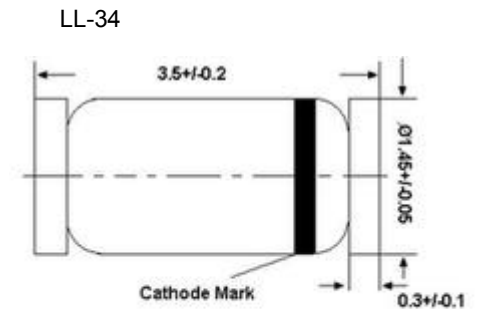


## Silicon Epitaxial Planar Zener Diodes

In MiniMELF case especially for automatic insertion.

These diodes are also available in DO-35 case with the type designation BZX55B...



Glass case MiniMELF  
Dimensions in mm

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

| Parameter  | Symbol           | Value             | Unit             |
|--|------------------|-------------------|------------------|
| Power Dissipation  | $P_{\text{tot}}$ | 500 <sup>1)</sup> | mW               |
| Junction Temperature   | $T_j$            | 175               | $^\circ\text{C}$ |
| Storage Temperature Range  | $T_{\text{stg}}$ | - 55 to + 175     | $^\circ\text{C}$ |
| <sup>1)</sup> Valid provided that electrodes are kept at ambient temperature |                  |                   |                  |

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter  | Symbol                | Max.              | Unit |
|--|-----------------------|-------------------|------|
| Thermal Resistance Junction to Ambient Air                                   | $R_{\theta\text{JA}}$ | 0.3 <sup>1)</sup> | K/mW |
| Forward Voltage<br>at $I_F = 100\text{ mA}$                                  | $V_F$                 | 1                 | V    |
| <sup>1)</sup> Valid provided that electrodes are kept at ambient temperature |                       |                   |      |



