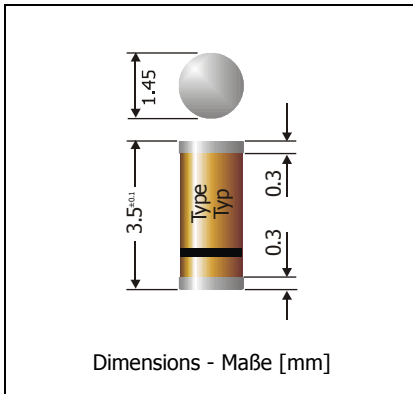


## ZMM3B9 ... ZMM75B (500 mW - 2%)

### Surface mount Silicon Planar Zener Diodes Silizium-Planar-Zener-Dioden für die Oberflächenmontage

Version 2007-07-06



|   |                      |
|---|----------------------|
| Maximum power dissipation<br>Maximale Verlustleistung                         | 500 mW               |
| Nominal Z-voltage<br>Nominale Z-Spannung                                      | 3.9...75 V           |
| Glass case MiniMELF<br>Glasgehäuse MiniMELF                                   | SOD-80<br>(DO-213AA) |
| Weight approx.<br>Gewicht ca.   | 0.04 g               |
| Standard packaging taped and reeled<br>Standard Lieferform gegurtet auf Rolle |                      |

Standard Zener voltage tolerance is graded to the international E 24 standard ( $\sim \pm 5\%$ ).  
The devices ZMM3B9...ZMM75B are specially selected to  $\sim \pm 2\%$  tolerance.  
Other voltage tolerances and Zener voltages on request.

Die Standard-Toleranz der Z-Spannung ist gestuft nach der internationalen Reihe E 24 ( $\sim \pm 5\%$ ).  
Die Reihe ZMM3B9...ZMM75B ist eine Sonderselektion mit  $\sim \pm 2\%$  Toleranz.  
Andere Toleranzen oder Zener-Spannungen auf Anfrage.

#### Maximum ratings and Characteristics

#### Grenz- und Kennwerte

|   |                          |                  |                         |
|---|--------------------------|------------------|-------------------------|
| Power dissipation<br>Verlustleistung  | $T_A = 25^\circ\text{C}$ | $P_{\text{tot}}$ | 500 mW <sup>1)</sup>    |
| Junction temperature – Sperrschichttemperatur   |                          | $T_j$            | -50...+175°C            |
| Storage temperature – Lagerungstemperatur   |                          | $T_s$            | -50...+175°C            |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft |                          | $R_{\text{thA}}$ | < 300 K/W <sup>1)</sup> |

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

1 Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal  
Montage auf Leiterplatte mit 25 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluss  
2 Tested with pulses – Gemessen mit Impulsen

