



## Features

MiniMELF case especially for automatic insertion. The Zener voltages are graded according to the international E24 standard. Smaller voltage tolerances and higher Zener voltages are upon request. These diodes are also available in DO-35 case with the type designation BZX55C...



## Absolute Maximum Ratings (Ta = 25°C)

| Parameter                       | Symbol           | Value         | Unit |
|---------------------------------|------------------|---------------|------|
| Power Dissipation <sup>1)</sup> | P <sub>tot</sub> | 500           | mW   |
| Junction Temperature            | T <sub>j</sub>   | 175           | °C   |
| Storage Temperature Range       | T <sub>stg</sub> | - 55 to + 175 | °C   |

## Thermal Characteristics

| Parameter                                            | Symbol           | Max. | Unit |
|------------------------------------------------------|------------------|------|------|
| Forward Voltage at IF=100mA                          | V <sub>F</sub>   | 1    | V    |
| Thermal Resistance Junction to Ambient <sup>1)</sup> | R <sub>θJA</sub> | 300  | °C/W |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.



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

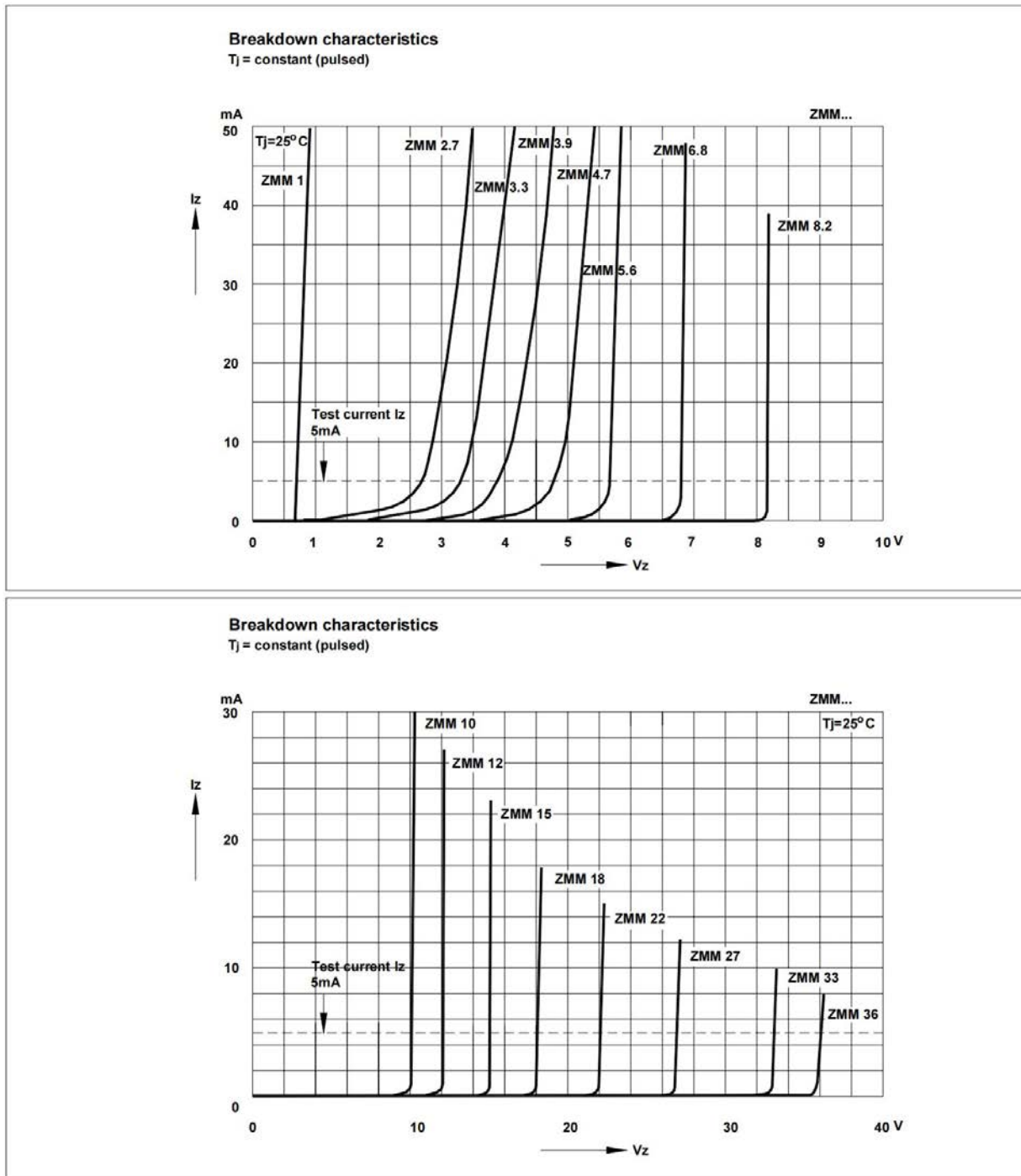
| Type               | Zener Voltage Range <sup>1)</sup> |             |             | Dynamic Resistance |                   |             | Reverse Leakage Current  |                           |          | Temp. Coefficient<br>of Zener Voltage |
|--------------------|-----------------------------------|-------------|-------------|--------------------|-------------------|-------------|--------------------------|---------------------------|----------|---------------------------------------|
|                    | $V_{Znom}$                        | $V_{ZT}$    | at $I_{ZT}$ | $Z_{ZT}$           | $Z_{ZK}$          | at $I_{ZK}$ | $T_a = 25^\circ\text{C}$ | $T_a = 125^\circ\text{C}$ | at $V_R$ |                                       |
|                    | (V)                               | (V)         | (mA)        | Max. ( $\Omega$ )  | Max. ( $\Omega$ ) | (mA)        | Max. ( $\mu\text{A}$ )   | Max. ( $\mu\text{A}$ )    | (V)      |                                       |
| ZMM1 <sup>2)</sup> | 0.75                              | 0.7...0.8   | 5           | 8                  | 50                | 1           | -                        | -                         | -        | -0.26...-0.23                         |
| ZMM2V0             | 2                                 | 1.8...2.15  | 5           | 85                 | 600               | 1           | 100                      | 200                       | 1        | -0.09...-0.06                         |
| ZMM2V2             | 2.2                               | 2.08...2.33 | 5           | 85                 | 600               | 1           | 75                       | 160                       | 1        | -0.09...-0.06                         |
| ZMM2V4             | 2.4                               | 2.28...2.56 | 5           | 85                 | 600               | 1           | 50                       | 100                       | 1        | -0.09...-0.06                         |
| ZMM2V7             | 2.7                               | 2.5...2.9   | 5           | 85                 | 600               | 1           | 10                       | 50                        | 1        | -0.09...-0.06                         |
| ZMM3V0             | 3                                 | 2.8...3.2   | 5           | 85                 | 600               | 1           | 4                        | 40                        | 1        | -0.08...-0.05                         |
| ZMM3V3             | 3.3                               | 3.1...3.5   | 5           | 85                 | 600               | 1           | 2                        | 40                        | 1        | -0.08...-0.05                         |
