

## SURFACE MOUNT ZENER DIODE

### Features

- ◆ Total power dissipation: Max. 500mW.
- ◆ Wide zener reverse voltage range 2.0V to 75V.
- ◆ Small plastic package suitable for surface mounted design.
- ◆ Tolerance approximately  $\pm 5\%$

### PINNING



| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |

### Mechanical Data

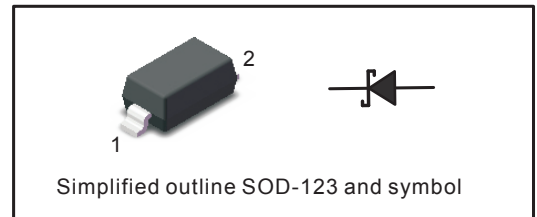
**Case** : JEDEC SOD-123 Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.00056 ounce, 0.016 grams



### Ordering Information

| Type No.           | Marking     | Package Code |
|--------------------|-------------|--------------|
| BZT52C2V0-BZT52C75 | See table 2 | SOD-123      |

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Parameter   | Symbol           | Value   | Unit |
|---|------------------|---------|------|
| Forward Voltage @ I <sub>F</sub> =10mA                        | V <sub>F</sub>   | 0.9     | V    |
| Power Dissipation   | P <sub>d</sub>   | 500     | mW   |
| Typical thermal resistance junction to ambient <sup>(1)</sup> | R <sub>θJA</sub> | 340     | °C/W |
| Junction temperature  | T <sub>J</sub>   | -55-150 | °C   |
| Storage temperature range                                     | T <sub>stg</sub> | -55-150 | °C   |

(1) Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.

Fig.1 Maximum Continuous Power Derating

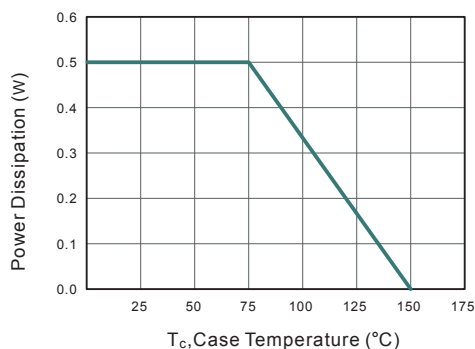
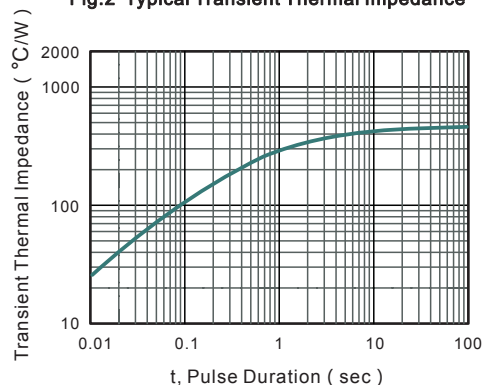


