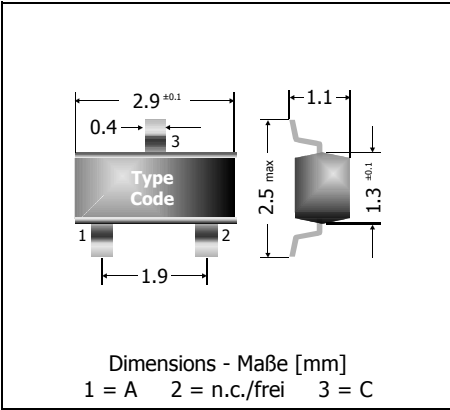


**BZX84C2V4 ... BZX84C47 (300 mW)**  
**Surface mount Silicon Planar Zener Diodes**  
**Silizium-Planar-Zener-Dioden für die Oberflächenmontage**

Version 2009-01-28



|   |                    |
|---|--------------------|
| Power dissipation – Verlustleistung   | 300 mW             |
| Repetitive peak reverse voltage<br>Periodische Spitzensperrspannung                   | 2.4...47 V         |
| Plastic case<br>Kunststoffgehäuse   | SOT-23<br>(TO-236) |
| Weight approx. – Gewicht ca.  | 0.01 g             |
| Plastic material has UL classification 94V-0<br>Gehäusematerial UL94V-0 klassifiziert |                    |
| 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.

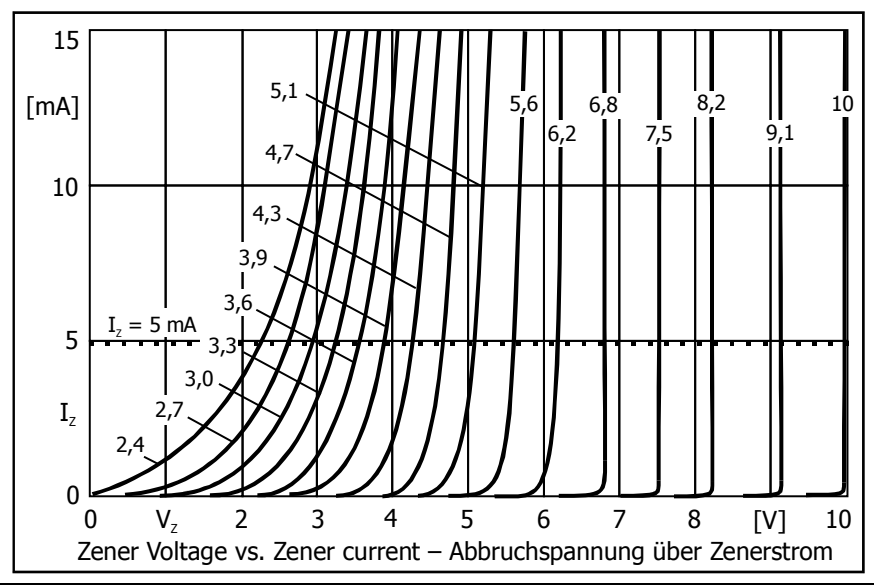
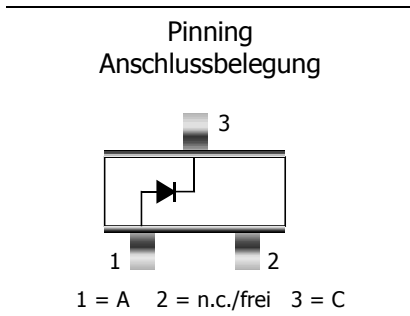
Die Toleranz der Zener-Spannung ist in der Standard-Ausführung gestuft nach der internationalen Reihe E 24 (~5%). Andere Toleranzen oder höhere Arbeitsspannungen auf Anfrage.

**Maximum ratings and Characteristics**

**Grenz- und Kennwerte**

|   |                          | <b>BZX84-series</b> |                         |
|---|--------------------------|---------------------|-------------------------|
| Power dissipation – Verlustleistung   | $T_A = 25^\circ\text{C}$ | $P_{tot}$           | 300 mW <sup>1)</sup>    |
| Junction temperature – Sperrschichttemperatur   |                          | $T_j$               | -50...+150°C            |
| Storage temperature – Lagerungstemperatur   |                          | $T_s$               | -50...+150°C            |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft |                          | $R_{thA}$           | < 420 K/W <sup>1)</sup> |

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



1 Mounted on P.C. board with 3 mm<sup>2</sup> copper pads at each terminal  
 Montage auf Leiterplatte mit 3 mm<sup>2</sup> Kupferbelag (Lötpad) an jedem Anschluss