| Type<br>Typ | Maximum ratings   |                       |   |                       | Grenzwerte   |  |   |
|-------------|---|-----------------------|---|-----------------------|--|--|---|
|             | Zener voltage <sup>2)</sup><br>Zener-Spanng. <sup>2)</sup><br>I <sub>Z</sub> = 5 mA |                       | Dynamic resistance<br>Inhär. diff. Widerstand<br>r <sub>Zj</sub> [Ω] at f = 1 kHz |                       | Temp. Coeffic.<br>of Z-voltage<br>...der Z-spanng.<br>α <sub>VZ</sub> [10 <sup>-4</sup> /°C] | Reverse volt.<br>Sperrspanng.<br>I <sub>R</sub> = 100 nA | Z-current <sup>1)</sup><br>Z-Strom <sup>1)</sup><br>T <sub>A</sub> = 50°C |
|             | V <sub>Zmin</sub> [V]   | V <sub>Zmax</sub> [V] | I <sub>Z</sub> = 5 mA   | I <sub>Z</sub> = 1 mA |  |  |   |
| ZMM3B9      | 3.81  | 3.99                  | < 85  | < 600                 | -8...-5  | 1 (2μA)  | 122   |
| ZMM4B3      | 4.20  | 4.40                  | < 75  | < 600                 | -6...-3  | 1 (1μA)  | 109   |
| ZMM4B7      | 4.60  | 4.80                  | < 60  | < 600                 | -5...+2  | 1 (0.5μA)  | 100   |
| ZMM5B1      | 4.99  | 5.21                  | < 35  | < 550                 | -2...+2  | 1  | 93  |
| ZMM5B6      | 5.48  | 5.72                  | < 25  | < 450                 | -5...+5  | 1  | 83  |
| ZMM6B2      | 6.07  | 6.33                  | < 10  | < 200                 | +3...+6  | 2  | 76  |
| ZMM6B8      | 6.65  | 6.95                  | < 8   | < 150                 | +3...+7  | 3  | 69  |
| ZMM7B5      | 7.34  | 7.66                  | < 7   | < 50                  | +3...+7  | 5  | 63  |
| ZMM8B2      | 8.03  | 8.37                  | < 7   | < 50                  | +3...+8  | 6  | 57  |
| ZMM9B1      | 8.91  | 9.29                  | < 10  | < 50                  | +3...+9  | 7  | 52  |
| ZMM10B      | 9.79  | 10.21                 | < 15  | < 70                  | +3...+10   | 7  | 47  |
| ZMM11B      | 10.79   | 11.21                 | < 20  | < 70                  | +3...+11   | 8  | 43  |
| ZMM12B      | 11.79   | 12.21                 | < 20  | < 90                  | +3...+11   | 9  | 39  |
| ZMM13B      | 12.68   | 13.32                 | < 26  | < 110                 | +3...+11   | 10   | 35  |
| ZMM15B      | 14.68   | 15.32                 | < 30  | < 110                 | +3...+11   | 11   | 32  |
| ZMM16B      | 15.68   | 16.32                 | < 40  | < 170                 | +3...+11   | 12   | 29  |
| ZMM18B      | 17.58   | 18.42                 | < 50  | < 170                 | +3...+11   | 13   | 26  |
| ZMM20B      | 19.58   | 20.42                 | < 55  | < 220                 | +3...+11   | 15   | 24  |
| ZMM22B      | 21.58   | 22.42                 | < 55  | < 220                 | +4...+12   | 16   | 21  |
| ZMM24B      | 23.48   | 24.52                 | < 80  | < 220                 | +4...+12   | 18   | 20  |
| ZMM27B      | 26.48   | 27.52                 | < 80  | < 220                 | +4...+12   | 20   | 17  |
| ZMM30B      | 29.38   | 30.62                 | < 80  | < 220                 | +4...+12   | 22   | 16  |
| ZMM33B      | 32.2  | 33.8                  | < 80  | < 220                 | +4...+12   | 24   | 14  |
| ZMM36B      | 35.2  | 36.8                  | < 80  | < 220                 | +4...+12   | 27   | 13  |
| ZMM39B      | 38.1  | 39.9                  | < 90  | < 500                 | +4...+12   | 30   | 12  |
| ZMM43B      | 42.0  | 44.0                  | < 90  | < 500                 | +4...+12   | 33   | 11  |
| ZMM47B      | 46.0  | 48.0                  | < 110   | < 600                 | +4...+12   | 36   | 10  |
| ZMM51B      | 49.9  | 52.1                  | < 125   | < 700                 | +4...+12   | 39   | 9   |
| ZMM56B      | 54.8  | 57.2                  | < 135   | < 700                 | +4...+12   | 43   | 8   |
| ZMM62B      | 60.7  | 63.3                  | < 150   | < 1000                | +4...+12   | 47   | 8   |
| ZMM68B      | 66.5  | 69.5                  | < 200   | < 1000                | +4...+12   | 51   | 7   |
| ZMM75B      | 73.4  | 76.6                  | < 250   | < 1000                | +4...+12   | 56   | 6   |

1 Notes see previous page – Fußnoten siehe vorhergehende Seite