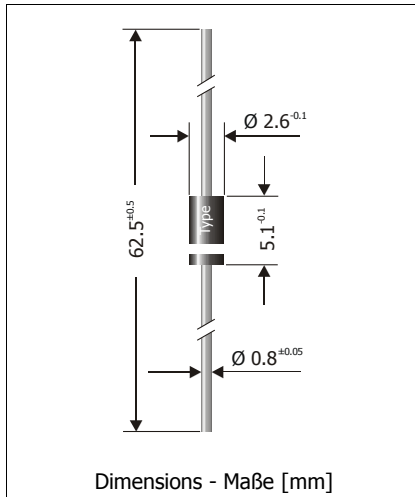


**ZPY10 2% ... ZPY200 2% (1.3 W)**
**Silicon Power Z-Diodes (non-planar technology)  
Silizium-Leistungs-Z-Dioden (flächendiffundierte Dioden)**

Version 2006-06-08



Maximum power dissipation

1.3 W

Maximale Verlustleistung

Nominal Z-voltage

10...200 V

Nominale Z-Spannung

Plastic case

DO-41

Kunststoffgehäuse

(DO-204AL)

Weight approx.

0.4 g

Gewicht ca.

Plastic material has UL classification 94V-0

Gehäusematerial UL94V-0 klassifiziert

Standard packaging taped in ammo pack

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 | Dynamic resistance<br>Diff. Widerstand<br>$I_{Ztest} / f = 1 \text{ kHz}$ | Temp. Coeff.<br>of Z-voltage<br>...der Z-Spannung | Reverse volt.<br>Sperrspanng.<br>$I_R = 1 \mu\text{A}$ | Z-current <sup>1)</sup><br>Z-Strom <sup>1)</sup><br>$T_A = 50^\circ\text{C}$ |
|-------------|----------------------------------------------------------------------------------|-----------------------|----------------------------|---------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------|
|             | $V_{zmin} [\text{V}]$                                                            | $V_{zmax} [\text{V}]$ | $I_{Ztest} [\text{mA}]$    | $r_{zj} [\Omega]$                                                         | $\alpha_{VZ} [10^{-4} / ^\circ\text{C}]$          | $V_R [\text{V}]$                                       | $I_{Zmax} [\text{mA}]$                                                       |
| 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