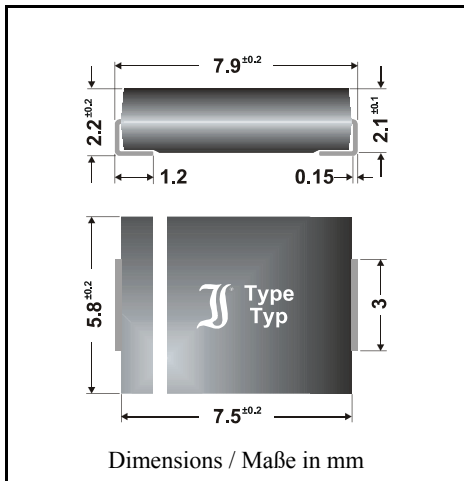


**Surface mount Silicon-Zener Diodes
(non-planar technology)**
**Flächendiffundierte Si-Zener-Dioden
für die Oberflächenmontage**


| | |
|---|----------------|
| Maximum power dissipation | 3 W |
| Maximale Verlustleistung | |
| Nominal Z-voltage – Nominale Z-Spannung 1...200 V | |
| Plastic case | ~ SMC |
| Kunststoffgehäuse | ~ DO-214AB |
| Weight approx. – Gewicht ca. | 0.21 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 – Verlustleistung | $T_A = 50^\circ\text{C}$ | P_{tot} | 3.0 W ¹⁾ |
| Non repetitive peak power dissipation, $t < 10$ ms Einmalige Impuls-Verlustleistung, $t < 10$ ms | $T_A = 25^\circ\text{C}$ | P_{ZSM} | 60 W |
| Operating junction temperature – Sperrschichttemperatur | | T_j | – 50...+150°C |
| Storage temperature – Lagerungstemperatur | | T_s | – 50...+175°C |
| Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft | | R_{thA} | < 33 K/W ¹⁾ |
| Thermal resistance junction to terminal Wärmewiderstand Sperrschicht – Anschluß | | R_{thT} | < 10 K/W |

