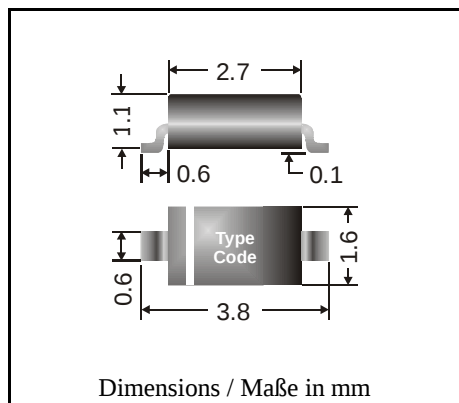


## Surface mount Zener Diodes Zener-Dioden für die Oberflächenmontage

Version 2004-07-26



|                                                                               |            |
|-------------------------------------------------------------------------------|------------|
| Power dissipation – Verlustleistung                                           | 410 mW     |
| Nominal Zener voltage<br>Nominale Zener-Spannung                              | 2.4...56 V |
| Plastic case<br>Kunststoffgehäuse                                             | SOD-123    |
| Weight approx. – Gewicht ca.                                                  | 0.01 g     |
| Standard packaging taped and reeled<br>Standard Lieferform gegurtet auf Rolle |            |

Standard Zener voltage tolerance is graded to the international E 24 (~ 5%) standard.  
Other voltage tolerances and higher Zener voltages on request.  
Die Toleranz der Zener-Spannung ist in der Standard-Ausführung gestuft nach der internationalen Reihe E 24 (~ 5%). Andere Toleranzen und höhere Spannungen auf Anfrage.

### Maximum ratings and Characteristics

### Grenz- und Kennwerte

|                                                                                             |                          |           | BZT52C2V4 ... C56     |
|---------------------------------------------------------------------------------------------|--------------------------|-----------|-----------------------|
| Power dissipation<br>Verlustleistung                                                        | $T_A = 50^\circ\text{C}$ | $I_{FAV}$ | 410 mW <sup>1)</sup>  |
| Junction temperature – Sperrschichttemperatur                                               |                          | $T_j$     | 150°C                 |
| Storage temperature – Lagerungstemperatur                                                   |                          | $T_s$     | - 55...+ 150°C        |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft |                          | $R_{thA}$ | 400 K/W <sup>1)</sup> |

Zener voltages see table on next page – Zener-Spannungen siehe Tabelle auf der nächsten Seite

|                |                      |               |               |
|----------------|----------------------|---------------|---------------|
| BZT52C2V4 = WX | Marking – Stempelung |               | BZT52C27 = WP |
| BZT52C2V7 = W1 | BZT52C5V6 = W9       | BZT52C12 = WH | BZT52C30 = WQ |
| BZT52C3V0 = W2 | BZT52C6V2 = WA       | BZT52C13 = WI | BZT52C33 = WR |
| BZT52C3V3 = W3 | BZT52C6V8 = WB       | BZT52C15 = WJ | BZT52C36 = WS |
| BZT52C3V6 = W4 | BZT52C7V5 = WC       | BZT52C16 = WK | BZT52C39 = WT |
| BZT52C3V9 = W5 | BZT52C8V2 = WD       | BZT52C18 = WL | BZT52C43 = WU |
| BZT52C4V3 = W6 | BZT52C9V1 = WE       | BZT52C20 = WM | BZT52C47 = WV |
| BZT52C4V7 = W7 | BZT52C10 = WF        | BZT52C22 = WN | BZT52C51 = WW |
| BZT52C5V1 = W8 | BZT52C11 = WG        | BZT52C24 = WO | BZT52C56 = XW |

<sup>1)</sup> Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal  
Montage auf Leiterplatte mit 25 mm<sup>2</sup> Kupferbelag (Lötpad) an jedem Anschluss

<sup>2)</sup> Tested with pulses  $t_p = 5$  ms – Gemessen mit Impulsen  $t_p = 5$  ms

