



# THE DATASHEET OF MMSZ5262B



## Features

- Low zener impedance
- High stability and high reliability
- General purpose, medium current
- Ideal for automated assembly process



SOD-123

## Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

| Parameter  | Symbol           | Value       | Unit |
|--|------------------|-------------|------|
| Forward Voltage <sup>1</sup> @ I <sub>F</sub> =10mA  | V <sub>F</sub>   | 0.9         | V    |
| Power Dissipation <sup>2</sup>                       | P <sub>D</sub>   | 500         | mW   |
| Thermal Resistance, Junction to Ambient <sup>3</sup> | R <sub>θJA</sub> | 340         | °C/W |
| Thermal Resistance, Junction to Lead <sup>3</sup>    | R <sub>θJL</sub> | 150         | °C/W |
| Junction Temperature Range                           | T <sub>J</sub>   | -55 to +150 | °C   |
| Storage Temperature Range                            | T <sub>STG</sub> | -55 to +150 | °C   |

Note:

1. Short duration test pulse used to minimize self-heating effect
2. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>
3. Thermal resistance measured with infrared scan method.

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

| MPN       | Marking | Zener Voltage Range                |      |      | Test Current<br>I <sub>zt</sub><br>mA | Maximum Zener Impedance               |   | Maximum Reverse Leakage Current |                      |
|-----------|---------|------------------------------------|------|------|---------------------------------------|---------------------------------------|---|---------------------------------|----------------------|
|           |         | V <sub>z</sub> (@I <sub>zt</sub> ) |      |      |                                       | Z <sub>zt</sub> @I <sub>zt</sub><br>Ω | Z <sub>zk</sub> @I <sub>zk</sub> =<br>0.25mA<br>Ω | I <sub>R</sub><br>μA            | @V <sub>R</sub><br>V |
|           |         | Nom                                | Min  | Max  |                                       |                                       |   |                                 |                      |
|           |         | (V)                                | (V)  | (V)  |                                       |                                       |   |                                 |                      |
| MMSZ5221B | C1      | 2.4                                | 2.28 | 2.52 | 20                                    | 30                                    | 1200  | 100                             | 1                    |
| MMSZ5222B | C2      | 2.5                                | 2.38 | 2.63 | 20                                    | 30                                    | 1250  | 100                             | 1                    |
| MMSZ5223B | C3      | 2.7                                | 2.57 | 2.84 | 20                                    | 30                                    | 1300  | 75                              | 1                    |
| MMSZ5224B | C4      | 2.8                                | 2.66 | 2.94 | 20                                    | 30                                    | 1400  | 75                              | 1                    |
| MMSZ5225B | C5      | 3.0                                | 2.85 | 3.15 | 20                                    | 30                                    | 1600  | 50                              | 1                    |
| MMSZ5226B | G1      | 3.3                                | 3.14 | 3.47 | 20                                    | 28                                    | 1600  | 25                              | 1                    |
| MMSZ5227B | G2      | 3.6                                | 3.42 | 3.78 | 20                                    | 24                                    | 1700  | 15                              | 1                    |
| MMSZ5228B | G3      | 3.9                                | 3.71 | 4.1  | 20                                    | 23                                    | 1900  | 10                              | 1                    |
| MMSZ5229B | G4      | 4.3                                | 4.09 | 4.52 | 20                                    | 22                                    | 2000  | 5                               | 1                    |
| MMSZ5230B | G5      | 4.7                                | 4.47 | 4.94 | 20                                    | 19                                    | 1900  | 5                               | 2                    |

