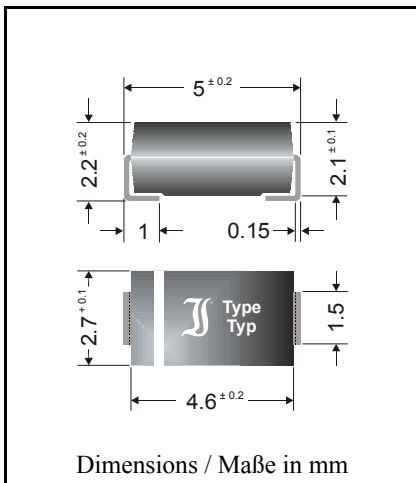


**Surface mount Silicon-Zener Diodes
(non-planar technology)**

**Flächendiffundierte Si-Zener-Dioden
für die Oberflächenmontage**



| | |
|--|----------------|
| Maximum power dissipation | 1 W |
| Maximale Verlustleistung | |
| Nominal Z-voltage – Nominale Z-Spannung | 1...100 V |
| Plastic case | ~ SMA |
| Kunststoffgehäuse | ~ DO-214AC |
| Weight approx. – Gewicht ca. | 0.07 g |
| Plastic material has UL classification 94V-0 | |
| Gehäusematerial UL94V-0 klassifiziert | |
| Standard packaging taped and reeled | see page 18 |
| Standard Lieferform gegurtet auf Rolle | siehe Seite 18 |

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 | $T_A = 50^\circ\text{C}$ | P_{tot} | 1 W ¹⁾ |
| Verlustleistung | | | |
| Operating junction temperature – Sperrschichttemperatur | | T_j | - 50...+150°C |
| Storage temperature – Lagerungstemperatur | | T_s | - 50...+175°C |
| Thermal resistance junction to ambient air | | R_{thA} | < 70 K/W ¹⁾ |
| Wärmewiderstand Sperrschicht – umgebende Luft | | | |
| Thermal resistance junction to terminal | | R_{thT} | < 30 K/W |
| Wärmewiderstand Sperrschicht – Anschluß | | | |

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

¹⁾ Mounted on P.C. board with 25 mm² copper pads at each terminal
Montage auf Leiterplatte mit 25 mm² Kupferbelag (Löt-pad) an jedem Anschluß

²⁾ Tested with pulses – Gemessen mit Impulsen

³⁾ The Z1SMA 1 is a diode operated in forward. Hence, the index of all parameters should be “F” instead of “Z”.

The cathode, indicated by a white band is to be connected to the negative pole.

Die Z1SMA 1 ist eine in Durchlaß betriebene Si-Diode. Daher ist bei allen Kenn- und Grenzwerten der Index “F” anstatt “Z” zu setzen. Die mit weißem Balken gekennzeichnete Kathode ist mit dem Minuspol zu verbinden.

