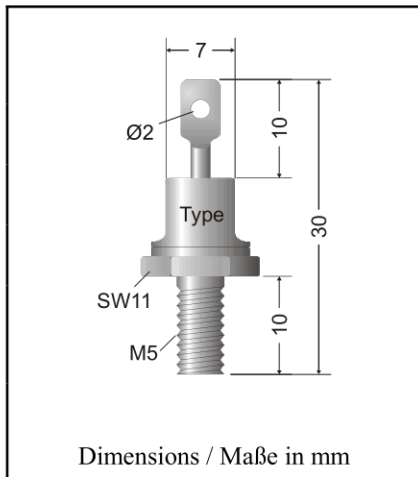


**Silicon-Power-Z-Diodes
(non-planar technology)**

**Silizium-Leistungs-Z-Dioden
(flächendiffundierte Dioden)**



| | |
|-------------------------------------------------------|----------------------------------------|
| Maximum power dissipation Maximale Verlustleistung | 12.5 W |
| Nominal Z-voltage – Nominale Z-Spannung | 3.9...200 V |
| Metal case – Metallgehäuse | DO-4 |
| Weight approx. – Gewicht ca. | 5.5 g |
| Standard polarity: | Cathode to stud / Gewinde |
| Index R: | Anode to stud / Gewinde (e.g. ZX ...R) |
| Standard packaging: bulk | |
| Standard Lieferform: lose im Karton | |

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 | Grenzwerte | | |
|-------------------------------------------------------------------------------------------------------------|----------------------|----------------|----------------------------------|
| Power dissipation without cooling fin Verlustleistung ohne Kühlblech | $T_A = 25\text{ °C}$ | P_{tot} | 1.6 W |
| Power dissipation with cooling fin 150 cm ² Verlustleistung mit Kühlblech 150 cm ² | $T_A = 25\text{ °C}$ | P_{tot} | 12.5 W |
| Non repetitive peak power dissipation, t < 10 ms Einmalige Impuls-Verlustleistung, t < 10 ms | $T_A = 25\text{ °C}$ | P_{ZSM} | 100 W |
| Admissible torque for mounting on cooling fin Zulässiges Anzugsdrehmoment | | | 1 Nm |
| Operating junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur | | T_j T_s | - 55...+150 °C - 55...+175 °C |
| Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft | | R_{thA} | < 80 K/W |
| Thermal resistance junction to stud Wärmewiderstand Sperrschicht – Schraube | | R_{thC} | < 5 K/W ¹⁾ |

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

¹⁾ Valid if mounted on vertical cooling fin 150 cm² – Gültig bei Montage auf senkrecht stehendem Kühlblech 150 cm²
 10.09.2002

