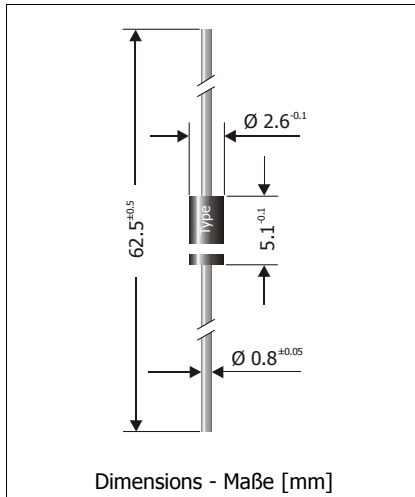



**ZPY10 2% ... ZPY200 2% (1.3 W)**  
**Silicon Power Z-Diodes (non-planar technology)**  
**Silizium-Leistungs-Z-Dioden (flächendiffundierte Dioden)**

Version 2006-06-08



|   |   |
|---|---|
| Maximum power dissipation<br>Maximale Verlustleistung                                 | 1.3 W   |
| Nominal Z-voltage<br>Nominale Z-Spannung  | 10...200 V  |
| Plastic case<br>Kunststoffgehäuse   | DO-41<br>(DO-204AL)   |
| Weight approx.<br>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    |   |

Standard Zener voltage tolerance is graded to the international E 24 standard ( $\sim \pm 5\%$ ).  
 The devices ZPY10 2% ... ZPY200 2% are specially selected.  
 Other voltage tolerances and Zener voltages on request.

Die Standard-Toleranz der Z-Spannung ist gestuft nach der internationalen Reihe E 24 ( $\sim \pm 5\%$ ).  
 Die Reihe ZPY10 2% ... ZPY200 2% ist eine Sonderselektion.  
 Andere Toleranzen oder Zener-Spannungen auf Anfrage.

**Maximum ratings and Characteristics****Grenz- und Kennwerte**

|   |                          |                  |                       |
|---|--------------------------|------------------|-----------------------|
| Power dissipation<br>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                  |
| Junction temperature – Sperrschichttemperatur   |                          | $T_j$            | -50...+150°C          |
| Storage temperature – Lagerungstemperatur   |                          | $T_s$            | -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 terminal<br>Wärmewiderstand Sperrschicht – Anschluss                 |                          | $R_{\text{thT}}$ | <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