| ZMM3V6             | 3.6                               | 3.4...3.8   | 5           | 85                 | 600               | 1           | 2                        | 40                        | 1        | -0.08...-0.05                         |
| ZMM3V9             | 3.9                               | 3.7...4.1   | 5           | 85                 | 600               | 1           | 2                        | 40                        | 1        | -0.08...-0.05                         |
| ZMM4V3             | 4.3                               | 4...4.6     | 5           | 75                 | 600               | 1           | 1                        | 20                        | 1        | -0.06...-0.03                         |
| ZMM4V7             | 4.7                               | 4.4...5     | 5           | 60                 | 600               | 1           | 0.5                      | 10                        | 1        | -0.05...+0.02                         |
| ZMM5V1             | 5.1                               | 4.8...5.4   | 5           | 35                 | 550               | 1           | 0.1                      | 2                         | 1        | -0.02...+0.02                         |
| ZMM5V6             | 5.6                               | 5.2...6     | 5           | 25                 | 450               | 1           | 0.1                      | 2                         | 1        | -0.05...+0.05                         |
| ZMM6V2             | 6.2                               | 5.8...6.6   | 5           | 10                 | 200               | 1           | 0.1                      | 2                         | 2        | 0.03...0.06                           |
| ZMM6V8             | 6.8                               | 6.4...7.2   | 5           | 8                  | 150               | 1           | 0.1                      | 2                         | 3        | 0.03...0.07                           |
| ZMM7V5             | 7.5                               | 7...7.9     | 5           | 7                  | 50                | 1           | 0.1                      | 2                         | 5        | 0.03...0.07                           |
| ZMM8V2             | 8.2                               | 7.7...8.7   | 5           | 7                  | 50                | 1           | 0.1                      | 2                         | 6.2      | 0.03...0.08                           |
| ZMM9V1             | 9.1                               | 8.5...9.6   | 5           | 10                 | 50                | 1           | 0.1                      | 2                         | 6.8      | 0.03...0.09                           |
| ZMM10V             | 10                                | 9.4...10.6  | 5           | 15                 | 70                | 1           | 0.1                      | 2                         | 7.5      | 0.03...0.1                            |
| ZMM11V             | 11                                | 10.4...11.6 | 5           | 20                 | 70                | 1           | 0.1                      | 2                         | 8.2      | 0.03...0.11                           |
| ZMM12V             | 12                                | 11.4...12.7 | 5           | 20                 | 90                | 1           | 0.1                      | 2                         | 9.1      | 0.03...0.11                           |
| ZMM13V             | 13                                | 12.4...14.1 | 5           | 26                 | 110               | 1           | 0.1                      | 2                         | 10       | 0.03...0.11                           |
| ZMM15V             | 15                                | 13.8...15.6 | 5           | 30                 | 110               | 1           | 0.1                      | 2                         | 11       | 0.03...0.11                           |
| ZMM16V             | 16                                | 15.3...17.1 | 5           | 40                 | 170               | 1           | 0.1                      | 2                         | 12       | 0.03...0.11                           |
