

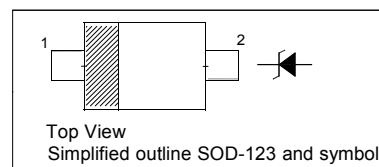
### SILICON PLANAR ZENER DIODES

#### Features

- Total power dissipation: max. 500 mW
- Small plastic package suitable for surface mounted design
- High reliability

#### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



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

| Parameter                 | Symbol           | Value         | Unit               |
|---------------------------|------------------|---------------|--------------------|
| Power Dissipation         | $P_{\text{tot}}$ | 500           | mW                 |
| Junction Temperature      | $T_j$            | 150           | $^{\circ}\text{C}$ |
| Storage Temperature Range | $T_{\text{Stg}}$ | - 55 to + 150 | $^{\circ}\text{C}$ |

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

| Parameter                                  | Symbol           | Max. | Unit                 |
|--------------------------------------------|------------------|------|----------------------|
| Thermal Resistance Junction to Ambient Air | $R_{\text{thA}}$ | 340  | $^{\circ}\text{C/W}$ |
| Forward Voltage<br>at $I_F = 10\text{ mA}$ | $V_F$            | 0.9  | V                    |

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

| Type     | Marking Code | Zener Voltage Range <sup>1)</sup> |                                     |               | Dynamic Impedance      |                    | Reverse Leakage Current |                   |
|----------|--------------|-----------------------------------|-------------------------------------|---------------|------------------------|--------------------|-------------------------|-------------------|
|          |              | V <sub>znom</sub><br>V            | I <sub>ZT</sub> for V <sub>ZT</sub> |               | Z <sub>YT</sub> (Max.) | at I <sub>ZT</sub> | I <sub>R</sub> (Max.)   | at V <sub>R</sub> |
|          |              |                                   | mA                                  | V             | $\Omega$               | mA                 | $\mu\text{A}$           | V                 |
| MM1Z2V2B | 9B           | 2.2                               | 5                                   | 2.1...2.4     | 100                    | 5                  | 120                     | 0.7               |
| MM1Z2V4B | 9C           | 2.4                               | 5                                   | 2.3...2.65    | 100                    | 5                  | 120                     | 1                 |
| MM1Z2V7B | 9D           | 2.7                               | 5                                   | 2.65...2.95   | 110                    | 5                  | 120                     | 1                 |
| MM1Z3V0B | 9E           | 3.0                               | 5                                   | 2.95...3.25   | 120                    | 5                  | 50                      | 1                 |
| MM1Z3V3B | 9F           | 3.3                               | 5                                   | 3.25...3.55   | 120                    | 5                  | 20                      | 1                 |
| MM1Z3V6B | 9H           | 3.6                               | 5                                   | 3.6...3.845   | 100                    | 5                  | 10                      | 1                 |
| MM1Z3V9B | 9J           | 3.9                               | 5                                   | 3.89...4.16   | 100                    | 5                  | 5                       | 1                 |
| MM1Z4V3B | 9K           | 4.3                               | 5                                   | 4.17...4.43   | 100                    | 5                  | 5                       | 1                 |
| MM1Z4V7B | 9M           | 4.7                               | 5                                   | 4.61...4.79   | 100                    | 5                  | 2                       | 1                 |
| MM1Z5V1B | 9N           | 5.1                               | 5                                   | 4.98...5.20   | 80                     | 5                  | 2                       | 1.5               |
| MM1Z5V6B | 9P           | 5.6                               | 5                                   | 5.49...5.73   | 60                     | 5                  | 1                       | 2.5               |
| MM1Z6V2B | 9R           | 6.2                               | 5                                   | 6.06...6.33   | 60                     | 5                  | 1                       | 3                 |
| MM1Z6V8B | 9X           | 6.8                               | 5                                   | 6.65...6.93   | 40                     | 5                  | 0.5                     | 3.5               |
| MM1Z7V5B | 9Y           | 7.5                               | 5                                   | 7.35...7.65   | 30                     | 5                  | 0.5                     | 4                 |
| MM1Z8V2B | 9Z           | 8.2                               | 5                                   | 8.02...8.36   | 30                     | 5                  | 0.5                     | 5                 |
| MM1Z9V1B | 0A           | 9.1                               | 5                                   | 8.92...9.28   | 30                     | 5                  | 0.5                     | 6                 |
| MM1Z10B  | 0B           | 10                                | 5                                   | 9.80...10.20  | 30                     | 5                  | 0.1                     | 7                 |
| MM1Z11B  | 0C           | 11                                | 5                                   | 10.78...11.22 | 30                     | 5                  | 0.1                     | 8                 |
| MM1Z12B  | 0D           | 12                                | 5                                   | 11.76...12.24 | 30                     | 5                  | 0.1                     | 9                 |
| MM1Z13B  | 0E           | 13                                | 5                                   | 12.74...13.26 | 37                     | 5                  | 0.1                     | 10                |
| MM1Z15B  | 0F           | 15                                | 5                                   | 14.70...15.30 | 42                     | 5                  | 0.1                     | 11                |
| MM1Z16B  | 0H           | 16                                | 5                                   | 15.68...16.32 | 50                     | 5                  | 0.1                     | 12                |
| MM1Z18B  | 0J           | 18                                | 5                                   | 17.64...18.36 | 65                     | 5                  | 0.1                     | 13                |
| MM1Z20B  | 0K           | 20                                | 5                                   | 19.60...20.40 | 85                     | 5                  | 0.1                     | 15                |
| MM1Z22B  | 0M           | 22                                | 5                                   | 21.56...22.44 | 100                    | 5                  | 0.1                     | 17                |
| MM1Z24B  | 0N           | 24                                | 5                                   | 23.52...24.48 | 120                    | 5                  | 0.1                     | 19                |
| MM1Z27B  | 0P           | 27                                | 5                                   | 26.46...27.54 | 150                    | 5                  | 0.1                     | 21                |
| MM1Z30B  | 0R           | 30                                | 5                                   | 29.40...30.60 | 200                    | 5                  | 0.1                     | 23                |
| MM1Z33B  | 0X           | 33                                | 5                                   | 32.34...33.66 | 250                    | 5                  | 0.1                     | 25                |
| MM1Z36B  | 0Y           | 36                                | 5                                   | 35.28...36.72 | 300                    | 5                  | 0.1                     | 27                |
| MM1Z39B  | 0Z           | 39                                | 5                                   | 38.22...39.78 | 100                    | 5                  | 2                       | 30                |
| MM1Z43B  | 1A           | 43                                | 2                                   | 42.14...43.86 | 141                    | 2                  | 0.1                     | 31                |
| MM1Z47B  | 1B           | 47                                | 2                                   | 46.06...47.95 | 160                    | 2                  | 0.1                     | 33                |
| MM1Z51B  | 1C           | 51                                | 2                                   | 49.98...52.02 | 269                    | 2                  | 0.1                     | 36                |
| MM1Z56B  | 1D           | 56                                | 2                                   | 54.88...57.12 | 188                    | 2                  | 0.1                     | 40                |
| MM1Z62B  | 1E           | 62                                | 2                                   | 60.76...63.24 | 202                    | 2                  | 0.1                     | 44                |
| MM1Z68B  | 1F           | 68                                | 2                                   | 66.64...69.36 | 226                    | 2                  | 0.1                     | 48                |
| MM1Z75B  | 1G           | 75                                | 2                                   | 73.5...76.5   | 240                    | 2                  | 0.1                     | 53                |

