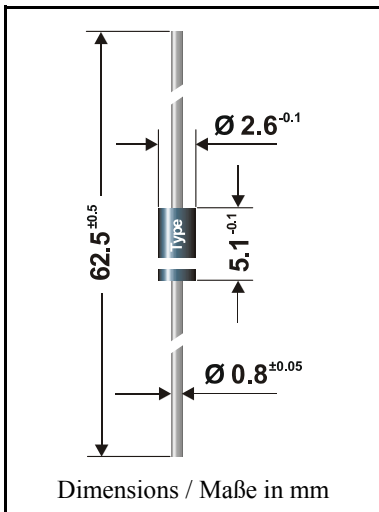


**Silicon-Power-Z-Diodes**  
**(non-planar technology)**

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



|   |                               |
|---|-------------------------------|
| Maximum power dissipation<br>Maximale Verlustleistung                                 | 1.3 W                         |
| Nominal Z-voltage – Nominale Z-Spannung   | 1...200 V                     |
| Plastic case<br>Kunststoffgehäuse   | DO-41<br>DO-204AL             |
| Weight approx. – Gewicht ca.  | 0.4 g                         |
| Plastic material has UL classification 94V-0<br>Gehäusematerial UL94V-0 klassifiziert |                               |
| Standard packaging taped in ammo pack<br>Standard Lieferform gegurtet in Ammo-Pack    | see page 16<br>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  | $T_A = 50^\circ\text{C}$ | $P_{\text{tot}}$ | 1.3 W <sup>1)</sup>            |
| Non repetitive peak power dissipation, $t < 10$ ms<br>Einmalige Impuls-Verlustleistung, $t < 10$ ms  | $T_A = 25^\circ\text{C}$ | $P_{\text{ZSM}}$ | 40 W                           |
| Operating junction temperature – Sperrschichttemperatur<br>Storage temperature – Lagerungstemperatur |                          | $T_j$<br>$T_s$   | - 50...+150°C<br>- 50...+175°C |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft          |                          | $R_{\text{thA}}$ | < 45 K/W <sup>1)</sup>         |
| Thermal resistance junction to lead<br>Wärmewiderstand Sperrschicht – Anschlußdraht                  |                          | $R_{\text{thL}}$ | < 15 K/W                       |

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

<sup>1)</sup> 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  
<sup>2)</sup> Tested with pulses – Gemessen mit Impulsen  
<sup>3)</sup> 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<br>Typ         | Zener voltage <sup>2)</sup><br>Zener-Spannung <sup>2)</sup><br>$I_Z = I_{Ztest}$<br>$V_{Zmin}$ [V] $V_{Zmax}$ |      | Test<br>current<br>Meßstrom<br>$I_{Ztest}$ [mA] | Dyn. resistance<br>Diff. Widerst.<br>$I_{Ztest} / 1 \text{ kHz}$<br>$r_{zj}$ [ $\Omega$ ] | Temp. Coeffiz.<br>of Z-voltage<br>...der Z-spannung.<br>$\alpha_{vZ}$ [ $10^{-4}/^{\circ}\text{C}$ ] | Reverse volt.<br>Sperrspanng.<br>$I_R = 1 \mu\text{A}$<br>$V_R$ [V] | Z-current <sup>1)</sup><br>Z-Strom <sup>1)</sup><br>$T_A = 50^{\circ}\text{C}$<br>$I_{Zmax}$ [mA] |
|---------------------|---|------|---|---|--|---|---|
| ZPY 1 <sup>3)</sup> | 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   |