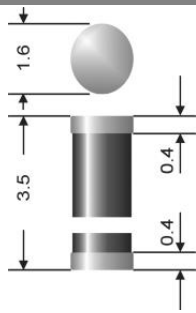


# ZMD 1 ... ZMD 100 (1W)



Surface mount diode

## Zener silicon diodes

### ZMD 1 ... ZMD 100

**Maximum Power Dissipation: 1 W**

**Nominal Z-voltage: 1 to 100 V**

### Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0
- Standard Zener voltage tolerance is graded to the international E 24 (5%) standard. Other voltage tolerances and higher Zener voltages on request.
- One blue ring denotes "cathode" and "Z-Diode family"
- The type numbers are noted only on the label on the reel

### Mechanical Data

- Plastic case: MiniMelf / SOD-80 / DO-213AA
- Weight approx.: 0,04 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 10000 pieces per reel

- 1) Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal
- 2) Tested with pulses
- 3) The ZMD1 is a diode operated in forward. Hence, the index of all parameters should be "F" instead of "Z". The cathode, indicated by a white ring is to be connected to the negative pole.

| Absolute Maximum Ratings |   | $T_A = 25^\circ\text{C}$ , unless otherwise specified |       |
|--------------------------|---|---|-------|
| Symbol                   | Conditions  | Values  | Units |
| $P_{\text{tot}}$         | Power dissipation, $T_A = 25^\circ\text{C}$ <sup>1)</sup> | 1   | W     |
| $P_{\text{ZSM}}$         | Non repetitive peak power dissipation, $t < \text{ms}$    |   | W     |
| $R_{\text{thA}}$         | Max. thermal resistance junction to ambient               | 150   | K/W   |
| $R_{\text{thT}}$         | Max. thermal resistance junction to terminal              | 60  | K/W   |
| $T_j$                    | Operating junction temperature                            | - 50 ... + 150  | °C    |
| $T_s$                    | Storage temperature                                       | - 50 ... + 175  | °C    |

