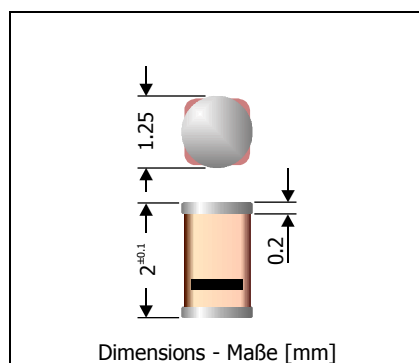


## ZMC2.4 ... ZMC75 (500 mW)

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

Version 2015-05-13



|                                                                               |            |
|-------------------------------------------------------------------------------|------------|
| Maximum power dissipation<br>Maximale Verlustleistung                         | 500 mW     |
| Nominal Z-voltage<br>Nominale Z-Spannung                                      | 2.4...75 V |
| Glass case Quadro-MicroMELF<br>Glasgehäuse Quadro-MicroMELF                   | (LS-31)    |
| Weight approx. – Gewicht ca.                                                  | 0.01 g     |
| Standard packaging taped and reeled<br>Standard Lieferform gegurtet auf Rolle |            |



|                |                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------|
| Marking:       | One ring denotes "cathode" and "Z-Diode family"<br>The type numbers are noted only on the label on the reel                |
| Kennzeichnung: | Ein Ring kennzeichnet "Kathode" und "Z-Dioden-Familie"<br>Die Typenbezeichnungen sind nur auf dem Rollenaufkleber vermerkt |

Standard Zener voltage tolerance is graded to the international E 24 ( $\sim \pm 5\%$ ) 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 ( $\sim \pm 5\%$ ). Andere Toleranzen oder höhere Arbeitsspannungen auf Anfrage.

#### Maximum ratings and Characteristics

#### Grenz- und Kennwerte

|                                                                                               |                          | ZMC-series       |                         |
|-----------------------------------------------------------------------------------------------|--------------------------|------------------|-------------------------|
| Power dissipation<br>Verlustleistung                                                          | $T_A = 25^\circ\text{C}$ | $P_{\text{tot}}$ | 500 mW <sup>1)</sup>    |
| Operating 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> |
| Thermal resistance junction to terminal<br>Wärmewiderstand Sperrschicht – Anschluss           |                          | $R_{\text{thT}}$ | < 240 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 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

**Maximum ratings and Characteristics**

(T<sub>J</sub> = 25°C unless otherwise specified)

**Grenz- und Kennwerte**

(T<sub>J</sub> = 25°C wenn nicht anders spezifiziert)