| ZMM18V             | 18                                | 16.8...19.1 | 5           | 50                 | 170               | 1           | 0.1                      | 2                         | 13       | 0.03...0.11                           |
| ZMM20V             | 20                                | 18.8...21.2 | 5           | 55                 | 220               | 1           | 0.1                      | 2                         | 15       | 0.03...0.11                           |
| ZMM22V             | 22                                | 20.8...23.3 | 5           | 55                 | 220               | 1           | 0.1                      | 2                         | 16       | 0.04...0.12                           |
| ZMM24V             | 24                                | 22.8...25.6 | 5           | 80                 | 220               | 1           | 0.1                      | 2                         | 18       | 0.04...0.12                           |
| ZMM27V             | 27                                | 25.1...28.9 | 5           | 80                 | 220               | 1           | 0.1                      | 2                         | 20       | 0.04...0.12                           |
| ZMM30V             | 30                                | 28...32     | 5           | 80                 | 220               | 1           | 0.1                      | 2                         | 22       | 0.04...0.12                           |
| ZMM33V             | 33                                | 31...35     | 5           | 80                 | 220               | 1           | 0.1                      | 2                         | 24       | 0.04...0.12                           |
| ZMM36V             | 36                                | 34...38     | 5           | 80                 | 220               | 1           | 0.1                      | 2                         | 27       | 0.04...0.12                           |
| ZMM39V             | 39                                | 37...41     | 2.5         | 90                 | 500               | 0.5         | 0.1                      | 5                         | 30       | 0.04...0.12                           |
| ZMM43V             | 43                                | 40...46     | 2.5         | 90                 | 500               | 0.5         | 0.1                      | 5                         | 33       | 0.04...0.12                           |
| ZMM47V             | 47                                | 44...50     | 2.5         | 110                | 600               | 0.5         | 0.1                      | 5                         | 36       | 0.04...0.12                           |
| ZMM51V             | 51                                | 48...54     | 2.5         | 125                | 700               | 0.5         | 0.1                      | 10                        | 39       | 0.04...0.12                           |
| ZMM56V             | 56                                | 52...60     | 2.5         | 135                | 700               | 0.5         | 0.1                      | 10                        | 43       | 0.04...0.12                           |
| ZMM62V             | 62                                | 58...66     | 2.5         | 150                | 1000              | 0.5         | 0.1                      | 10                        | 47       | 0.04...0.12                           |
| ZMM68V             | 68                                | 64...72     | 2.5         | 200                | 1000              | 0.5         | 0.1                      | 10                        | 51       | 0.04...0.12                           |
| ZMM75V             | 75                                | 70...79     | 2.5         | 250                | 1000              | 0.5         | 0.1                      | 10                        | 56       | 0.04...0.12                           |

