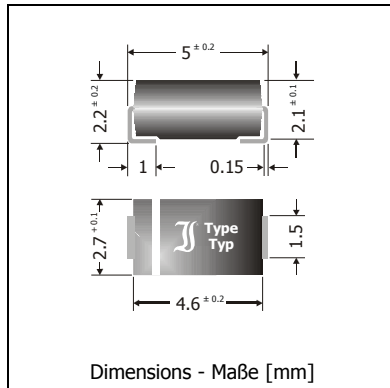



Z1SMA1 ... Z1SMA100 (1 W)

Surface mount Silicon-Zener Diodes (non-planar technology) Flächendiffundierte Si-Zener-Dioden für die Oberflächenmontage

Version 2007-05-09



| | |
|---|---|
| Maximum power dissipation Maximale Verlustleistung | 1 W |
| Nominal Z-voltage – Nominale Z-Spannung | 1 ... 100 V |
| Plastic case Kunststoffgehäuse | ~ SMA ~ 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 Standard Lieferform gegurtet auf Rolle | |

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 W ¹⁾ |
| Operating junction temperature – Sperrschichttemperatur | | T_j | -50...+150°C |
| Storage temperature – Lagerungstemperatur | | T_S | -50...+175°C |
| Thermal Resistance Junction – Ambient air Wärmewiderstand Sperrschicht – umgebende Luft | | R_{thA} | <70 K/W ¹⁾ |
| Thermal Resistance Junction – Terminal Wärmewiderstand Sperrschicht – Anschluss | | R_{thT} | <30 K/W |

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 (Lötpad) an jedem Anschluss
- 2 Tested with pulses – Gemessen mit Impulsen
- 3 The Z1SMA1 is a diode operated in forward mode. Hence, the index of all parameters should be "F" instead of "Z".
The cathode, indicated by a white band has to be connected to the negative pole.
Die Z1SMA1 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 | | Dynamic resistance Inhär. diff. Widerstand r _{Zj} [Ω] at f = 1 kHz | | Temp. Coeffic. of Z-voltage ...der Z-spanng. α _{VZ} [10 ⁻⁴ /°C] | Reverse volt. Sperrspanng. I _R = 1 μA | Z-current ¹⁾ Z-Strom ¹⁾ T _A = 50°C |
|----------------------|---|-----------------------|---|-----------------------|--|--|---|
| | V _{Zmin} [V] | V _{Zmax} [V] | I _Z = 5 mA | I _Z = 1 mA | | | |
| Z1SMA1 ³⁾ | 0.71 | 0.82 | 6.5 (<8) | – | –26...–23 | – | 500 |
| Z1SMA5.6 | 5.2 | 6.0 | 10 (<40) | < 500 | –7...–3 | > 0.5 / 3 μA | 167 |
| Z1SMA6.2 | 5.8 | 6.6 | 4.8 (<11) | < 300 | –6...–1 | > 1.5 | 152 |
| Z1SMA6.8 | 6.4 | 7.2 | 4.5 (<10) | < 300 | –5...+2 | > 2 | 139 |
| Z1SMA7.5 | 7.0 | 7.9 | 4.0 (<8) | < 100 | –3...+4 | > 2 | 127 |
| Z1SMA8.2 | 7.7 | 8.7 | 4.5 (<10) | < 50 | –2...+6 | > 3.5 | 115 |
| Z1SMA9.1 | 8.5 | 9.6 | 4.8 (<11) | < 50 | –1...+7 | > 3.5 | 104 |
| Z1SMA10 | 9.4 | 10.6 | 5.2 (<15) | < 70 | +2...+7 | > 5 | 94 |
| Z1SMA11 | 10.4 | 11.6 | 6 (<20) | < 70 | +3...+7 | > 5 | 86 |
| Z1SMA12 | 11.4 | 12.7 | 7 (<20) | < 90 | +4...+7 | > 7 | 79 |
| Z1SMA13 | 12.4 | 14.1 | 9 (<25) | < 110 | +5...+8 | > 7 | 71 |
| Z1SMA15 | 13.8 | 15.6 | 11 (<30) | < 110 | +5...+8 | > 10 | 64 |
| Z1SMA16 | 15.3 | 17.1 | 13 (<40) | < 170 | +5...+9 | > 10 | 58 |
| Z1SMA18 | 16.8 | 19.1 | 18 (<50) | < 170 | +6...+9 | > 10 | 52 |
| Z1SMA20 | 18.8 | 21.2 | 20 (<50) | < 220 | +7...+9 | > 15 | 47 |
| Z1SMA22 | 20.8 | 23.3 | 25 (<55) | < 220 | +7...+9 | > 17 | 43 |
| Z1SMA24 | 22.8 | 25.6 | 28 (<80) | < 220 | +7...+9.5 | > 18 | 39 |
| Z1SMA27 | 25.1 | 28.9 | 30 (<80) | < 250 | +8...+9.5 | > 20 | 35 |
| Z1SMA30 | 28 | 32 | 35 (<80) | < 250 | +8...+9.5 | > 22.5 | 31 |
| Z1SMA33 | 31 | 35 | 40 (<80) | < 250 | +8...+10 | > 25 | 29 |
| Z1SMA36 | 34 | 38 | 40 (<90) | < 300 | +8...+10 | > 27 | 26 |
| Z1SMA39 | 37 | 41 | 50 (<90) | < 500 | +8...+10 | > 29 | 24 |
| Z1SMA43 | 40 | 46 | 60 (<100) | < 700 | +8...+10 | > 32 | 22 |
| Z1SMA47 | 44 | 50 | 70 (<100) | < 750 | +8...+10 | > 35 | 20 |
| Z1SMA51 | 48 | 54 | 70 (<100) | < 750 | +8...+10 | > 38 | 19 |
| Z1SMA56 | 52 | 60 | 70 (<100) | < 750 | +9...+11 | > 42 | 17 |
| Z1SMA62 | 58 | 66 | 80 (<110) | < 750 | +9...+11 | > 47 | 15 |
| Z1SMA68 | 64 | 72 | 90 (<140) | < 750 | +9...+12 | > 51 | 14 |
| Z1SMA75 | 70 | 79 | 95 (<150) | < 750 | +9...+12 | > 56 | 13 |
| Z1SMA82 | 77 | 88 | 100 (<170) | < 750 | +9...+12 | > 62 | 11 |
| Z1SMA91 | 85 | 96 | 130 (<200) | < 800 | +10...+12 | > 68 | 10 |
| Z1SMA100 | 94 | 106 | 200 (<300) | < 800 | +10...+12 | > 75 | 9 |

1 Notes see previous page – Fußnoten siehe vorhergehende Seite