**Maximum ratings**
**Grenzwerte**

| Type<br>Typ | Zener voltage <sup>2)</sup><br>Zener-Spannung <sup>2)</sup><br>$I_Z = I_{Ztest}$ |                | Test current<br>Mess-Strom<br>$I_{Ztest}$ [mA] | Dynamic resistance<br>Diff. Widerstand<br>$I_{Ztest} / f = 1$ kHz<br>$r_{zj}$ [ $\Omega$ ] | Temp. Coeffic.<br>of Z-voltage<br>...der Z-Spannung<br>$\alpha_{VZ}$ [10 <sup>-4</sup> / $^{\circ}$ C] | Reverse volt.<br>Sperrspanng.<br>$I_R = 1$ $\mu$ A<br>$V_R$ [V] | Z-current <sup>1)</sup><br>Z-Strom <sup>1)</sup><br>$T_A = 50^{\circ}$ C<br>$I_{Zmax}$ [mA] |
|-------------|--|----------------|--|--|--|---|---|
|             | $V_{zmin}$ [V]   | $V_{zmax}$ [V] |  |  |  |   |   |
| ZPY10 2%    | 9.79   | 10.21          | 50   | 2 (<4)   | +5...+9  | > 5   | 123   |
| ZPY11 2%    | 10.79  | 11.21          | 50   | 4 (<7)   | +5...+10   | > 5   | 112   |
| ZPY12 2%    | 11.79  | 12.21          | 50   | 4 (<7)   | +5...+10   | > 7   | 102   |
| ZPY13 2%    | 12.68  | 13.32          | 50   | 5 (<10)  | +5...+10   | > 7   | 92  |
| ZPY15 2%    | 14.68  | 15.32          | 50   | 5 (<10)  | +5...+10   | > 10  | 83  |
| ZPY16 2%    | 15.68  | 16.32          | 25   | 6 (<15)  | +6...+11   | > 10  | 76  |
| ZPY18 2%    | 17.58  | 18.42          | 25   | 6 (<15)  | +6...+11   | > 10  | 68  |
| ZPY20 2%    | 19.58  | 20.42          | 25   | 6 (<15)  | +6...+11   | > 10  | 61  |
| ZPY22 2%    | 21.58  | 22.42          | 25   | 6 (<15)  | +6...+11   | > 12  | 56  |
| ZPY24 2%    | 23.48  | 24.52          | 25   | 7 (<15)  | +6...+11   | > 12  | 51  |
| ZPY27 2%    | 26.48  | 27.52          | 25   | 7 (<15)  | +6...+11   | > 14  | 45  |
| ZPY30 2%    | 29.38  | 30.62          | 25   | 8 (<15)  | +6...+11   | > 14  | 41  |
| ZPY33 2%    | 32.3   | 33.8           | 25   | 8 (<15)  | +6...+11   | > 17  | 37  |
| ZPY36 2%    | 35.2   | 36.8           | 10   | 16 (<40)   | +6...+11   | > 17  | 34  |
| ZPY39 2%    | 38.1   | 39.9           | 10   | 20 (<40)   | +6...+11   | > 20  | 32  |
| ZPY43 2%    | 42.0   | 44.0           | 10   | 24 (<45)   | +7...+12   | > 20  | 28  |
| ZPY47 2%    | 46.0   | 48.0           | 10   | 24 (<45)   | +7...+12   | > 24  | 26  |
| ZPY51 2%    | 49.9   | 52.1           | 10   | 25 (<60)   | +7...+12   | > 24  | 24  |
| ZPY56 2%    | 54.8   | 57.2           | 10   | 25 (<60)   | +7...+12   | > 28  | 22  |
| ZPY62 2%    | 60.7   | 63.3           | 10   | 25 (<80)   | +8...+13   | > 28  | 20  |
| ZPY68 2%    | 66.5   | 69.5           | 10   | 25 (<80)   | +8...+13   | > 34  | 18  |
| ZPY75 2%    | 73.4   | 76.6           | 10   | 30 (<100)  | +8...+13   | > 34  | 16  |
| ZPY82 2%    | 80.3   | 83.7           | 10   | 30 (<100)  | +8...+13   | > 41  | 15  |
| ZPY91 2%    | 89.1   | 92.9           | 5  | 40 (<200)  | +9...+13   | > 41  | 14  |
| ZPY100 2%   | 97.9   | 102.1          | 5  | 60 (<200)  | +9...+13   | > 50  | 12  |
| ZPY110 2%   | 108  | 112            | 5  | 80 (<250)  | +9...+13   | > 50  | 12  |
| ZPY120 2%   | 118  | 122            | 5  | 80 (<250)  | +9...+13   | > 60  | 11  |
| ZPY130 2%   | 127  | 133            | 5  | 90 (<300)  | +9...+13   | > 60  | 10  |
| ZPY150 2%   | 147  | 153            | 5  | 100 (<300)   | +9...+13   | > 75  | 8   |
| ZPY160 2%   | 157  | 163            | 5  | 110 (<350)   | +9...+13   | > 75  | 8   |
| ZPY180 2%   | 176  | 184            | 5  | 120 (<350)   | +9...+13   | > 90  | 7   |
| ZPY200 2%   | 196  | 204            | 5  | 150 (<350)   | +9...+13   | > 90  | 6   |

1 Notes see previous page – Fußnoten siehe vorhergehende Seite