<sup>1)</sup> V<sub>Z</sub> is tested with pulses (20 ms).

Fig 1. Zener Characteristics Curve

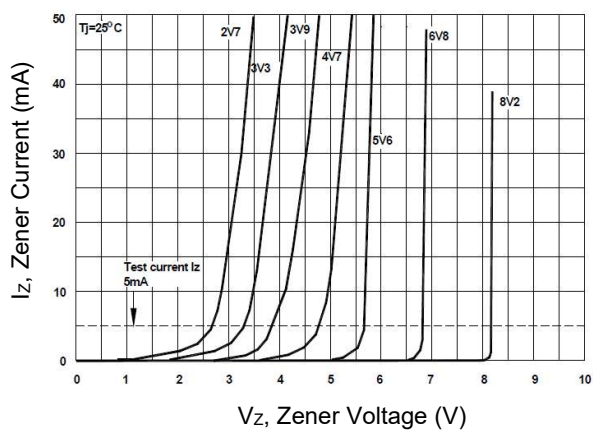


Fig 2. Zener Characteristics Curve

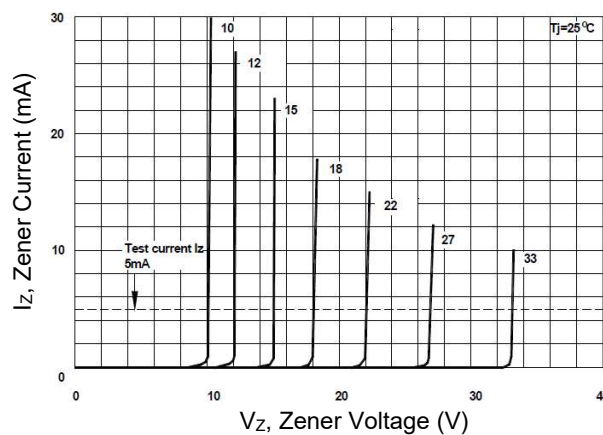


Fig 3. Power Derating Curve