# MMSZ52xxB Series

Surface Mount Zener Diodes

Vz Range: 2.4V to 75V Power Dissipation: 500mW

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

| MPN       | Marking | Zener Voltage Range |       |       | Test Current | Maximum Zener Impedance |                | Maximum Reverse Leakage Current |                 |
|-----------|---------|---------------------|-------|-------|--------------|-------------------------|----------------|---------------------------------|-----------------|
|           |         | Vz(@Izt)            |       |       |              | Zzt@Izt                 | Zzk@Izk=0.25mA | I <sub>R</sub>                  | @V <sub>R</sub> |
|           |         | Nom                 | Min   | Max   | Izt          |                         |                |                                 |                 |
|           |         | (V)                 | (V)   | (V)   | mA           |                         |                |                                 |                 |
| MMSZ5231B | E1      | 5.1                 | 4.85  | 5.36  | 20           | 17                      | 1600           | 5                               | 2               |
| MMSZ5232B | E2      | 5.6                 | 5.32  | 5.88  | 20           | 11                      | 1600           | 5                               | 3               |
| MMSZ5233B | E3      | 6.0                 | 5.70  | 6.30  | 20           | 7                       | 1600           | 5                               | 3.5             |
| MMSZ5234B | E4      | 6.2                 | 5.89  | 6.51  | 20           | 7                       | 1000           | 5                               | 4               |
| MMSZ5235B | E5      | 6.8                 | 6.46  | 7.14  | 20           | 5                       | 750            | 3                               | 5               |
| MMSZ5236B | F1      | 7.5                 | 7.13  | 7.88  | 20           | 6                       | 500            | 3                               | 6               |
| MMSZ5237B | F2      | 8.2                 | 7.79  | 8.61  | 20           | 8                       | 500            | 3                               | 6.5             |
| MMSZ5238B | F3      | 8.7                 | 8.27  | 9.14  | 20           | 8                       | 600            | 3                               | 6.5             |
| MMSZ5239B | F4      | 9.1                 | 8.65  | 9.56  | 20           | 10                      | 600            | 3                               | 7               |
| MMSZ5240B | F5      | 10                  | 9.50  | 10.50 | 20           | 17                      | 600            | 3                               | 8               |
| MMSZ5241B | H1      | 11                  | 10.45 | 11.55 | 20           | 22                      | 600            | 2                               | 8.4             |
| MMSZ5242B | H2      | 12                  | 11.40 | 12.60 | 20           | 30                      | 600            | 1                               | 9.1             |
| MMSZ5243B | H3      | 13                  | 12.35 | 13.65 | 9.5          | 13                      | 600            | 0.5                             | 9.9             |
| MMSZ5244B | H4      | 14                  | 13.30 | 14.70 | 9.0          | 15                      | 600            | 0.1                             | 10              |
| MMSZ5245B | H5      | 15                  | 14.25 | 15.75 | 8.5          | 16                      | 600            | 0.1                             | 11              |
| MMSZ5246B | J1      | 16                  | 15.20 | 16.80 | 7.8          | 17                      | 600            | 0.1                             | 12              |
| MMSZ5247B | J2      | 17                  | 16.15 | 17.85 | 7.5          | 19                      | 600            | 0.1                             | 13              |
| MMSZ5248B | J3      | 18                  | 17.10 | 18.90 | 7.0          | 21                      | 600            | 0.1                             | 14              |
| MMSZ5249B | J4      | 19                  | 18.05 | 19.95 | 6.6          | 23                      | 600            | 0.1                             | 14              |
| MMSZ5250B | J5      | 20                  | 19.00 | 21.00 | 6.2          | 25                      | 600            | 0.1                             | 15              |
| MMSZ5251B | K1      | 22                  | 20.90 | 23.10 | 5.6          | 29                      | 600            | 0.1                             | 17              |
| MMSZ5252B | K2      | 24                  | 22.80 | 25.20 | 5.2          | 33                      | 600            | 0.1                             | 18              |
| MMSZ5253B | K3      | 25                  | 23.75 | 26.25 | 5.0          | 35                      | 600            | 0.1                             | 19              |
| MMSZ5254B | K4      | 27                  | 25.65 | 28.35 | 5.0          | 41                      | 600            | 0.1                             | 21              |
| MMSZ5255B | K5      | 28                  | 26.60 | 29.40 | 4.5          | 44                      | 600            | 0.1                             | 21              |
| MMSZ5256B | M1      | 30                  | 28.50 | 31.50 | 4.2          | 49                      | 600            | 0.1                             | 23              |
| MMSZ5257B | M2      | 33                  | 31.35 | 34.65 | 3.8          | 58                      | 700            | 0.1                             | 25              |
| MMSZ5258B | M3      | 36                  | 34.20 | 37.80 | 3.4          | 70                      | 700            | 0.1                             | 27              |
| MMSZ5259B | M4      | 39                  | 37.05 | 40.95 | 3.2          | 80                      | 800            | 0.1                             | 30              |
| MMSZ5260B | M5      | 43                  | 40.85 | 45.15 | 3.0          | 93                      | 900            | 0.1                             | 33              |
| MMSZ5261B | N1      | 47                  | 44.65 | 49.35 | 2.7          | 105                     | 1000           | 0.1                             | 36              |
| MMSZ5262B | N2      | 51                  | 48.45 | 53.55 | 2.5          | 125                     | 1100           | 0.1                             | 39              |
| MMSZ5263B | N3      | 56                  | 53.20 | 58.80 | 2.2          | 150                     | 1300           | 0.1                             | 43              |
| MMSZ5264B | N4      | 60                  | 57.00 | 63.00 | 2.1          | 170                     | 1400           | 0.1                             | 46              |
| MMSZ5265B | N5      | 62                  | 58.90 | 65.10 | 2.0          | 185                     | 1400           | 0.1                             | 47              |
| MMSZ5266B | P1      | 68                  | 64.60 | 71.40 | 1.8          | 230                     | 1600           | 0.1                             | 52              |
| MMSZ5267B | P2      | 75                  | 71.25 | 78.75 | 1.7          | 270                     | 1700           | 0.1                             | 56              |