Characteristics at  $T_a = 25\text{ °C}$

| Type                | Zener Voltage Range <sup>1)</sup> |               |             | Dynamic Resistance |                   |             | Reverse Leakage Current |                       |          | Temp coefficient of Zener Voltage<br>TKvz (%/K) |
|---------------------|-----------------------------------|---------------|-------------|--------------------|-------------------|-------------|-------------------------|-----------------------|----------|---|
|                     | $V_{Znom}$                        | $V_{ZT}$      | at $I_{ZT}$ | $Z_{ZT}$           | $Z_{ZK}$          | at $I_{ZK}$ | $T_a = 25\text{ °C}$    | $T_a = 125\text{ °C}$ | at $V_R$ |   |
|                     | (V)                               | (V)           | (mA)        | Max. ( $\Omega$ )  | Max. ( $\Omega$ ) | (mA)        | Max. ( $\mu A$ )        | Max. ( $\mu A$ )      | (V)      |   |
| ZMM1B <sup>2)</sup> | 0.75                              | 0.73...0.77   | 5           | 8                  | 50                | 1           | -                       | -                     | -        | -0.26...-0.23                                   |
| ZMM2B0              | 2                                 | 1.96...2.04   | 5           | 85                 | 600               | 1           | 100                     | 200                   | 1        | -0.09...-0.06                                   |
| ZMM2B2              | 2.2                               | 2.16...2.24   | 5           | 85                 | 600               | 1           | 75                      | 160                   | 1        | -0.09...-0.06                                   |
| ZMM2B4              | 2.4                               | 2.35...2.45   | 5           | 85                 | 600               | 1           | 50                      | 100                   | 1        | -0.09...-0.06                                   |
| ZMM2B7              | 2.7                               | 2.65...2.75   | 5           | 85                 | 600               | 1           | 10                      | 50                    | 1        | -0.09...-0.06                                   |
| ZMM3B0              | 3                                 | 2.94...3.06   | 5           | 85                 | 600               | 1           | 4                       | 40                    | 1        | -0.08...-0.05                                   |
| ZMM3B3              | 3.3                               | 3.23...3.37   | 5           | 85                 | 600               | 1           | 2                       | 40                    | 1        | -0.08...-0.05                                   |
| ZMM3B6              | 3.6                               | 3.53...3.67   | 5           | 85                 | 600               | 1           | 2                       | 40                    | 1        | -0.08...-0.05                                   |
| ZMM3B9              | 3.9                               | 3.82...3.98   | 5           | 85                 | 600               | 1           | 2                       | 40                    | 1        | -0.08...-0.05                                   |
| ZMM4B3              | 4.3                               | 4.21...4.39   | 5           | 75                 | 600               | 1           | 1                       | 20                    | 1        | -0.06...-0.03                                   |
| ZMM4B7              | 4.7                               | 4.61...4.79   | 5           | 60                 | 600               | 1           | 0.5                     | 10                    | 1        | -0.05...+0.02                                   |
| ZMM5B1              | 5.1                               | 5...5.2       | 5           | 35                 | 550               | 1           | 0.1                     | 2                     | 1        | -0.02...+0.02                                   |
| ZMM5B6              | 5.6                               | 5.49...5.71   | 5           | 25                 | 450               | 1           | 0.1                     | 2                     | 1        | -0.05...+0.05                                   |
| ZMM6B2              | 6.2                               | 6.08...6.32   | 5           | 10                 | 200               | 1           | 0.1                     | 2                     | 2        | 0.03...0.06                                     |
| ZMM6B8              | 6.8                               | 6.66...6.94   | 5           | 8                  | 150               | 1           | 0.1                     | 2                     | 3        | 0.03...0.07                                     |
| ZMM7B5              | 7.5                               | 7.35...7.65   | 5           | 7                  | 50                | 1           | 0.1                     | 2                     | 5        | 0.03...0.07                                     |
| ZMM8B2              | 8.2                               | 8.04...8.36   | 5           | 7                  | 50                | 1           | 0.1                     | 2                     | 6.2      | 0.03...0.08                                     |
| ZMM9B1              | 9.1                               | 8.92...9.28   | 5           | 10                 | 50                | 1           | 0.1                     | 2                     | 6.8      | 0.03...0.09                                     |
| ZMM10B              | 10                                | 9.8...10.2    | 5           | 15                 | 70                | 1           | 0.1                     | 2                     | 7.5      | 0.03...0.1                                      |
| ZMM11B              | 11                                | 10.78...11.22 | 5           | 20                 | 70                | 1           | 0.1                     | 2                     | 8.2      | 0.03...0.11                                     |
| ZMM12B              | 12                                | 11.76...12.24 | 5           | 20                 | 90                | 1           | 0.1                     | 2                     | 9.1      | 0.03...0.11                                     |
| ZMM13B              | 13                                | 12.74...13.26 | 5           | 26                 | 110               | 1           | 0.1                     | 2                     | 10       | 0.03...0.11                                     |
| ZMM15B              | 15                                | 14.7...15.3   | 5           | 30                 | 110               | 1           | 0.1                     | 2                     | 11       | 0.03...0.11                                     |
| ZMM16B              | 16                                | 15.68...16.32 | 5           | 40                 | 170               | 1           | 0.1                     | 2                     | 12       | 0.03...0.11                                     |
| ZMM18B              | 18                                | 17.64...18.36 | 5           | 50                 | 170               | 1           | 0.1                     | 2                     | 13       | 0.03...0.11                                     |
| ZMM20B              | 20                                | 19.6...20.4   | 5           | 55                 | 220               | 1           | 0.1                     | 2                     | 15       | 0.03...0.11                                     |
| ZMM22B              | 22                                | 21.56...22.44 | 5           | 55                 | 220               | 1           | 0.1                     | 2                     | 16       | 0.04...0.12                                     |
| ZMM24B              | 24                                | 23.52...24.48 | 5           | 80                 | 220               | 1           | 0.1                     | 2                     | 18       | 0.04...0.12                                     |
| ZMM27B              | 27                                | 26.46...27.54 | 5           | 80                 | 220               | 1           | 0.1                     | 2                     | 20       | 0.04...0.12                                     |
| ZMM30B              | 30                                | 29.4...30.6   | 5           | 80                 | 220               | 1           | 0.1                     | 2                     | 22       | 0.04...0.12                                     |
| ZMM33B              | 33                                | 32.34...33.66 | 5           | 80                 | 220               | 1           | 0.1                     | 2                     | 24       | 0.04...0.12                                     |
| ZMM36B              | 36                                | 35.28...36.72 | 5           | 80                 | 220               | 1           | 0.1                     | 2                     | 27       | 0.04...0.12                                     |
| ZMM39B              | 39                                | 38.22...39.78 | 2.5         | 90                 | 500               | 0.5         | 0.1                     | 5                     | 30       | 0.04...0.12                                     |
| ZMM43B              | 43                                | 42.14...43.86 | 2.5         | 90                 | 500               | 0.5         | 0.1                     | 5                     | 33       | 0.04...0.12                                     |
| ZMM47B              | 47                                | 46.06...47.94 | 2.5         | 110                | 600               | 0.5         | 0.1                     | 5                     | 36       | 0.04...0.12                                     |
| ZMM51B              | 51                                | 49.98...52.02 | 2.5         | 125                | 700               | 0.5         | 0.1                     | 10                    | 39       | 0.04...0.12                                     |
| ZMM56B              | 56                                | 54.88...57.12 | 2.5         | 135                | 700               | 0.5         | 0.1                     | 10                    | 43       | 0.04...0.12                                     |
| ZMM62B              | 62                                | 60.76...63.24 | 2.5         | 150                | 1000              | 0.5         | 0.1                     | 10                    | 47       | 0.04...0.12                                     |
| ZMM68B              | 68                                | 66.64...69.36 | 2.5         | 200                | 1000              | 0.5         | 0.1                     | 10                    | 51       | 0.04...0.12                                     |
| ZMM75B              | 75                                | 73.5...76.5   | 2.5         | 250                | 1000              | 0.5         | 0.1                     | 10                    | 56       | 0.04...0.12                                     |