<sup>1)</sup> Tested with pulses  $t_p = 20$  ms.

<sup>2)</sup> The ZMM1 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.

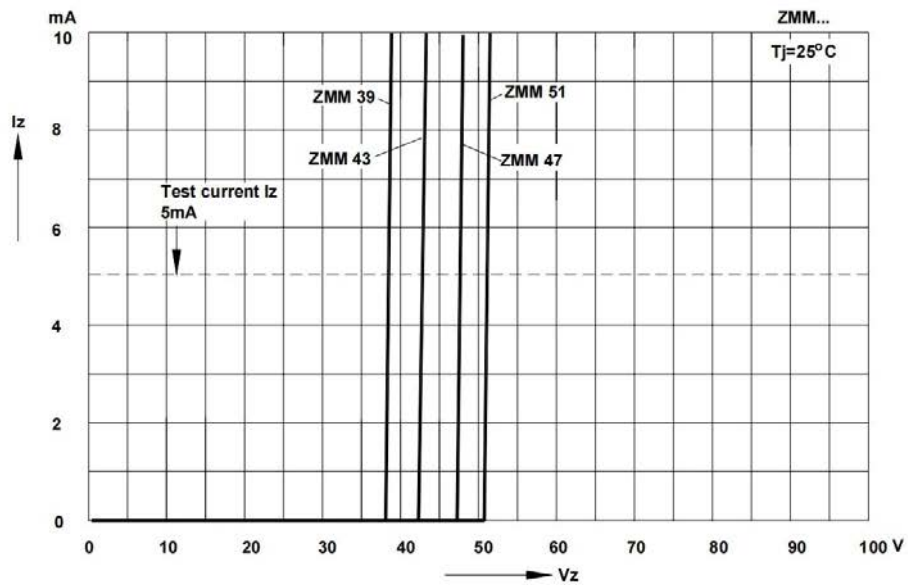


## Typical Characteristics

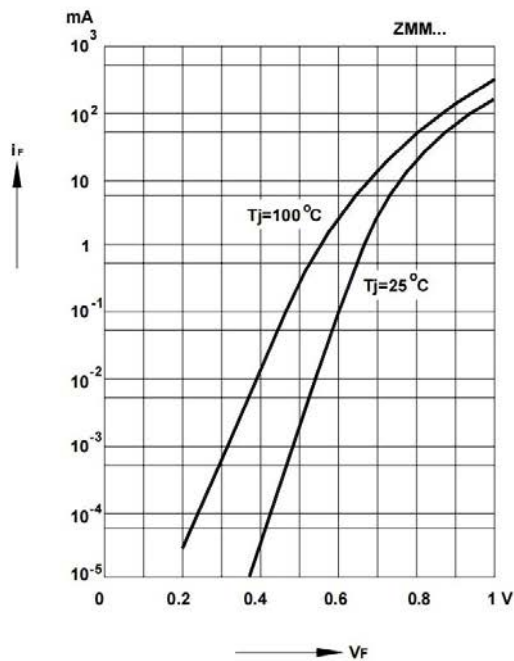




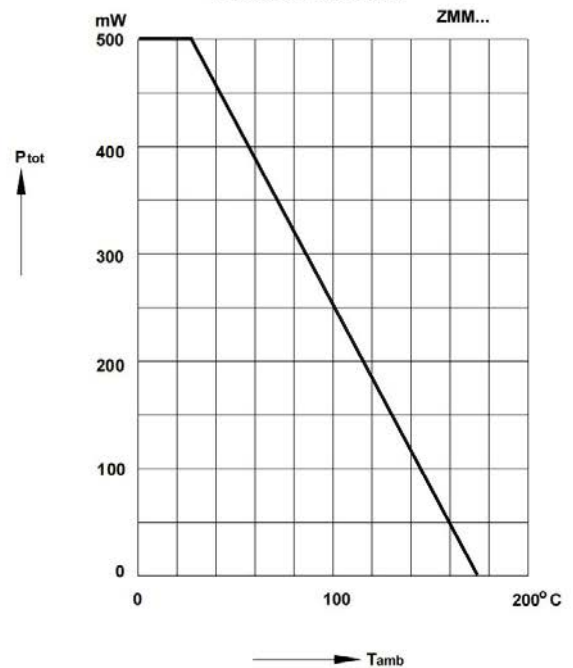
Breakdown characteristics  
 $T_J = \text{constant (pulsed)}$



Forward characteristics

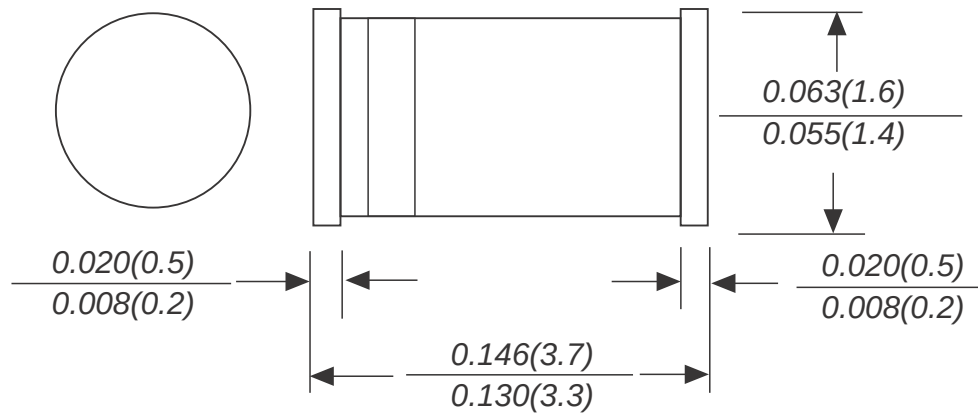


Admissible power dissipation  
versus ambient temperature  
Valid provided that electrodes are kept  
at ambient temperature.





## LL-34 Package Information



*Dimensions in inches and (millimeters)*



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