Maximum ratings
Grenzwerte

| Type Typ | Zener voltage ¹⁾ Zener-Spanng. ¹⁾ $I_Z = I_{Ztest}$ V_{Zmin} [V] V_{Zmax} | | Test current Meßstrom I_{Ztest} [mA] | Dyn. resistance Diff. Widerst. $I_{Ztest} / 1 \text{ kHz}$ r_{zj} [Ω] | Temp. Coeffiz. of Z-voltage ...der Z-spanng. α_{VZ} [$10^{-4}/^\circ\text{C}$] | Reverse volt. Sperrspanng. $I_R = 100 \text{ nA}$ V_R [V] | Max. Z-current Max. Z-Strom $T_A = 50^\circ\text{C}$ I_Z ²⁾ [mA] I_Z ³⁾ | |
|-------------|--------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------|
| ZX 3.9 | 3.7 | 4.1 | 100 | 3.8 (<7) | -7...+2 | - | 340 | 2700 |
| ZX 4.3 | 4.0 | 4.6 | 100 | 3.8 (<7) | -7...+3 | - | 305 | 2400 |
| ZX 4.7 | 4.4 | 5.0 | 100 | 3 (<6) | -7...+4 | - | 280 | 2250 |
| ZX 5.1 | 4.8 | 5.4 | 100 | 2 (<5) | -6...+5 | - | 260 | 2000 |
| ZX 5.6 | 5.2 | 6.0 | 100 | 1 (<3) | -3...+5 | > 1.5 | 230 | 1800 |
| ZX 6.2 | 5.8 | 6.6 | 100 | 1 (<2) | -1...+6 | > 1.5 | 210 | 1700 |
| ZX 6.8 | 6.4 | 7.2 | 100 | 1 (<2) | 0...+7 | > 2 | 195 | 1550 |
| ZX 7.5 | 7.0 | 7.9 | 100 | 1 (<2) | 0...+7 | > 2 | 175 | 1400 |
| ZX 8.2 | 7.7 | 8.7 | 100 | 1 (<2) | +3...+8 | > 3.5 | 160 | 1250 |
| ZX 9.1 | 8.5 | 9.6 | 50 | 2 (<4) | +3...+8 | > 3.5 | 145 | 1150 |
| ZX 10 | 9.4 | 10.6 | 50 | 2 (<4) | +5...+9 | > 5 | 130 | 1050 |
| ZX 11 | 10.4 | 11.6 | 50 | 3 (<6) | +5...+10 | > 5 | 120 | 970 |
| ZX 12 | 11.4 | 12.7 | 50 | 4 (<7) | +5...+10 | > 7 | 110 | 880 |
| ZX 13 | 12.4 | 14.1 | 50 | 5 (<9) | +5...+10 | > 7 | 100 | 790 |
| ZX 15 | 13.8 | 15.6 | 50 | 5 (<10) | +5...+10 | > 10 | 90 | 720 |
| ZX 16 | 15.3 | 17.1 | 25 | 6 (<12) | +6...+11 | > 10 | 82 | 650 |
| ZX 18 | 16.8 | 19.1 | 25 | 6 (<15) | +6...+11 | > 10 | 74 | 580 |
| ZX 20 | 18.8 | 21.2 | 25 | 6 (<15) | +6...+11 | > 10 | 66 | 530 |
| ZX 22 | 20.8 | 23.3 | 25 | 6 (<15) | +6...+11 | > 12 | 60 | 480 |
| ZX 24 | 22.8 | 25.6 | 25 | 7 (<15) | +6...+11 | > 12 | 55 | 430 |
| ZX 27 | 25.1 | 28.9 | 25 | 7 (<15) | +6...+11 | > 14 | 49 | 380 |
| ZX 30 | 28 | 32 | 25 | 8 (<15) | +6...+11 | > 14 | 44 | 350 |
| ZX 33 | 31 | 35 | 25 | 8 (<15) | +6...+11 | > 17 | 40 | 320 |
| ZX 36 | 34 | 38 | 10 | 16 (<30) | +6...+11 | > 17 | 37 | 290 |
| ZX 39 | 37 | 41 | 10 | 20 (<40) | +6...+11 | > 20 | 34 | 270 |
| ZX 43 | 40 | 46 | 10 | 24 (<40) | +7...+12 | > 20 | 31 | 245 |
| ZX 47 | 44 | 50 | 10 | 24 (<40) | +7...+12 | > 24 | 28 | 225 |
| ZX 51 | 48 | 54 | 10 | 25 (<60) | +7...+12 | > 24 | 26 | 200 |
| ZX 56 | 52 | 60 | 10 | 25 (<60) | +7...+12 | > 28 | 23 | 185 |
| ZX 62 | 58 | 66 | 10 | 25 (<80) | +8...+13 | > 28 | 21 | 170 |
| ZX 68 | 64 | 72 | 10 | 25 (<80) | +8...+13 | > 34 | 20 | 155 |
| ZX 75 | 70 | 79 | 10 | 30 (<100) | +8...+13 | > 34 | 18 | 140 |
| ZX 82 | 77 | 88 | 10 | 30 (<100) | +8...+13 | > 41 | 16 | 125 |
| ZX 91 | 85 | 96 | 5 | 40 (<150) | +9...+13 | > 41 | 15 | 115 |
| ZX 100 | 94 | 106 | 5 | 60 (<150) | +9...+13 | > 50 | 13 | 105 |
| ZX 110 | 104 | 116 | 5 | 80 (<200) | +9...+13 | > 50 | 12 | 97 |
| ZX 120 | 114 | 127 | 5 | 80 (<200) | +9...+13 | > 60 | 11 | 89 |
| ZX 130 | 124 | 141 | 5 | 90 (<250) | +9...+13 | > 60 | 10 | 80 |
| ZX 150 | 138 | 156 | 5 | 100 (<250) | +9...+13 | > 75 | 9 | 72 |
| ZX 160 | 153 | 171 | 5 | 110 (<300) | +9...+13 | > 75 | 8 | 66 |
| ZX 180 | 168 | 191 | 5 | 120 (<350) | +9...+13 | > 90 | 7 | 59 |
| ZX 200 | 188 | 212 | 5 | 150 (<350) | +9...+13 | > 90 | 7 | 53 |

¹⁾ Tested with pulses – Gemessen mit Impulsen

²⁾ Without cooling fin – Ohne Kühlblech

³⁾ Valid if mounted on vertical cooling fin 150 cm² – Gültig bei Montage auf senkrecht stehendem Kühlblech 150 cm²