| Type<br>Typ | Zener voltage <sup>2)</sup><br>Zener-Spannung <sup>2)</sup><br>I <sub>Z</sub> = 5 mA |                       | Dynamic resistance<br>Diff. Widerstand<br>r <sub>zj</sub> [Ω] at f = 1 kHz |                       | Temp. Coeff.<br>of Z-voltage<br>...der Z-Spannung | 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> = 25°C |
|-------------|--------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------|-----------------------|---------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------|
|             | V <sub>zmin</sub> [V]                                                                | V <sub>zmax</sub> [V] | I <sub>Z</sub> = 5 mA                                                      | I <sub>Z</sub> = 1 mA | α <sub>VZ</sub> [10 <sup>-4</sup> /°C]            | V <sub>R</sub> [V]                                       | I <sub>Zmax</sub> [mA]                                                    |
| ZMC2.4      | 2.28                                                                                 | 2.56                  | < 85                                                                       | < 600                 | -9...-6                                           | 1 (50 μA)                                                | 195                                                                       |
| ZMC2.7      | 2.5                                                                                  | 2.9                   | < 85                                                                       | < 600                 | -9...-6                                           | 1 (10 μA)                                                | 172                                                                       |
| ZMC3.0      | 2.8                                                                                  | 3.2                   | < 85                                                                       | < 600                 | -8...-5                                           | 1 (4 μA)                                                 | 156                                                                       |
| ZMC3.3      | 3.1                                                                                  | 3.5                   | < 85                                                                       | < 550                 | -8...-5                                           | 1 (2 μA)                                                 | 143                                                                       |
| ZMC3.6      | 3.4                                                                                  | 3.8                   | < 85                                                                       | < 550                 | -8...-5                                           | 1 (2 μA)                                                 | 132                                                                       |
| ZMC3.9      | 3.6                                                                                  | 4.2                   | < 85                                                                       | < 550                 | -8...-5                                           | 1 (2 μA)                                                 | 119                                                                       |
| ZMC4.3      | 4.0                                                                                  | 4.6                   | < 75                                                                       | < 500                 | -6...-3                                           | 1 (1 μA)                                                 | 109                                                                       |
| ZMC4.7      | 4.4                                                                                  | 5.0                   | < 60                                                                       | < 500                 | -5...+2                                           | 1 (0.5 μA)                                               | 100                                                                       |
| ZMC5.1      | 4.8                                                                                  | 5.4                   | < 35                                                                       | < 500                 | -2...+2                                           | 1                                                        | 93                                                                        |
| ZMC5.6      | 5.2                                                                                  | 6.0                   | < 25                                                                       | < 450                 | -5...+5                                           | 1                                                        | 83                                                                        |
| ZMC6.2      | 5.8                                                                                  | 6.6                   | < 10                                                                       | < 200                 | +3...+6                                           | 2                                                        | 76                                                                        |
| ZMC6.8      | 6.4                                                                                  | 7.2                   | < 8                                                                        | < 150                 | +3...+7                                           | 3                                                        | 69                                                                        |
| ZMC7.5      | 7.0                                                                                  | 7.9                   | < 7                                                                        | < 50                  | +3...+7                                           | 5                                                        | 63                                                                        |
| ZMC8.2      | 7.7                                                                                  | 8.7                   | < 7                                                                        | < 50                  | +3...+8                                           | 6                                                        | 57                                                                        |
| ZMC9.1      | 8.5                                                                                  | 9.6                   | < 10                                                                       | < 50                  | +3...+9                                           | 7                                                        | 52                                                                        |
| ZMC10       | 9.4                                                                                  | 10.6                  | < 15                                                                       | < 70                  | +3...+10                                          | 7                                                        | 47                                                                        |
| ZMC11       | 10.4                                                                                 | 11.6                  | < 20                                                                       | < 70                  | +3...+11                                          | 8                                                        | 43                                                                        |
| ZMC12       | 11.4                                                                                 | 12.7                  | < 20                                                                       | < 90                  | +3...+11                                          | 9                                                        | 39                                                                        |
| ZMC13       | 12.4                                                                                 | 14.1                  | < 26                                                                       | < 110                 | +3...+11                                          | 10                                                       | 35                                                                        |
| ZMC15       | 13.8                                                                                 | 15.6                  | < 30                                                                       | < 110                 | +3...+11                                          | 11                                                       | 32                                                                        |
| ZMC16       | 15.3                                                                                 | 17.1                  | < 40                                                                       | < 170                 | +3...+11                                          | 12                                                       | 29                                                                        |
| ZMC18       | 16.8                                                                                 | 19.1                  | < 50                                                                       | < 170                 | +3...+11                                          | 13                                                       | 26                                                                        |
| ZMC20       | 18.8                                                                                 | 21.2                  | < 55                                                                       | < 220                 | +3...+11                                          | 15                                                       | 24                                                                        |
| ZMC22       | 20.8                                                                                 | 23.3                  | < 55                                                                       | < 220                 | +4...+12                                          | 16                                                       | 21                                                                        |
| ZMC24       | 22.8                                                                                 | 25.6                  | < 70                                                                       | < 220                 | +4...+12                                          | 18                                                       | 20                                                                        |
| ZMC27       | 25.1                                                                                 | 28.9                  | < 80                                                                       | < 250                 | +4...+12                                          | 20                                                       | 17                                                                        |
| ZMC30       | 28                                                                                   | 32                    | < 80                                                                       | < 250                 | +4...+12                                          | 22                                                       | 16                                                                        |
| ZMC33       | 31                                                                                   | 35                    | < 80                                                                       | < 250                 | +4...+12                                          | 24                                                       | 14                                                                        |
| ZMC36       | 34                                                                                   | 38                    | < 90                                                                       | < 250                 | +4...+12                                          | 27                                                       | 13                                                                        |
| ZMC39       | 37                                                                                   | 41                    | < 90                                                                       | < 300                 | +4...+12                                          | 30                                                       | 12                                                                        |
| ZMC43       | 40                                                                                   | 46                    | < 100                                                                      | < 500                 | +4...+12                                          | 33                                                       | 11                                                                        |
| ZMC47       | 44                                                                                   | 50                    | < 110                                                                      | < 600                 | +4...+12                                          | 36                                                       | 10                                                                        |
| ZMC51       | 48                                                                                   | 54                    | < 125                                                                      | < 700                 | +4...+12                                          | 39                                                       | 9                                                                         |
| ZMC56       | 52                                                                                   | 60                    | < 135                                                                      | < 700                 | +4...+12                                          | 43                                                       | 8                                                                         |
| ZMC62       | 58                                                                                   | 66                    | < 150                                                                      | < 1000                | +4...+12                                          | 47                                                       | 8                                                                         |
| ZMC68       | 64                                                                                   | 72                    | < 200                                                                      | < 1000                | +4...+12                                          | 51                                                       | 7                                                                         |
| ZMC75       | 70                                                                                   | 79                    | < 250                                                                      | < 1000                | +4...+12                                          | 56                                                       | 6                                                                         |

1 Notes see previous page – Fußnoten siehe vorhergehende Seite