

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

Silizium-Leistungs-Z-Dioden
(flächendiffundierte Dioden)



| | |
|---|-------------------------------|
| Maximum power dissipation Maximale Verlustleistung | 1.3 W |
| Nominal Z-voltage – Nominale Z-Spannung | 1...200 V |
| Plastic case Kunststoffgehäuse | DO-41 DO-204AL |
| Weight approx. – Gewicht ca. | 0.4 g |
| Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert | |
| Standard packaging taped in ammo pack Standard Lieferform gegurtet in Ammo-Pack | see page 16 siehe Seite 16 |

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

| | | | |
|--|--------------------------|------------------|--------------------------------|
| Power dissipation – Verlustleistung | $T_A = 50^\circ\text{C}$ | P_{tot} | 1.3 W ¹⁾ |
| Non repetitive peak power dissipation, $t < 10$ ms Einmalige Impuls-Verlustleistung, $t < 10$ ms | $T_A = 25^\circ\text{C}$ | P_{ZSM} | 40 W |
| Operating junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur | | T_j T_s | – 50...+150°C – 50...+175°C |
| Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft | | R_{thA} | < 45 K/W ¹⁾ |
| Thermal resistance junction to lead Wärmewiderstand Sperrschicht – Anschlußdraht | | R_{thL} | < 15 K/W |

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

¹⁾ Valid, if leads are kept at ambient temperature at a distance of 10 mm from case
Gültig, wenn die Anschlußdrähte in 10 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden
²⁾ Tested with pulses – Gemessen mit Impulsen
³⁾ The ZPY 1 is a diode, operated in forward. The cathode, indicated by a ring, is to be connected to the negative pole.
Die ZPY 1 ist eine in Durchlaß betriebene Einzelchip-Diode.
Die durch den Ring gekennzeichnete Kathode ist mit dem Minuspol zu verbinden.

Maximum ratings

Grenzwerte

| Type Typ | Zener voltage ²⁾ Zener-Spanng. ²⁾ $I_Z = I_{Ztest}$ 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. $I_R = 1 \mu\text{A}$ V_R [V] | Z-current ¹⁾ Z-Strom ¹⁾ $T_A = 50^\circ\text{C}$ I_{Zmax} [mA] |
|---------------------|--|------|---|---|--|---|---|
| ZPY 1 ³⁾ | 0.71 | 0.82 | 100 | 0.5 (<1) | -26...-16 | - | 1000 |
| ZPY 3.9 | 3.7 | 4.1 | 100 | 4 (<7) | -7...+2 | - | 317 |
| ZPY 4.3 | 4.0 | 4.6 | 100 | 3.8 (<7) | -7...+3 | - | 283 |
| ZPY 4.7 | 4.4 | 5.0 | 100 | 3 (<6) | -7...+4 | - | 260 |
| ZPY 5.1 | 4.8 | 5.4 | 100 | 2 (<5) | -6...+5 | - | 241 |
| ZPY 5.6 | 5.2 | 6.0 | 100 | 1 (<3) | -3...+5 | > 1.0 | 217 |
| ZPY 6.2 | 5.8 | 6.6 | 100 | 1 (<2) | -1...+6 | > 1.5 | 197 |
| ZPY 6.8 | 6.4 | 7.2 | 100 | 1 (<2) | 0...+7 | > 2 | 181 |
| ZPY 7.5 | 7.0 | 7.9 | 100 | 1 (<2) | 0...+7 | > 2 | 165 |
| ZPY 8.2 | 7.7 | 8.7 | 100 | 1 (<2) | +3...+8 | > 3.5 | 149 |
| ZPY 9.1 | 8.5 | 9.6 | 50 | 2 (<4) | +3...+8 | > 3.5 | 135 |
| ZPY 10 | 9.4 | 10.6 | 50 | 2 (<4) | +5...+9 | > 5 | 123 |
| ZPY 11 | 10.4 | 11.6 | 50 | 5 (<6) | +5...+10 | > 5 | 112 |
| ZPY 12 | 11.4 | 12.7 | 50 | 4 (<7) | +5...+10 | > 7 | 102 |
| ZPY 13 | 12.4 | 14.1 | 50 | 5 (<10) | +5...+10 | > 7 | 92 |
| ZPY 15 | 13.8 | 15.6 | 50 | 5 (<10) | +5...+10 | > 10 | 83 |
| ZPY 16 | 15.3 | 17.1 | 25 | 6 (<15) | +6...+11 | > 10 | 76 |
| ZPY 18 | 16.8 | 19.1 | 25 | 6 (<15) | +6...+11 | > 10 | 68 |
| ZPY 20 | 18.8 | 21.2 | 25 | 6 (<15) | +6...+11 | > 10 | 61 |
| ZPY 22 | 20.8 | 23.3 | 25 | 6 (<15) | +6...+11 | > 12 | 56 |
| ZPY 24 | 22.8 | 25.6 | 25 | 7 (<15) | +6...+11 | > 12 | 51 |
| ZPY 27 | 25.1 | 28.9 | 25 | 7 (<15) | +6...+11 | > 14 | 45 |
| ZPY 30 | 28 | 32 | 25 | 8 (<15) | +6...+11 | > 14 | 41 |
| ZPY 33 | 31 | 35 | 25 | 8 (<15) | +6...+11 | > 17 | 37 |
| ZPY 36 | 34 | 38 | 10 | 16 (<30) | +6...+11 | > 17 | 34 |
| ZPY 39 | 37 | 41 | 10 | 20 (<40) | +6...+11 | > 20 | 32 |
| ZPY 43 | 40 | 46 | 10 | 24 (<40) | +7...+12 | > 20 | 28 |
| ZPY 47 | 44 | 50 | 10 | 24 (<40) | +7...+12 | > 24 | 26 |
| ZPY 51 | 48 | 54 | 10 | 25 (<60) | +7...+12 | > 24 | 24 |
| ZPY 56 | 52 | 60 | 10 | 25 (<60) | +7...+12 | > 28 | 22 |
| ZPY 62 | 58 | 66 | 10 | 25 (<80) | +8...+13 | > 28 | 20 |
| ZPY 68 | 64 | 72 | 10 | 25 (<80) | +8...+13 | > 34 | 18 |
| ZPY 75 | 70 | 79 | 10 | 30 (<100) | +8...+13 | > 34 | 16 |
| ZPY 82 | 77 | 88 | 10 | 30 (<100) | +8...+13 | > 41 | 15 |
| ZPY 91 | 85 | 96 | 5 | 40 (<150) | +9...+13 | > 41 | 14 |
| ZPY 100 | 94 | 106 | 5 | 60 (<150) | +9...+13 | > 50 | 12 |
| ZPY 110 | 104 | 116 | 5 | 80 (<200) | +9...+13 | > 50 | 11 |
| ZPY 120 | 114 | 127 | 5 | 80 (<200) | +9...+13 | > 60 | 10 |
| ZPY 130 | 124 | 141 | 5 | 90 (<250) | +9...+13 | > 60 | 9 |
| ZPY 150 | 138 | 156 | 5 | 100 (<250) | +9...+13 | > 75 | 8 |
| ZPY 160 | 153 | 171 | 5 | 110 (<300) | +9...+13 | > 75 | 8 |
| ZPY 180 | 168 | 191 | 5 | 120 (<350) | +9...+13 | > 90 | 7 |
| ZPY 200 | 188 | 212 | 5 | 150 (<350) | +9...+13 | > 90 | 6 |

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