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

¹⁾ Mounted on P.C. board with 50 mm² copper pads at each terminal
Montage auf Leiterplatte mit 50 mm² Kupferbelag (Löt-pad) an jedem Anschluß
²⁾ Tested with pulses – Gemessen mit Impulsen
³⁾ The Z3SMB 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 Z3SMB 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 | Zener voltage ²⁾ Zener-Spanng. ²⁾ | | Test cur. Meß- strom | Dyn. resistance Diff. Widerst. | Temp. Coeffiz. of Z-voltage ... der Z-spanng. | Reverse volt. Sperrspanng. | Z-current ¹⁾ Z-Strom ¹⁾ |
| Type | $I_Z = I_{Ztest}$ V_{zmin} [V] V_{zmax} | | I_{Ztest} [mA] | $I_{Ztest} / 1 \text{ kHz}$ r_{zj} [Ω] | α_{vZ} [$10^{-4} / ^\circ\text{C}$] | $I_R = 1 \mu\text{A}$ V_R [V] | $T_A = 50^\circ\text{C}$ I_{Zmax} [mA] |
| Z3 SMC 1 ³⁾ | 0.71 | 0.82 | 100 | 0.5 (<1) | -26...-16 | - | 2000 |
| Z3 SMC 6.2 | 5.8 | 6.6 | 100 | 1 (<2) | -1...+6 | > 1.5 | 455 |
| Z3 SMC 6.8 | 6.4 | 7.2 | 100 | 1 (<2) | 0...+7 | > 2 | 417 |
| Z3 SMC 7.5 | 7.0 | 7.9 | 100 | 1 (<2) | 0...+7 | > 2 | 380 |
| Z3 SMC 8.2 | 7.7 | 8.7 | 100 | 1 (<2) | +3...+8 | > 3.5 | 345 |
| Z3 SMC 9.1 | 8.5 | 9.6 | 50 | 2 (<4) | +3...+8 | > 3.5 | 313 |
| Z3 SMC 10 | 9.4 | 10.6 | 50 | 2 (<4) | +5...+9 | > 5 | 283 |
| Z3 SMC 11 | 10.4 | 11.6 | 50 | 4 (<7) | +5...+10 | > 5 | 259 |
| Z3 SMC 12 | 11.4 | 12.7 | 50 | 4 (<7) | +5...+10 | > 7 | 236 |
| Z3 SMC 13 | 12.4 | 14.1 | 50 | 5 (<10) | +5...+10 | > 7 | 213 |
| Z3 SMC 15 | 13.8 | 15.6 | 50 | 5 (<10) | +5...+10 | > 10 | 192 |
| Z3 SMC 16 | 15.3 | 17.1 | 25 | 6 (<15) | +6...+11 | > 10 | 175 |
| Z3 SMC 18 | 16.8 | 19.1 | 25 | 6 (<15) | +6...+11 | > 10 | 157 |
| Z3 SMC 20 | 18.8 | 21.2 | 25 | 6 (<15) | +6...+11 | > 10 | 142 |
| Z3 SMC 22 | 20.8 | 23.3 | 25 | 6 (<15) | +6...+11 | > 12 | 129 |
| Z3 SMC 24 | 22.8 | 25.6 | 25 | 7 (<15) | +6...+11 | > 12 | 117 |
| Z3 SMC 27 | 25.1 | 28.9 | 25 | 7 (<15) | +6...+11 | > 14 | 104 |
| Z3 SMC 30 | 28 | 32 | 25 | 8 (<15) | +6...+11 | > 14 | 94 |
| Z3 SMC 33 | 31 | 35 | 25 | 8 (<15) | +6...+11 | > 17 | 86 |
| Z3 SMC 36 | 34 | 38 | 10 | 16 (<30) | +6...+11 | > 17 | 79 |
| Z3 SMC 39 | 37 | 41 | 10 | 20 (<40) | +6...+11 | > 20 | 73 |
| Z3 SMC 43 | 40 | 46 | 10 | 24 (<40) | +7...+12 | > 20 | 65 |
| Z3 SMC 47 | 44 | 50 | 10 | 24 (<40) | +7...+12 | > 24 | 60 |
| Z3 SMC 51 | 48 | 54 | 10 | 25 (<60) | +7...+12 | > 24 | 56 |
| Z3 SMC 56 | 52 | 60 | 10 | 25 (<60) | +7...+12 | > 28 | 50 |
| Z3 SMC 62 | 58 | 66 | 10 | 25 (<80) | +8...+13 | > 28 | 45 |
| Z3 SMC 68 | 64 | 72 | 10 | 25 (<80) | +8...+13 | > 34 | 42 |
| Z3 SMC 75 | 70 | 79 | 10 | 30 (<100) | +8...+13 | > 34 | 38 |
| Z3 SMC 82 | 77 | 88 | 10 | 30 (<100) | +8...+13 | > 41 | 34 |
| Z3 SMC 91 | 85 | 96 | 5 | 40 (<150) | +9...+13 | > 41 | 31 |
| Z3 SMC 100 | 94 | 106 | 5 | 60 (<150) | +9...+13 | > 50 | 28 |
| Z3 SMC 110 | 104 | 116 | 5 | 80 (<200) | +9...+13 | > 50 | 26 |
| Z3 SMC 120 | 114 | 127 | 5 | 80 (<200) | +9...+13 | > 60 | 24 |
| Z3 SMC 130 | 124 | 141 | 5 | 90 (<250) | +9...+13 | > 60 | 21 |
| Z3 SMC 150 | 138 | 156 | 5 | 100 (<250) | +9...+13 | > 75 | 19 |
| Z3 SMC 160 | 153 | 171 | 5 | 110 (<300) | +9...+13 | > 75 | 18 |
| Z3 SMC 180 | 168 | 191 | 5 | 120 (<350) | +9...+13 | > 90 | 16 |
| Z3 SMC 200 | 188 | 212 | 5 | 150 (<350) | +9...+13 | > 90 | 14 |

¹⁾ Notes see previous page – Fußnoten siehe vorhergehende Seite