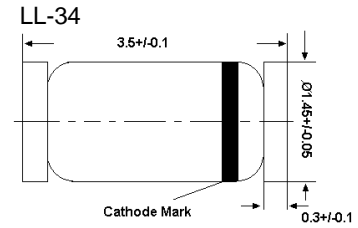


Silicon Epitaxial Planar Zener Diodes
Features

- Low leakage, low zener impedance and maximum power dissipation of 500 mW are ideally suited for stabilized power supply, etc.
- Wide spectrum from 5.2 V through 38 V of zener voltage provide flexible application.



Glass case MiniMELF
Dimensions in mm

Absolute Maximum Ratings (T_a = 25 °C)

| Parameter | Symbol | Value | Unit |
|---------------------------|------------------|---------------|------|
| Power Dissipation | P _{tot} | 500 | mW |
| Junction Temperature | T _j | 175 | °C |
| Storage Temperature Range | T _{stg} | - 55 to + 175 | °C |

Characteristics at T_a = 25 °C (V_F = 1 V Max. at I_F = 100 mA)

| Type | Zener Voltage ¹⁾ | | Reverse Current | | | Dynamic Resistance | |
|----------|-----------------------------|----------|--------------------|----------------|-------------------|--------------------|--------------------|
| | V _Z | | at I _{ZT} | I _R | at V _R | Z _{ZT} | at I _{ZT} |
| | Min. (V) | Max. (V) | (mA) | Max. (μA) | (V) | Max. (Ω) | (mA) |
| ZMM6LA1 | 5.2 | 5.5 | 0.5 | 1 | 2 | 150 | 0.5 |
| ZMM6LA2 | 5.3 | 5.6 | 0.5 | 1 | 2 | 150 | 0.5 |
| ZMM6LA3 | 5.4 | 5.7 | 0.5 | 1 | 2 | 150 | 0.5 |
| ZMM6LB1 | 5.5 | 5.8 | 0.5 | 1 | 2 | 80 | 0.5 |
| ZMM6LB2 | 5.6 | 5.9 | 0.5 | 1 | 2 | 80 | 0.5 |
| ZMM6LB3 | 5.7 | 6 | 0.5 | 1 | 2 | 80 | 0.5 |
| ZMM6LC1 | 5.8 | 6.1 | 0.5 | 1 | 2 | 60 | 0.5 |
| ZMM6LC2 | 6 | 6.3 | 0.5 | 1 | 2 | 60 | 0.5 |
| ZMM6LC3 | 6.1 | 6.4 | 0.5 | 1 | 2 | 60 | 0.5 |
| ZMM7LA1 | 6.3 | 6.6 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM7LA2 | 6.4 | 6.7 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM7LA3 | 6.6 | 6.9 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM7LB1 | 6.7 | 7 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM7LB2 | 6.9 | 7.2 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM7LB3 | 7 | 7.3 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM7LC1 | 7.2 | 7.6 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM7LC2 | 7.3 | 7.7 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM7LC3 | 7.5 | 7.9 | 0.5 | 1 | 3.5 | 60 | 0.5 |
| ZMM9LA1 | 7.7 | 8.1 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM9LA2 | 7.9 | 8.3 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM9LA3 | 8.1 | 8.5 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM9LB1 | 8.3 | 8.7 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM9LB2 | 8.5 | 8.9 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM9LB3 | 8.7 | 9.1 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM9LC1 | 8.9 | 9.3 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM9LC2 | 9.1 | 9.5 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM9LC3 | 9.3 | 9.7 | 0.5 | 1 | 6 | 60 | 0.5 |
| ZMM11LA1 | 9.5 | 9.9 | 0.5 | 1 | 8 | 80 | 0.5 |
| ZMM11LA2 | 9.7 | 10.1 | 0.5 | 1 | 8 | 80 | 0.5 |
| ZMM11LA3 | 9.9 | 10.3 | 0.5 | 1 | 8 | 80 | 0.5 |

Characteristics at $T_a = 25\text{ }^\circ\text{C}$ ($V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$)

