



Micro Commercial Components

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## BZT52C2V4S THRU BZT52C39S

### Features

- Planar Die Construction
- 200mW Power Dissipation on Ceramic PCB
- General Purpose Medium Current
- Ideally Suited for Automated Assembly Processes
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Lead Free Finish/RoHS Compliant("P" Suffix designates RoHS Compliant. See ordering information)

### Absolute Maximum Ratings

| Symbol    | Parameter                 | Rating      | Unit |
|-----------|---------------------------|-------------|------|
| $P_D$     | Power dissipation         | 200         | mW   |
| $T_J$     | Junction Temperature      | -65 to +175 | °C   |
| $T_{STG}$ | Storage Temperature Range | -65 to +175 | °C   |

### Absolute Maximum Ratings

| Symbol     | Parameter                               | Rating | Unit |
|------------|-----------------------------------------|--------|------|
| $R_{thJA}$ | Thermal Resistance Junction to Ambient* | 305    | °C/W |

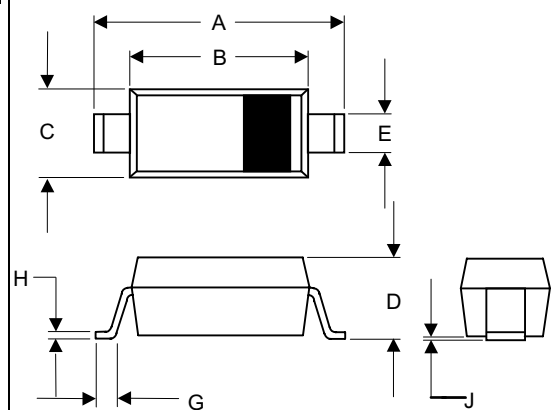
\* Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25 mm<sup>2</sup>

### Electrical Characteristics

| Symbol | Parameter                                        | Rating | Unit |
|--------|--------------------------------------------------|--------|------|
| $V_F$  | Maximum Forward Voltage<br>( $I_F=10\text{mA}$ ) | 0.9    | V    |

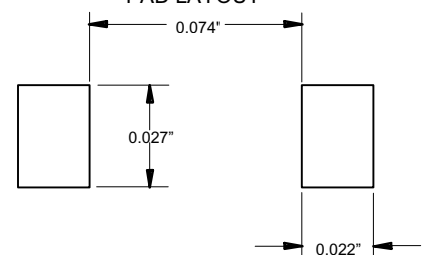
**200 mW  
Zener Diode  
2.4 to 39 Volts**

### SOD-323



| DIM | INCHES |      | MM    |      | NOTE |
|-----|--------|------|-------|------|------|
|     | MIN    | MAX  | MIN   | MAX  |      |
| A   | .090   | .107 | 2.30  | 2.70 |      |
| B   | .063   | .071 | 1.60  | 1.80 |      |
| C   | .045   | .053 | 1.15  | 1.35 |      |
| D   | .031   | .045 | 0.80  | 1.15 |      |
| E   | .010   | .016 | 0.25  | 0.40 |      |
| G   | .004   | .018 | 0.10  | 0.45 |      |
| H   | .004   | .010 | 0.10  | 0.25 |      |
| J   | -----  | .006 | ----- | 0.15 |      |

