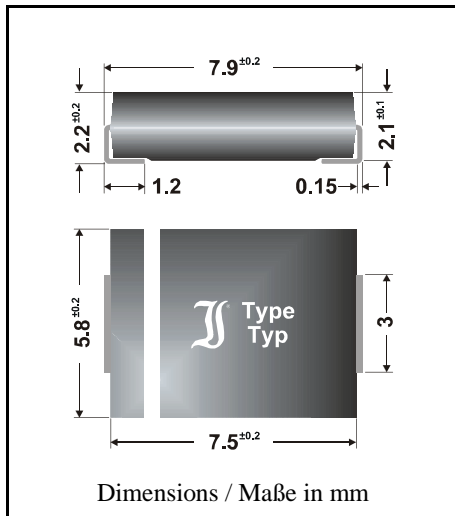


**Surface mount**  
**Silicon Power Zener Diodes**

**Silizium-Leistungs-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          |            |
| 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   | $T_A = 50^\circ\text{C}$ | $P_{\text{tot}}$ | 3.0 W <sup>1)</sup>    |
| Non repetitive peak power dissipation, $t < 10$ ms<br>Einmalige Impuls-Verlustleistung, $t < 10$ ms | $T_A = 25^\circ\text{C}$ | $P_{\text{ZSM}}$ | 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<br>Wärmewiderstand Sperrschicht – umgebende Luft         |                          | $R_{\text{thA}}$ | < 33 K/W <sup>1)</sup> |
| Thermal resistance junction to terminal<br>Wärmewiderstand Sperrschicht – Anschluß                  |                          | $R_{\text{thT}}$ | < 10 K/W               |