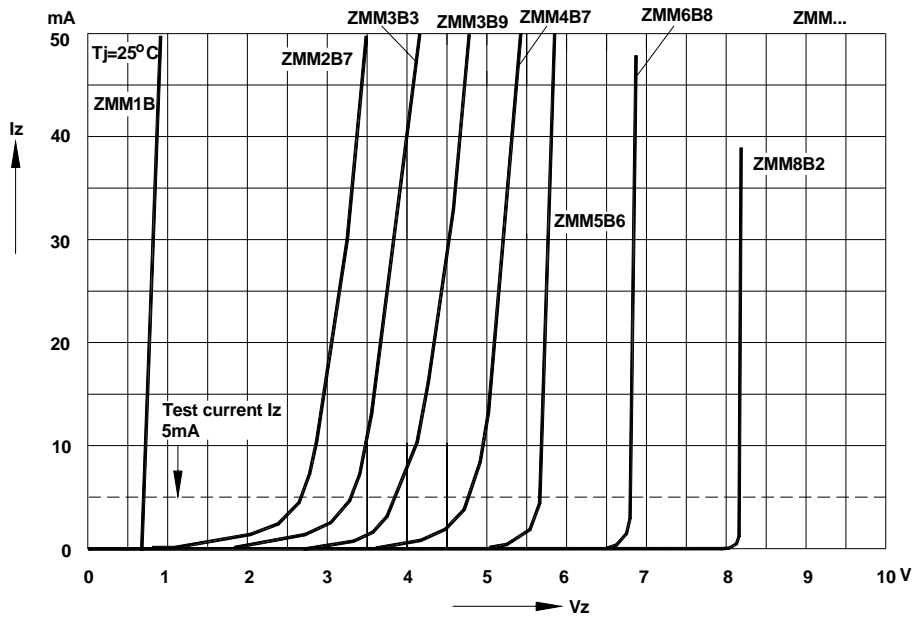
<sup>1)</sup> Tested with pulses  $t_p = 20\text{ ms}$ .

<sup>2)</sup> The ZMM1B is a silicon diode with operation in forward direction. Hence, the index of all parameters should be "F" instead of "Z". Connect the cathode electrode to the negative pole.



**Breakdown characteristics**

$T_j = \text{constant (pulsed)}$



**Breakdown characteristics**

$T_j = \text{constant (pulsed)}$