#### SUGGESTED SOLDER PAD LAYOUT



**ELECTRICAL CHARACTERISTICS @25°C**

| Type       | ZENER VOLTAGE<br>V <sub>Z</sub> <sup>(1)</sup><br>VOLTS |     |      | Maximum Zener<br>Impedance <sup>(2)</sup><br>Z <sub>ZT</sub> (OHMS) |      | Maximum Zener<br>Impedance <sup>(2)</sup><br>Z <sub>ZK</sub> (OHMS) |      | REVERSE<br>CURRENT<br>I <sub>R</sub> (Max) @ V <sub>R</sub> |      | Typical<br>Temperature<br>Coefficient<br>@ I <sub>ZTC</sub> |      | Marking |
|------------|---------------------------------------------------------|-----|------|---------------------------------------------------------------------|------|---------------------------------------------------------------------|------|-------------------------------------------------------------|------|-------------------------------------------------------------|------|---------|
|            | Min.                                                    | Nom | Max. | I <sub>ZT</sub> (mA)                                                | Max. | I <sub>ZK</sub> (mA)                                                | Max. | uA                                                          | V    | mV/°C                                                       |      |         |
| BZT52C2V4S | 2.28                                                    | 2.4 | 2.56 | 5                                                                   | 100  | 1.0                                                                 | 600  | 50                                                          | 1.0  | -3.5                                                        | 0    | WX      |
| BZT52C2V7S | 2.5                                                     | 2.7 | 2.9  | 5                                                                   | 100  | 1.0                                                                 | 600  | 20                                                          | 1.0  | -3.5                                                        | 0    | W1      |
| BZT52C3V0S | 2.8                                                     | 3.0 | 3.2  | 5                                                                   | 95   | 1.0                                                                 | 600  | 10                                                          | 1.0  | -3.5                                                        | 0    | W2      |
| BZT52C3V3S | 3.1                                                     | 3.3 | 3.5  | 5                                                                   | 95   | 1.0                                                                 | 600  | 5                                                           | 1.0  | -3.5                                                        | 0    | W3      |
| BZT52C3V6S | 3.4                                                     | 3.6 | 3.8  | 5                                                                   | 90   | 1.0                                                                 | 600  | 5                                                           | 1.0  | -3.5                                                        | 0    | W4      |
| BZT52C3V9S | 3.7                                                     | 3.9 | 4.1  | 5                                                                   | 90   | 1.0                                                                 | 600  | 3                                                           | 1.0  | -3.5                                                        | 0    | W5      |
| BZT52C4V3S | 4.0                                                     | 4.3 | 4.6  | 5                                                                   | 90   | 1.0                                                                 | 600  | 3                                                           | 1.0  | -3.5                                                        | 0    | W6      |
| BZT52C4V7S | 4.4                                                     | 4.7 | 5.0  | 5                                                                   | 80   | 1.0                                                                 | 500  | 3                                                           | 2.0  | -3.5                                                        | 0.2  | W7      |
| BZT52C5V1S | 4.8                                                     | 5.1 | 5.4  | 5                                                                   | 60   | 1.0                                                                 | 480  | 2                                                           | 2.0  | -2.7                                                        | 1.2  | W8      |
| BZT52C5V6S | 5.2                                                     | 5.6 | 6.0  | 5                                                                   | 40   | 1.0                                                                 | 400  | 1                                                           | 2.0  | -2.0                                                        | 2.5  | W9      |
| BZT52C6V2S | 5.8                                                     | 6.2 | 6.6  | 5                                                                   | 10   | 1.0                                                                 | 150  | 3                                                           | 4.0  | 0.4                                                         | 3.7  | WA      |
| BZT52C6V8S | 6.4                                                     | 6.8 | 7.2  | 5                                                                   | 15   | 1.0                                                                 | 80   | 2                                                           | 4.0  | 1.2                                                         | 4.5  | WB      |
| BZT52C7V5S | 7.0                                                     | 7.5 | 7.9  | 5                                                                   | 15   | 1.0                                                                 | 80   | 1                                                           | 5.0  | 2.5                                                         | 5.3  | WC      |
| BZT52C8V2S | 7.7                                                     | 8.2 | 8.7  | 5                                                                   | 15   | 1.0                                                                 | 80   | 0.7                                                         | 5.0  | 3.2                                                         | 6.2  | WD      |
| BZT52C9V1S | 8.5                                                     | 9.1 | 9.6  | 5                                                                   | 15   | 1.0                                                                 | 100  | 0.5                                                         | 6.0  | 3.8                                                         | 7.0  | WE      |
| BZT52C10S  | 9.4                                                     | 10  | 10.6 | 5                                                                   | 20   | 1.0                                                                 | 150  | 0.2                                                         | 7.0  | 4.5                                                         | 8.0  | WF      |
| BZT52C11S  | 10.4                                                    | 11  | 11.6 | 5                                                                   | 20   | 1.0                                                                 | 150  | 0.1                                                         | 8.0  | 5.4                                                         | 9.0  | WG      |
| BZT52C12S  | 11.4                                                    | 12  | 12.7 | 5                                                                   | 25   | 1.0                                                                 | 150  | 0.1                                                         | 8.0  | 6.0                                                         | 10.0 | WH      |
| BZT52C13S  | 12.4                                                    | 13  | 14.1 | 5                                                                   | 30   | 1.0                                                                 | 170  | 0.1                                                         | 8.0  | 7.0                                                         | 11.0 | WI      |
| BZT52C15S  | 13.8                                                    | 15  | 15.6 | 5                                                                   | 30   | 1.0                                                                 | 200  | 0.1                                                         | 10.5 | 9.2                                                         | 13.0 | WJ      |
| BZT52C16S  | 15.3                                                    | 16  | 17.1 | 5                                                                   | 40   | 1.0                                                                 | 200  | 0.1                                                         | 11.2 | 10.4                                                        | 14.0 | WK      |
| BZT52C18S  | 16.8                                                    | 18  | 19.1 | 5                                                                   | 45   | 1.0                                                                 | 225  | 0.1                                                         | 12.6 | 12.4                                                        | 16.0 | WL      |
| BZT52C20S  | 18.8                                                    | 20  | 21.2 | 5                                                                   | 55   | 1.0                                                                 | 225  | 0.1                                                         | 14.0 | 14.4                                                        | 18.0 | WM      |
| BZT52C22S  | 20.8                                                    | 22  | 23.3 | 5                                                                   | 55   | 1.0                                                                 | 250  | 0.1                                                         | 15.4 | 16.4                                                        | 20.0 | WN      |
| BZT52C24S  | 22.8                                                    | 24  | 25.6 | 5                                                                   | 70   | 1.0                                                                 | 250  | 0.1                                                         | 16.8 | 18.4                                                        | 22.0 | WO      |
| BZT52C27S  | 25.1                                                    | 27  | 28.9 | 2                                                                   | 80   | 0.5                                                                 | 300  | 0.1                                                         | 18.9 | 21.4                                                        | 25.3 | WP      |
| BZT52C30S  | 28                                                      | 30  | 32   | 2                                                                   | 80   | 0.5                                                                 | 300  | 0.1                                                         | 21.0 | 24.4                                                        | 29.4 | WQ      |
| BZT52C33S  | 31                                                      | 33  | 35   | 2                                                                   | 80   | 0.5                                                                 | 325  | 0.1                                                         | 23.1 | 27.4                                                        | 33.4 | WR      |
| BZT52C36S  | 34                                                      | 36  | 38   | 2                                                                   | 90   | 0.5                                                                 | 350  | 0.1                                                         | 25.2 | 30.4                                                        | 37.4 | WS      |
| BZT52C39S  | 37                                                      | 39  | 41   | 2                                                                   | 130  | 0.5                                                                 | 350  | 0.1                                                         | 27.3 | 33.4                                                        | 41.2 | WT      |

(1) Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25 mm<sup>2</sup>

(2) f=1KHz

## Ordering Information

| Device           | Packing              |
|------------------|----------------------|
| (Part Number)-TP | Tape&Reel;3Kpcs/Reel |

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