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

<sup>1)</sup> Mounted on P.C. board with 50 mm<sup>2</sup> copper pads at each terminal  
Montage auf Leiterplatte mit 50 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluß  
<sup>2)</sup> Tested with pulses – Gemessen mit Impulsen  
<sup>3)</sup> 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<br>Typ           | Zener voltage <sup>2)</sup><br>Zener-Spanng. <sup>2)</sup><br>$I_Z = I_{Ztest}$<br>$V_{zmin}$ [V] $V_{zmax}$ |      | Test cur.<br>Meß-<br>strom<br>$I_{Ztest}$ [mA] | Dyn. resistance<br>Diff. Widerst.<br>$I_{Ztest} / 1 \text{ kHz}$<br>$r_{zj}$ [ $\Omega$ ] | Temp. Coeffiz.<br>of Z-voltage<br>...der Z-spanng.<br>$\alpha_{vz} 10^{-4}$ [ $^{\circ}\text{C}$ ] | Reverse volt.<br>Sperrspanng.<br>$I_R = 1 \mu\text{A}$<br>$V_R$ [V] | Z-current <sup>1)</sup><br>Z-Strom <sup>1)</sup><br>$T_A = 50^{\circ}\text{C}$<br>$I_{Zmax}$ [mA] |
|-----------------------|--|------|--|---|--|---|---|
| Z3SMC 1 <sup>3)</sup> | 0.71   | 0.82 | 100  | 0.5 (<1)  | -26...-16  | -   | 2000  |
| Z3SMC 6.2             | 5.8  | 6.6  | 100  | 1 (<2)  | -1...+6  | > 1.5   | 455   |
| Z3SMC 6.8             | 6.4  | 7.2  | 100  | 1 (<2)  | 0...+7   | > 2   | 417   |
| Z3SMC 7.5             | 7.0  | 7.9  | 100  | 1 (<2)  | 0...+7   | > 2   | 380   |
| Z3SMC 8.2             | 7.7  | 8.7  | 100  | 1 (<2)  | +3...+8  | > 3.5   | 345   |
| Z3SMC 9.1             | 8.5  | 9.6  | 50   | 2 (<4)  | +3...+8  | > 3.5   | 313   |
| Z3SMC 10              | 9.4  | 10.6 | 50   | 2 (<4)  | +5...+9  | > 5   | 283   |
| Z3SMC 11              | 10.4   | 11.6 | 50   | 4 (<7)  | +5...+10   | > 5   | 259   |
| Z3SMC 12              | 11.4   | 12.7 | 50   | 4 (<7)  | +5...+10   | > 7   | 236   |
| Z3SMC 13              | 12.4   | 14.1 | 50   | 5 (<10)   | +5...+10   | > 7   | 213   |
| Z3SMC 15              | 13.8   | 15.6 | 50   | 5 (<10)   | +5...+10   | > 10  | 192   |
| Z3SMC 16              | 15.3   | 17.1 | 25   | 6 (<15)   | +6...+11   | > 10  | 175   |
| Z3SMC 18              | 16.8   | 19.1 | 25   | 6 (<15)   | +6...+11   | > 10  | 157   |
| Z3SMC 20              | 18.8   | 21.2 | 25   | 6 (<15)   | +6...+11   | > 10  | 142   |
| Z3SMC 22              | 20.8   | 23.3 | 25   | 6 (<15)   | +6...+11   | > 12  | 129   |
| Z3SMC 24              | 22.8   | 25.6 | 25   | 7 (<15)   | +6...+11   | > 12  | 117   |
| Z3SMC 27              | 25.1   | 28.9 | 25   | 7 (<15)   | +6...+11   | > 14  | 104   |
| Z3SMC 30              | 28   | 32   | 25   | 8 (<15)   | +6...+11   | > 14  | 94  |
| Z3SMC 33              | 31   | 35   | 25   | 8 (<15)   | +6...+11   | > 17  | 86  |
| Z3SMC 36              | 34   | 38   | 10   | 16 (<30)  | +6...+11   | > 17  | 79  |
| Z3SMC 39              | 37   | 41   | 10   | 20 (<40)  | +6...+11   | > 20  | 73  |
| Z3SMC 43              | 40   | 46   | 10   | 24 (<40)  | +7...+12   | > 20  | 65  |
| Z3SMC 47              | 44   | 50   | 10   | 24 (<40)  | +7...+12   | > 24  | 60  |
| Z3SMC 51              | 48   | 54   | 10   | 25 (<60)  | +7...+12   | > 24  | 56  |
| Z3SMC 56              | 52   | 60   | 10   | 25 (<60)  | +7...+12   | > 28  | 50  |
| Z3SMC 62              | 58   | 66   | 10   | 25 (<80)  | +8...+13   | > 28  | 45  |
| Z3SMC 68              | 64   | 72   | 10   | 25 (<80)  | +8...+13   | > 34  | 42  |
| Z3SMC 75              | 70   | 79   | 10   | 30 (<100)   | +8...+13   | > 34  | 38  |
| Z3SMC 82              | 77   | 88   | 10   | 30 (<100)   | +8...+13   | > 41  | 34  |
| Z3SMC 91              | 85   | 96   | 5  | 40 (<150)   | +9...+13   | > 41  | 31  |
| Z3SMC 100             | 94   | 106  | 5  | 60 (<150)   | +9...+13   | > 50  | 28  |
| Z3SMC 110             | 104  | 116  | 5  | 80 (<200)   | +9...+13   | > 50  | 26  |
| Z3SMC 120             | 114  | 127  | 5  | 80 (<200)   | +9...+13   | > 60  | 24  |
| Z3SMC 130             | 124  | 141  | 5  | 90 (<250)   | +9...+13   | > 60  | 21  |
| Z3SMC 150             | 138  | 156  | 5  | 100 (<250)  | +9...+13   | > 75  | 19  |
| Z3SMC 160             | 153  | 171  | 5  | 110 (<300)  | +9...+13   | > 75  | 18  |
| Z3SMC 180             | 168  | 191  | 5  | 120 (<350)  | +9...+13   | > 90  | 16  |
| Z3SMC 200             | 188  | 212  | 5  | 150 (<350)  | +9...+13   | > 90  | 14  |

<sup>1)</sup> Notes see previous page – Fußnoten siehe vorhergehende Seite