| Type                | Zener Voltage <sup>2)</sup><br>$V_Z@I_{ZT}$ |                        | Test curr.<br>$I_{ZT}$<br>mA | Dyn. Resistance<br>$Z_{ZT}@I_{ZT}$<br>$\Omega$ | Temp. Coeff. of $V_Z$<br>$a_{VZ}$<br>$10^{-4}/^\circ\text{C}$ | Z-<br>curr. <sup>1)</sup><br>$T_A = 50^\circ\text{C}$ |            |                         |
|---------------------|---|------------------------|------------------------------|--|---|---|------------|-------------------------|
|                     | $V_{Z\text{min}}$<br>V                      | $V_{Z\text{max}}$<br>V |                              |  |   | $I_R$<br>$\mu\text{A}$                                | $V_R$<br>V | $I_{Z\text{max}}$<br>mA |
| ZMD 1 <sup>3)</sup> | 0,71  | 0,82                   | 5                            | 6,5 (<8)                                       | - 26 ... - 23   |   |            | 500                     |
| ZMD 6,2             | 5,8   | 6,6                    | 5                            | 4,8 (<11)                                      | - 6 ... - 1   | 1   | >1,5       | 152                     |
| ZMD 6,8             | 6,4   | 7,2                    | 5                            | 4,5 (<10)                                      | - 5 ... + 2   | 1   | > 2        | 139                     |
| ZMD 7,5             | 7   | 7,9                    | 5                            | 4 (<8)   | - 3 ... + 4   | 0,5   | > 3,5      | 127                     |
| ZMD 8,2             | 7,7   | 8,7                    | 5                            | 4,5 (<10)                                      | - 2 ... + 6   | 0,5   | > 5        | 115                     |
| ZMD 9,1             | 8,5   | 9,6                    | 5                            | 4,8 (<11)                                      | - 1 ... + 7   | 0,5   | > 6        | 104                     |
| ZMD 10              | 9,4   | 10,6                   | 5                            | 5,2 (<16)                                      | + 2 ... + 7   | 0,5   | > 7        | 94                      |
| ZMD 11              | 10,4  | 11,6                   | 5                            | 6 (<20)  | + 3 ... + 7   | 0,5   | > 7        | 86                      |
| ZMD 12              | 11,4  | 12,7                   | 5                            | 7 (<20)  | + 4 ... + 7   | 0,5   | > 8        | 79                      |
| ZMD 13              | 12,4  | 14,1                   | 5                            | 9 (<25)  | + 5 ... + 8   | 0,5   | > 9        | 71                      |
| ZMD 15              | 13,8  | 15,6                   | 5                            | 11 (<30)                                       | + 5 ... + 8   | 0,5   | > 10       | 64                      |
| ZMD 16              | 15,3  | 17,1                   | 5                            | 13 (<40)                                       | + 5 ... + 9   | 0,5   | > 11       | 58                      |
| ZMD 18              | 16,8  | 19,1                   | 5                            | 18 (<50)                                       | + 6 ... + 9   | 0,5   | > 12       | 52                      |
| ZMD 20              | 18,8  | 21,2                   | 5                            | 20 (<50)                                       | + 7 ... + 9   | 0,5   | > 13       | 47                      |
| ZMD 22              | 20,8  | 23,3                   | 5                            | 25 (<55)                                       | + 7 ... + 9   | 0,5   | > 15       | 43                      |
| ZMD 24              | 22,8  | 25,6                   | 5                            | 28 (<80)                                       | + 7 ... + 9,5   | 0,5   | > 16       | 39                      |
| ZMD 27              | 25,1  | 28,9                   | 5                            | 30 (<80)                                       | + 8 ... + 9,5   | 0,5   | > 18       | 35                      |
| ZMD 30              | 28  | 32                     | 5                            | 35 (<80)                                       | + 8 ... + 9,5   | 0,5   | > 20       | 31                      |
| ZMD 33              | 31  | 35                     | 5                            | 40 (<80)                                       | + 8 ... + 10  | 0,5   | > 22       | 29                      |
| ZMD 36              | 34  | 38                     | 5                            | 40 (<90)                                       | + 8 ... + 10  | 0,5   | > 24       | 26                      |
| ZMD 39              | 37  | 41                     | 5                            | 50 (<90)                                       | + 8 ... + 10  | 0,5   | > 26       | 24                      |
| ZMD 43              | 40  | 46                     | 5                            | 60 (<100)                                      | + 8 ... + 10  | 0,5   | > 28       | 22                      |
| ZMD 47              | 44  | 50                     | 5                            | 70 (<100)                                      | + 8 ... + 10  | 0,5   | > 31       | 20                      |
| ZMD 51              | 48  | 54                     | 5                            | 70 (<100)                                      | + 8 ... + 10  | 0,5   | > 34       | 19                      |
| ZMD 56              | 52  | 60                     | 5                            | 70 (<100)                                      | + 9 ... + 11  | 0,5   | > 36       | 17                      |
| ZMD 62              | 58  | 66                     | 5                            | 80 (<110)                                      | + 9 ... + 11  | 0,5   | > 41       | 15                      |
| ZMD 68              | 64  | 72                     | 5                            | 90 (<140)                                      | + 9 ... + 12  | 0,5   | > 45       | 14                      |
| ZMD 75              | 70  | 79                     | 5                            | 95 (<150)                                      | + 9 ... + 12  | 0,5   | > 49       | 13                      |
| ZMD 82              | 77  | 88                     | 5                            | 100 (<170)                                     | + 9 ... + 12  | 0,5   | > 54       | 11                      |
| ZMD 91              | 85  | 96                     | 5                            | 130 (<200)                                     | + 10 ... + 12   | 0,5   | > 59       | 10                      |
| ZMD 100             | 94  | 106                    | 5                            | 200 (<300)                                     | + 10 ... + 12   | 0,5   | > 66       | 9                       |