2                       |



# BZT52C2V4 THRU BZT52C75

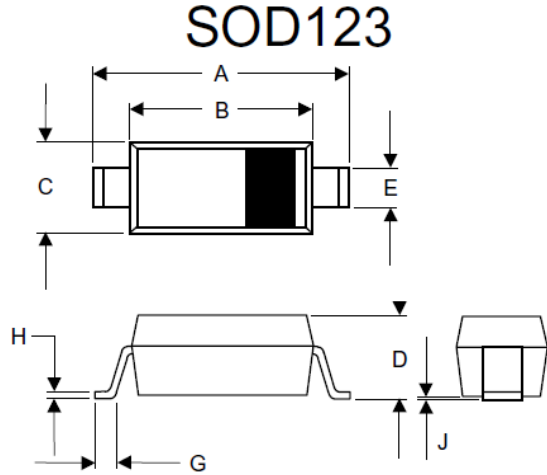
## ■ Characteristics (Typical)





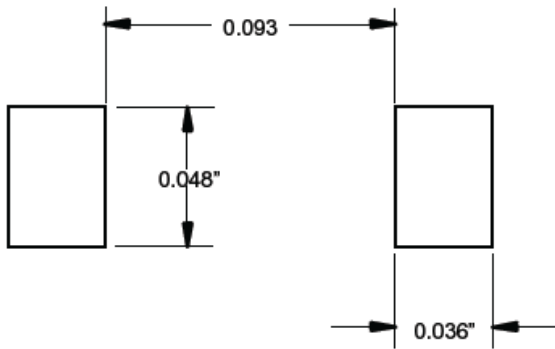
## BZT52C2V4 THRU BZT52C75

### ■ SOD-123 Package Outline Dimensions



| DIMENSIONS |        |       |       |       |      |
|------------|--------|-------|-------|-------|------|
| DIM        | INCHES |       | MM    |       | NOTE |
|            | MIN    | MAX   | MIN   | MAX   |      |
| A          | .140   | .152  | 3.55  | 3.85  |      |
| B          | .100   | .112  | 2.55  | 2.85  |      |
| C          | .055   | .071  | 1.40  | 1.80  |      |
| D          | -----  | .053  | ----- | 1.35  |      |
| E          | .012   | .031  | 0.30  | .78   |      |
| G          | .006   | ----- | 0.15  | ----- |      |
| H          | -----  | .01   | ----- | .25   |      |
| J          | -----  | .006  | ----- | .15   |      |

### ■ SOD-123 Soldering Footprint



Unit: inches



## BZT52C2V4 THRU BZT52C75

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