Maximum ratings

Grenzwerte

| Type Typ | Zener voltage ²⁾ Zener-Spanng. ²⁾ I _Z = 5 mA V _{Zmin} [V] V _{Zmax} | | Dynamic resistance Inhär. diff. Widerstand r _{Zj} [Ω] at f = 1 kHz I _Z = 5 mA I _Z = 1 mA | | Temp. Coeffiz. of Z-voltage ...der Z-spanng. α _{VZ} [10 ⁻⁴ / °C] | Reverse volt. Sperrspanng. I _R = 1 μA V _R [V] | Z-current ¹⁾ Z-Strom ¹⁾ T _A = 50 °C I _{Zmax} [mA] |
|------------------------|--|------|--|--------|---|--|--|
| Z1 SMA 1 ³⁾ | 0.71 | 0.82 | 6.5 (<8) | – | –26...–23 | – | 500 |
| Z1 SMA 3.9 | 3.7 | 4.1 | 80 (<95) | – | –9...–4 | – | 244 |
| Z1 SMA 4.3 | 4.0 | 4.6 | 80 (<95) | – | –9...–3 | – | 217 |
| Z1 SMA 4.7 | 4.4 | 5.0 | 70 (<78) | < 1400 | –8...–3 | – | 200 |
| Z1 SMA 5.1 | 4.8 | 5.4 | 30 (<60) | < 700 | –8...–3 | > 0.8 | 185 |
| Z1 SMA 5.6 | 5.2 | 6.0 | 10 (<40) | < 500 | –7...–3 | > 1 | 167 |
| Z1 SMA 6.2 | 5.8 | 6.6 | 4.8 (<10) | < 300 | –6...–1 | > 2 | 152 |
| Z1 SMA 6.8 | 6.4 | 7.2 | 4.5 (<8) | < 300 | –5...+2 | > 3 | 139 |
| Z1 SMA 7.5 | 7.0 | 7.9 | 4.0 (<7) | < 100 | –3...+4 | > 5 | 127 |
| Z1 SMA 8.2 | 7.7 | 8.7 | 4.5 (<7) | < 50 | –2...+6 | > 6 | 115 |
| Z1 SMA 9.1 | 8.5 | 9.6 | 4.8 (<10) | < 50 | –1...+7 | > 7 | 104 |
| Z1 SMA 10 | 9.4 | 10.6 | 5.2 (<15) | < 70 | +2...+7 | > 7.5 | 94 |
| Z1 SMA 11 | 10.4 | 11.6 | 6 (<20) | < 70 | +3...+7 | > 8.5 | 86 |
| Z1 SMA 12 | 11.4 | 12.7 | 7 (<20) | < 90 | +4...+7 | > 9 | 79 |
| Z1 SMA 13 | 12.4 | 14.1 | 9 (<25) | < 110 | +5...+8 | > 10 | 71 |
| Z1 SMA 15 | 13.8 | 15.6 | 11 (<30) | < 110 | +5...+8 | > 11 | 64 |
| Z1 SMA 16 | 15.3 | 17.1 | 13 (<40) | < 170 | +5...+9 | > 12 | 58 |
| Z1 SMA 18 | 16.8 | 19.1 | 18 (<50) | < 170 | +6...+9 | > 14 | 52 |
| Z1 SMA 20 | 18.8 | 21.2 | 20 (<50) | < 220 | +7...+9 | > 15 | 47 |
| Z1 SMA 22 | 20.8 | 23.3 | 25 (<55) | < 220 | +7...+9 | > 17 | 43 |
| Z1 SMA 24 | 22.8 | 25.6 | 28 (<80) | < 220 | +7...+9.5 | > 18 | 39 |
| Z1 SMA 27 | 25.1 | 28.9 | 30 (<80) | < 250 | +8...+9.5 | > 20 | 35 |
| Z1 SMA 30 | 28 | 32 | 35 (<80) | < 250 | +8...+9.5 | > 22.5 | 31 |
| Z1 SMA 33 | 31 | 35 | 40 (<80) | < 250 | +8...+10 | > 25 | 29 |
| Z1 SMA 36 | 34 | 38 | 40 (<90) | < 300 | +8...+10 | > 27 | 26 |
| Z1 SMA 39 | 37 | 41 | 50 (<90) | < 500 | +8...+10 | > 29 | 24 |
| Z1 SMA 43 | 40 | 46 | 60 (<100) | < 700 | +8...+10 | > 32 | 22 |
| Z1 SMA 47 | 44 | 50 | 70 (<100) | < 750 | +8...+10 | > 35 | 20 |
| Z1 SMA 51 | 48 | 54 | 70 (<100) | < 750 | +8...+10 | > 38 | 19 |
| Z1 SMA 56 | 52 | 60 | 70 (<100) | < 750 | +9...+11 | > 42 | 17 |
| Z1 SMA 62 | 58 | 66 | 80 (<110) | < 750 | +9...+11 | > 47 | 15 |
| Z1 SMA 68 | 64 | 72 | 90 (<140) | < 750 | +9...+12 | > 51 | 14 |
| Z1 SMA 75 | 70 | 79 | 95 (<150) | < 750 | +9...+12 | > 56 | 13 |
| Z1 SMA 82 | 77 | 88 | 100 (<170) | < 750 | +9...+12 | > 62 | 11 |
| Z1 SMA 91 | 85 | 96 | 130 (<200) | < 800 | +10...+12 | > 68 | 10 |
| Z1 SMA 100 | 94 | 106 | 200 (<300) | < 800 | +10...+12 | > 75 | 9 |

¹⁾ Notes see previous page – Fußnoten siehe vorhergehende Seite
28.02.2002