Fig.2 Typical Transient Thermal Impedance





# BZT52C2V0 - BZT52C75

Zener Voltage - 2 to 75 Volts Peak Pulse Power - 0.5 W

## ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

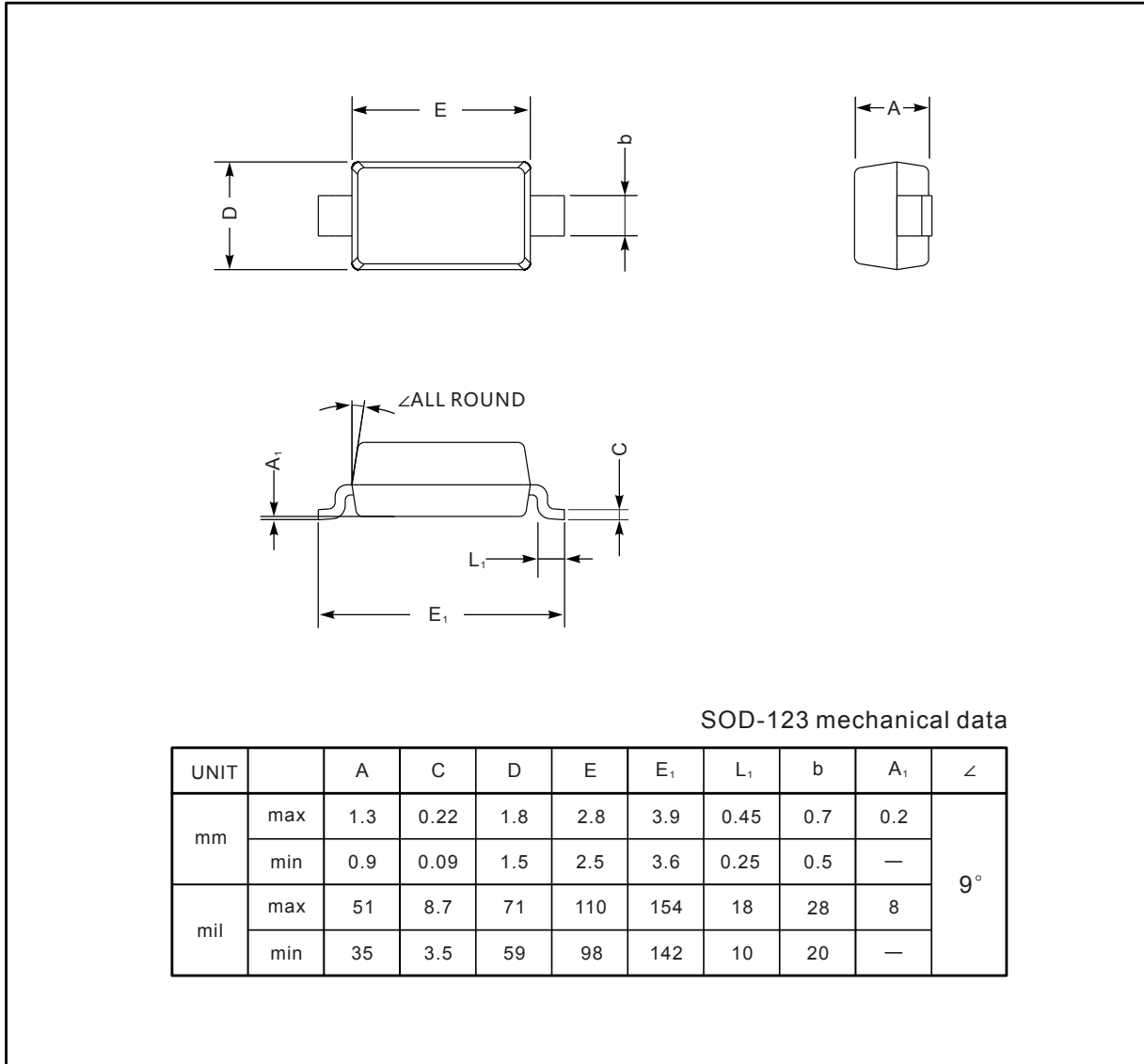
| Type      | Marking | Zener Voltage Range <sup>(1)</sup>    |         |         | I <sub>ZT</sub><br>(mA) | Dynamic Impedance<br>Z <sub>ZT</sub> (at I <sub>ZT</sub> )<br>Max (Ω) | Reverse Current |                   |
|-----------|---------|---------------------------------------|---------|---------|-------------------------|---|-----------------|-------------------|
|           |         | V <sub>ZT</sub> (at I <sub>ZT</sub> ) |         |         |                         |   | I <sub>R</sub>  | at V <sub>R</sub> |
|           |         | Min (V)                               | Nom (V) | Max (V) |                         |   | Max (μA)        | (V)               |
| BZT52C2V0 | WY      | 1.8                                   | 2.0     | 2.15    | 5                       | 100   | 120             | 0.5               |
| BZT52C2V2 | WZ      | 2.08                                  | 2.2     | 2.33    | 5                       | 100   | 120             | 0.7               |
| BZT52C2V4 | WX      | 2.28                                  | 2.4     | 2.56    | 5                       | 100   | 120             | 1                 |
| BZT52C2V7 | W1      | 2.5                                   | 2.7     | 2.9     | 5                       | 110   | 120             | 1                 |
| BZT52C3V0 | W2      | 2.8                                   | 3.0     | 3.2     | 5                       | 120   | 50              | 1                 |
| BZT52C3V3 | W3      | 3.1                                   | 3.3     | 3.5     | 5                       | 130   | 20              | 1                 |
| BZT52C3V6 | W4      | 3.4                                   | 3.6     | 3.8     | 5                       | 130   | 10              | 1                 |
| BZT52C3V9 | W5      | 3.7                                   | 3.9     | 4.1     | 5                       | 130   | 5               | 1                 |
| BZT52C4V3 | W6      | 4                                     | 4.3     | 4.6     | 5                       | 130   | 5               | 1                 |
| BZT52C4V7 | W7      | 4.4                                   | 4.7     | 5       | 5                       | 130   | 2               | 1                 |
| BZT52C5V1 | W8      | 4.8                                   | 5.1     | 5.4     | 5                       | 130   | 2               | 1.5               |
| BZT52C5V6 | W9      | 5.2                                   | 5.6     | 6       | 5                       | 80  | 1               | 2.5               |
| BZT52C6V2 | WA      | 5.8                                   | 6.2     | 6.6     | 5                       | 50  | 1               | 3                 |
| BZT52C6V8 | WB      | 6.4                                   | 6.8     | 7.2     | 5                       | 30  | 0.5             | 3.5               |
| BZT52C7V5 | WC      | 7                                     | 7.5     | 7.9     | 5                       | 30  | 0.5             | 4                 |
| BZT52C8V2 | WD      | 7.7                                   | 8.2     | 8.7     | 5                       | 30  | 0.5             | 5                 |
| BZT52C9V1 | WE      | 8.5                                   | 9.1     | 9.6     | 5                       | 30  | 0.5             | 6                 |