| Type | Zener Voltage ¹⁾ | | | Reverse Current | | Dynamic Resistance | |
|----------|-----------------------------|----------|-------------|------------------------|----------|--------------------|-------------|
| | V_Z | | at I_{ZT} | I_R | at V_R | Z_{ZT} | at I_{ZT} |
| | Min. (V) | Max. (V) | (mA) | Max. (μA) | (V) | Max. (Ω) | (mA) |
| ZMM11LB1 | 10.2 | 10.6 | 0.5 | 1 | 8 | 80 | 0.5 |
| ZMM11LB2 | 10.4 | 10.8 | 0.5 | 1 | 8 | 80 | 0.5 |
| ZMM11LB3 | 10.7 | 11.1 | 0.5 | 1 | 8 | 80 | 0.5 |
| ZMM11LC1 | 10.9 | 11.3 | 0.5 | 1 | 8 | 80 | 0.5 |
| ZMM11LC2 | 11.1 | 11.6 | 0.5 | 1 | 8 | 80 | 0.5 |
| ZMM11LC3 | 11.4 | 11.9 | 0.5 | 1 | 8 | 80 | 0.5 |
| ZMM12LA1 | 11.6 | 12.1 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM12LA2 | 11.9 | 12.4 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM12LA3 | 12.2 | 12.7 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM12LB1 | 12.4 | 12.9 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM12LB2 | 12.6 | 13.1 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM12LB3 | 12.9 | 13.4 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM12LC1 | 13.2 | 13.7 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM12LC2 | 13.5 | 14 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM12LC3 | 13.8 | 14.3 | 0.5 | 1 | 10.5 | 80 | 0.5 |
| ZMM15L1 | 14.1 | 14.7 | 0.5 | 1 | 13 | 80 | 0.5 |
| ZMM15L2 | 14.5 | 15.1 | 0.5 | 1 | 13 | 80 | 0.5 |
| ZMM15L3 | 14.9 | 15.5 | 0.5 | 1 | 13 | 80 | 0.5 |
| ZMM16L1 | 15.3 | 15.9 | 0.5 | 1 | 14 | 80 | 0.5 |
| ZMM16L2 | 15.7 | 16.5 | 0.5 | 1 | 14 | 80 | 0.5 |
| ZMM16L3 | 16.3 | 17.1 | 0.5 | 1 | 14 | 80 | 0.5 |
| ZMM18L1 | 16.9 | 17.7 | 0.5 | 1 | 15 | 80 | 0.5 |
| ZMM18L2 | 17.5 | 18.3 | 0.5 | 1 | 15 | 80 | 0.5 |
| ZMM18L3 | 18.1 | 19 | 0.5 | 1 | 15 | 80 | 0.5 |
| ZMM20L1 | 18.8 | 19.7 | 0.5 | 1 | 18 | 100 | 0.5 |
| ZMM20L2 | 19.5 | 20.4 | 0.5 | 1 | 18 | 100 | 0.5 |
| ZMM20L3 | 20.2 | 21.1 | 0.5 | 1 | 18 | 100 | 0.5 |
| ZMM22L1 | 20.9 | 21.9 | 0.5 | 1 | 20 | 100 | 0.5 |
| ZMM22L2 | 21.6 | 22.6 | 0.5 | 1 | 20 | 100 | 0.5 |
| ZMM22L3 | 22.3 | 23.3 | 0.5 | 1 | 20 | 100 | 0.5 |
| ZMM24L1 | 22.9 | 24 | 0.5 | 1 | 22 | 120 | 0.5 |
| ZMM24L2 | 23.6 | 24.7 | 0.5 | 1 | 22 | 120 | 0.5 |
| ZMM24L3 | 24.3 | 25.5 | 0.5 | 1 | 22 | 120 | 0.5 |
| ZMM27L1 | 25.2 | 26.6 | 0.5 | 1 | 24 | 150 | 0.5 |
| ZMM27L2 | 26.2 | 27.6 | 0.5 | 1 | 24 | 150 | 0.5 |
| ZMM27L3 | 27.2 | 28.6 | 0.5 | 1 | 24 | 150 | 0.5 |
| ZMM30L1 | 28.2 | 29.6 | 0.5 | 1 | 27 | 200 | 0.5 |
| ZMM30L2 | 29.2 | 30.6 | 0.5 | 1 | 27 | 200 | 0.5 |
| ZMM30L3 | 30.2 | 31.6 | 0.5 | 1 | 27 | 200 | 0.5 |
| ZMM33L1 | 31.2 | 32.6 | 0.5 | 1 | 30 | 250 | 0.5 |
| ZMM33L2 | 32.2 | 33.6 | 0.5 | 1 | 30 | 250 | 0.5 |
| ZMM33L3 | 33.2 | 34.6 | 0.5 | 1 | 30 | 250 | 0.5 |
| ZMM36L1 | 34.2 | 35.7 | 0.5 | 1 | 33 | 300 | 0.5 |
| ZMM36L2 | 35.3 | 36.8 | 0.5 | 1 | 33 | 300 | 0.5 |
| ZMM36L3 | 36.4 | 38 | 0.5 | 1 | 33 | 300 | 0.5 |

¹⁾ Tested with pulses $t_p = 20\text{ ms}$.