## Maximum ratings

## Grenzwerte

| Type<br>Typ | Zener voltage <sup>2)</sup><br>Zener-Spanng. <sup>2)</sup><br>I <sub>Z</sub> = 5 mA<br>V <sub>zmin</sub> [V] V <sub>zmax</sub> |      | Dynamic resistance<br>Inhär. diff. Widerstand<br>r <sub>zj</sub> [Ω] at f = 1 kHz<br>I <sub>Z</sub> = 5 mA I <sub>Z</sub> = 1 mA |       | Temp. Coeffiz.<br>of Z-voltage<br>...der Z-spanng.<br>α <sub>VZ</sub> 10 <sup>-4</sup> [°C] | Reverse volt.<br>Sperrspanng.<br>I <sub>R</sub> = 100 nA<br>V <sub>R</sub> [V] | Z-current <sup>1)</sup><br>Z-Strom <sup>1)</sup><br>T <sub>A</sub> = 25°C<br>I <sub>Zmax</sub> [mA] |
|-------------|--------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| BZT52C2V4   | 2,2                                                                                                                            | 2,6  | <85                                                                                                                              | < 600 | -9...-6                                                                                     | 1 (50μA)                                                                       | 158                                                                                                 |
| BZT52C2V7   | 2,5                                                                                                                            | 2,9  | <85                                                                                                                              | < 600 | -9...-6                                                                                     | 1 (10μA)                                                                       | 141                                                                                                 |
| BZT52C3V0   | 2,8                                                                                                                            | 3,2  | <85                                                                                                                              | < 600 | -8...-5                                                                                     | 1 (4μA)                                                                        | 128                                                                                                 |
| BZT52C3V3   | 3,1                                                                                                                            | 3,5  | <85                                                                                                                              | < 600 | -8...-5                                                                                     | 1 (2μA)                                                                        | 117                                                                                                 |
| BZT52C3V6   | 3,4                                                                                                                            | 3,8  | <85                                                                                                                              | < 600 | -8...-5                                                                                     | 1 (2μA)                                                                        | 108                                                                                                 |
| BZT52C3V9   | 3,7                                                                                                                            | 4,1  | <85                                                                                                                              | < 600 | -8...-5                                                                                     | 1 (2μA)                                                                        | 100                                                                                                 |
| BZT52C4V3   | 4,0                                                                                                                            | 4,6  | <75                                                                                                                              | < 600 | -6...-3                                                                                     | 1 (1μA)                                                                        | 89                                                                                                  |
| BZT52C4V7   | 4,4                                                                                                                            | 5,0  | <60                                                                                                                              | < 600 | -5...+2                                                                                     | 1 (0,5μA)                                                                      | 82                                                                                                  |
| BZT52C5V1   | 4,8                                                                                                                            | 5,4  | <35                                                                                                                              | < 550 | -2...+2                                                                                     | 1                                                                              | 76                                                                                                  |
| BZT52C5V6   | 5,2                                                                                                                            | 6,0  | <25                                                                                                                              | < 450 | -5...+5                                                                                     | 1                                                                              | 68                                                                                                  |
| BZT52C6V2   | 5,8                                                                                                                            | 6,6  | <10                                                                                                                              | < 200 | +3...+6                                                                                     | 2                                                                              | 62                                                                                                  |
| BZT52C6V8   | 6,4                                                                                                                            | 7,2  | <8                                                                                                                               | < 150 | +3...+7                                                                                     | 3                                                                              | 57                                                                                                  |
| BZT52C7V5   | 7,0                                                                                                                            | 7,9  | (7                                                                                                                               | < 50  | +3...+7                                                                                     | 5                                                                              | 52                                                                                                  |
| BZT52C8V2   | 7,7                                                                                                                            | 8,7  | <7                                                                                                                               | < 50  | +3...+8                                                                                     | 6                                                                              | 47                                                                                                  |
| BZT52C9V1   | 8,5                                                                                                                            | 9,6  | <10                                                                                                                              | < 50  | +3...+9                                                                                     | 6                                                                              | 43                                                                                                  |
| BZT52C10    | 9,4                                                                                                                            | 10,6 | <15                                                                                                                              | < 70  | +3...+10                                                                                    | 7                                                                              | 39                                                                                                  |
| BZT52C11    | 10,4                                                                                                                           | 11,6 | <20                                                                                                                              | < 70  | +3...+11                                                                                    | 8                                                                              | 35                                                                                                  |
| BZT52C12    | 11,4                                                                                                                           | 12,7 | <20                                                                                                                              | < 90  | +3...+11                                                                                    | 9                                                                              | 32                                                                                                  |
| BZT52C13    | 12,4                                                                                                                           | 14,1 | <26                                                                                                                              | < 110 | +3...+11                                                                                    | 9                                                                              | 29                                                                                                  |
| BZT52C15    | 13,8                                                                                                                           | 15,6 | <30                                                                                                                              | < 110 | +3...+11                                                                                    | 10                                                                             | 26                                                                                                  |
| BZT52C16    | 15,3                                                                                                                           | 17,1 | <40                                                                                                                              | < 170 | +3...+11                                                                                    | 11                                                                             | 24                                                                                                  |
| BZT52C18    | 16,8                                                                                                                           | 19,1 | <50                                                                                                                              | < 170 | +3...+11                                                                                    | 13                                                                             | 21                                                                                                  |
| BZT52C20    | 18,8                                                                                                                           | 21,2 | <55                                                                                                                              | < 220 | +3...+11                                                                                    | 14                                                                             | 19                                                                                                  |
| BZT52C22    | 20,8                                                                                                                           | 23,3 | <55                                                                                                                              | < 220 | +4...+12                                                                                    | 16                                                                             | 18                                                                                                  |
| BZT52C24    | 22,8                                                                                                                           | 25,6 | <80                                                                                                                              | < 220 | +4...+12                                                                                    | 17                                                                             | 16                                                                                                  |
| BZT52C27    | 25,1                                                                                                                           | 28,9 | <80                                                                                                                              | < 220 | +4...+12                                                                                    | 19                                                                             | 14                                                                                                  |
| BZT52C30    | 28                                                                                                                             | 32   | <80                                                                                                                              | < 220 | +4...+12                                                                                    | 21                                                                             | 13                                                                                                  |
| BZT52C33    | 31                                                                                                                             | 35   | <80                                                                                                                              | < 220 | +4...+12                                                                                    | 23                                                                             | 12                                                                                                  |
| BZT52C36    | 34                                                                                                                             | 38   | <80                                                                                                                              | < 220 | +4...+12                                                                                    | 26                                                                             | 11                                                                                                  |
| BZT52C39    | 37                                                                                                                             | 41   | <90                                                                                                                              | < 500 | +4...+12                                                                                    | 28                                                                             | 10                                                                                                  |
| BZT52C43    | 40                                                                                                                             | 46   | <90                                                                                                                              | < 500 | +4...+12                                                                                    | 30                                                                             | 9                                                                                                   |
| BZT52C47    | 44                                                                                                                             | 50   | <110                                                                                                                             | < 600 | +4...+12                                                                                    | 33                                                                             | 8                                                                                                   |
| BZT52C51    | 48                                                                                                                             | 54   | <125                                                                                                                             | < 700 | +4...+12                                                                                    | 36                                                                             | 8                                                                                                   |
| BZT52C56    | 52                                                                                                                             | 60   | <135                                                                                                                             | < 700 | +4...+12                                                                                    | 39                                                                             | 7                                                                                                   |

<sup>1)</sup> Notes see previous page – Fußnoten siehe vorhergehende Seite