| BZT52C10  | WF      | 9.4                                   | 10      | 10.6    | 5                       | 30  | 0.1             | 7                 |
| BZT52C11  | WG      | 10.4                                  | 11      | 11.6    | 5                       | 30  | 0.1             | 8                 |
| BZT52C12  | WH      | 11.4                                  | 12      | 12.7    | 5                       | 35  | 0.1             | 9                 |
| BZT52C13  | WI      | 12.4                                  | 13      | 14.1    | 5                       | 35  | 0.1             | 10                |
| BZT52C15  | WJ      | 13.8                                  | 15      | 15.6    | 5                       | 40  | 0.1             | 11                |
| BZT52C16  | WK      | 15.3                                  | 16      | 17.1    | 5                       | 40  | 0.1             | 12                |
| BZT52C18  | WL      | 16.8                                  | 18      | 19.1    | 5                       | 45  | 0.1             | 13                |
| BZT52C20  | WM      | 18.8                                  | 20      | 21.2    | 5                       | 50  | 0.1             | 15                |
| BZT52C22  | WN      | 20.8                                  | 22      | 23.3    | 5                       | 55  | 0.1             | 17                |
| BZT52C24  | WO      | 22.8                                  | 24      | 25.6    | 5                       | 60  | 0.1             | 19                |
| BZT52C27  | WP      | 25.1                                  | 27      | 28.9    | 5                       | 70  | 0.1             | 21                |
| BZT52C30  | WQ      | 28                                    | 30      | 32      | 5                       | 80  | 0.1             | 23                |
| BZT52C33  | WR      | 31                                    | 33      | 35      | 5                       | 80  | 0.1             | 25                |
| BZT52C36  | WS      | 34                                    | 36      | 38      | 5                       | 90  | 0.1             | 27                |
| BZT52C39  | WT      | 37                                    | 39      | 41      | 2.5                     | 100   | 2               | 30                |
| BZT52C43  | WU      | 40                                    | 43      | 46      | 2.5                     | 130   | 2               | 33                |
| BZT52C47  | WV      | 44                                    | 47      | 50      | 2.5                     | 150   | 2               | 36                |
| BZT52C51  | WW      | 48                                    | 51      | 54      | 2.5                     | 180   | 1               | 39                |
| BZT52C56  | XW      | 52                                    | 56      | 60      | 2.5                     | 180   | 1               | 43                |
| BZT52C62  | 6E      | 58                                    | 62      | 66      | 2.5                     | 200   | 0.2             | 47                |
| BZT52C68  | 6F      | 64                                    | 68      | 72      | 2.5                     | 250   | 0.2             | 52                |
| BZT52C75  | 6H      | 70                                    | 75      | 79      | 2.5                     | 300   | 0.2             | 57                |

(1) V<sub>ZT</sub> is tested with pulses (20 ms)

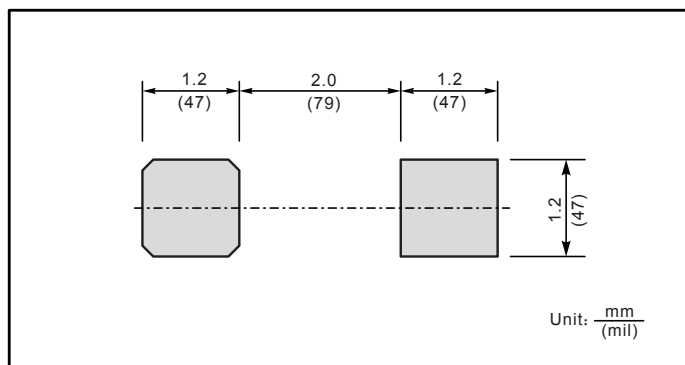
## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123



### The recommended mounting pad size



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