## Maximum ratings

## Grenzwerte

| Type<br>Typ | Marking<br>Code <sup>1)</sup> | Zener voltage <sup>2)</sup><br>Zener-Spanng. <sup>2)</sup> |                       | Dynamic resistance<br>Inhär. diff. Widerstand |        | Temp. Coeffic.<br>of Z-voltage<br>...der Z-spanng. | Reverse voltage<br>Sperrspannung<br>V <sub>R</sub> at/bei I <sub>R</sub> |                     | Z-current <sup>3)</sup><br>Z-Strom <sup>3)</sup><br>T <sub>A</sub> = 50°C |
|-------------|-------------------------------|--|-----------------------|---|--------|--|--|---------------------|---|
|             |                               | V <sub>Zmin</sub> [V]                                      | V <sub>Zmax</sub> [V] | r <sub>Zj</sub> [Ω] at f = 1 kHz              |        |  | V <sub>R</sub> [V]   | I <sub>R</sub> [μA] |   |
| BZX84       |                               |  |                       |   |        |  |  |                     |   |
|             | I <sub>Z</sub> =              | 5 mA   | 5 mA                  | 5 mA  | 1 mA   |  |  |                     |   |
| ...C2V4     | Z11/C8                        | 2.2  | 2.6                   | < 85  | < 600  | -8...-5  | 1  | 20                  | 115   |
| ...C2V7     | Z12/D8                        | 2.5  | 2.9                   | < 85  | < 600  | -8...-5  | 1  | 20                  | 103   |
| ...C3V0     | Z13/E8                        | 2.8  | 3.2                   | < 85  | < 600  | -8...-5  | 1  | 10                  | 94  |
| ...C3V3     | Z14/F8                        | 3.1  | 3.5                   | < 85  | < 600  | -8...-5  | 1  | 5                   | 86  |
| ...C3V6     | Z15/H8                        | 3.4  | 3.8                   | < 85  | < 600  | -8...-5  | 1  | 5                   | 79  |
| ...C3V9     | Z16/J8                        | 3.7  | 4.1                   | < 85  | < 600  | -8...-5  | 1  | 3                   | 73  |
| ...C4V3     | W9/K8                         | 4.0  | 4.6                   | < 80  | < 600  | -7...-4  | 1  | 3                   | 65  |
| ...C4V7     | Z1/M8                         | 4.4  | 5.0                   | < 80  | < 500  | -5...-2  | 2  | 3                   | 60  |
| ...C5V1     | Z2/N8                         | 4.8  | 5.4                   | < 60  | < 480  | -2...+2  | 2  | 2                   | 56  |
| ...C5V6     | Z3/P8                         | 5.2  | 6.0                   | < 40  | < 400  | -1...+4  | 2  | 1                   | 50  |
| ...C6V2     | Z4/R8                         | 5.8  | 6.6                   | < 10  | < 150  | +2...+5  | 4  | 3                   | 45  |
| ...C6V8     | Z5/X8                         | 6.4  | 7.2                   | < 15  | < 80   | +3...+6  | 4  | 2                   | 42  |
| ...C7V5     | Z6/Y8                         | 7.0  | 7.9                   | < 15  | < 80   | +3...+6  | 5  | 1                   | 38  |
| ...C8V2     | Z7/Z8                         | 7.7  | 8.7                   | < 15  | < 80   | +4...+7  | 5  | 0.7                 | 34  |
| ...C9V1     | Z8/A9                         | 8.5  | 9.6                   | < 15  | < 100  | +4...+7  | 6  | 0.5                 | 31  |
| ...C10      | Z9/B9                         | 9.4  | 10.6                  | < 20  | < 150  | +5...+8  | 7  | 0.2                 | 28  |
| ...C11      | Y1/C9                         | 10.4   | 11.6                  | < 20  | < 150  | +5...+8  | 8  | 0.1                 | 26  |
| ...C12      | Y2/D9                         | 11.4   | 12.7                  | < 25  | < 150  | +5...+8  | 8  | 0.1                 | 24  |
| ...C13      | Y3/E9                         | 12.4   | 14.1                  | < 30  | < 170  | +6...+9  | 8  | 0.1                 | 21  |
| ...C15      | Y4/F9                         | 13.8   | 15.6                  | < 30  | < 200  | +6...+9  | 10.5   | 0.05                | 19  |
| ...C16      | Y5/H9                         | 15.3   | 17.1                  | < 40  | < 200  | +6...+9  | 11.2   | 0.05                | 18  |
| ...C18      | Y6/J9                         | 16.8   | 19.1                  | < 45  | < 225  | +6...+9  | 12.6   | 0.05                | 16  |
| ...C20      | Y7/K9                         | 18.8   | 21.2                  | < 55  | < 225  | +6...+9  | 14.0   | 0.05                | 14  |
| ...C22      | Y8/M9                         | 20.8   | 23.3                  | < 55  | < 250  | +7...+10   | 15.4   | 0.05                | 13  |
| ...C24      | Y9/N9                         | 22.8   | 25.6                  | < 70  | < 250  | +7...+10   | 16.8   | 0.05                | 12  |
|             | I <sub>Z</sub> =              | 2 mA   | 2 mA                  | 2 mA  | 0.5 mA |  |  |                     |   |
| ...C27      | Y10/P9                        | 25.1   | 28.9                  | < 80  | < 300  | +7...+10   | 18.9   | 0.05                | 10  |
| ...C30      | Y11/R9                        | 28   | 32                    | < 80  | < 300  | +7...+10   | 21.0   | 0.05                | 9   |
| ...C33      | Y12/X9                        | 31   | 35                    | < 80  | < 325  | +7...+10   | 23.1   | 0.05                | 9   |
| ...C36      | Y13/Y9                        | 34   | 38                    | < 90  | < 350  | +7...+10   | 25.1   | 0.05                | 8   |
| ...C39      | Y14/Z9                        | 37   | 41                    | < 130   | < 350  | +7...+10   | 27.3   | 0.05                | 7   |
| ...C43      | Y15/A0                        | 40   | 46                    | < 150   | < 375  | +7...+10   | 30.1   | 0.05                | 7   |
| ...C47      | Y16/B0                        | 44   | 50                    | < 170   | < 375  | +7...+10   | 32.9   | 0.05                | 6   |

- 1 Alternatively used. The complete part number is given on the package label.  
Alternativ verwendet. Die vollständige Artikel-Nr. ist auf dem Verpackungsetikett angegeben.
- 2 Tested with pulses t<sub>p</sub> = 5 ms – Gemessen mit Impulsen t<sub>p</sub> = 5 ms
- 3 Mounted on P.C. board with 3 mm<sup>2</sup> copper pads at each terminal  
Montage auf Leiterplatte mit 3 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluss