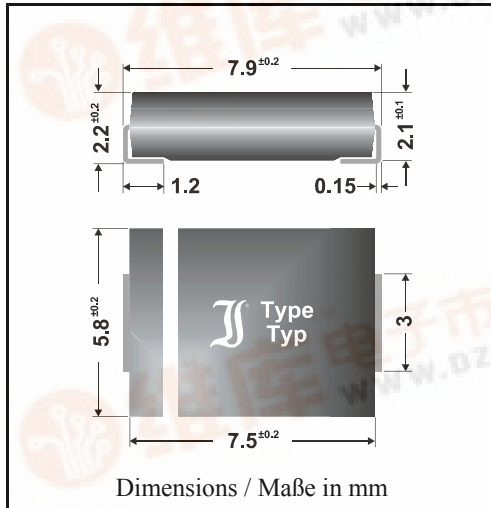


## Z3 SMC 1 ... Z3 SMC 200 (3 W)

### 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  $T_A = 50^\circ\text{C}$   $P_{\text{tot}}$  3.0 W <sup>1)</sup>

Non repetitive peak power dissipation,  $t < 10$  ms  $T_A = 25^\circ\text{C}$   $P_{\text{ZSM}}$  60 W  
Einmalige Impuls-Verlustleistung,  $t < 10$  ms

Operating junction temperature – Sperrschichttemperatur  $T_j$  – 50...+150°C  
Storage temperature – Lagerungstemperatur  $T_s$  – 50...+175°C

Thermal resistance junction to ambient air  $R_{\text{thA}}$  < 33 K/W <sup>1)</sup>  
Wärmewiderstand Sperrschicht – umgebende Luft

Thermal resistance junction to terminal  $R_{\text{thT}}$  < 10 K/W  
Wärmewiderstand Sperrschicht – Anschluß

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 (Lötpad) 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] |
|------------------------|--------------------------------------------------------------------------------------------------------------|------|------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Z3 SMC 1 <sup>3)</sup> | 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                                                                                              |

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