## Ratings and Characteristic Curves

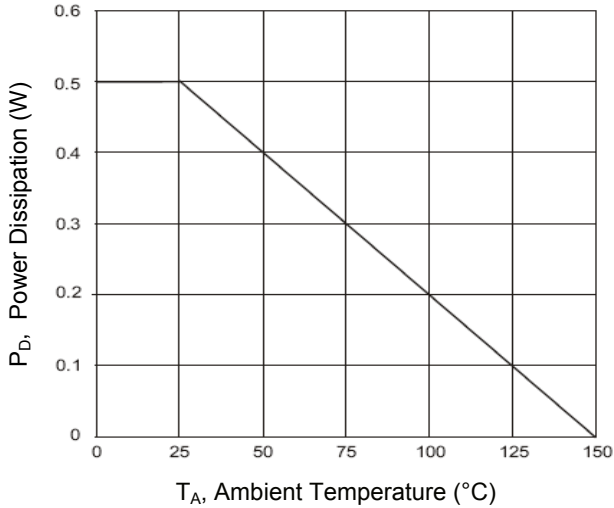


Figure 1. Power Derating Curve

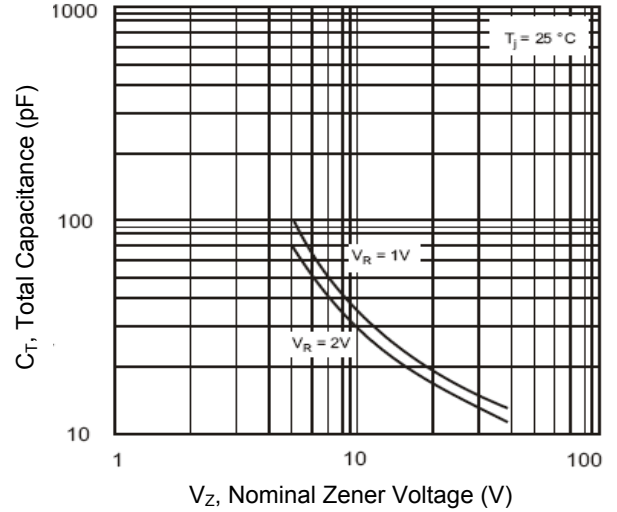


Figure 2. Total Capacitance vs. Nominal Zener Voltage

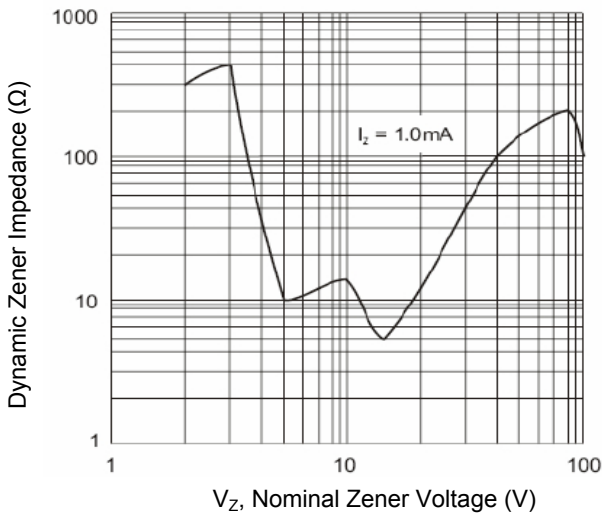


Figure 3. Zener Voltage vs. Zener Impedance

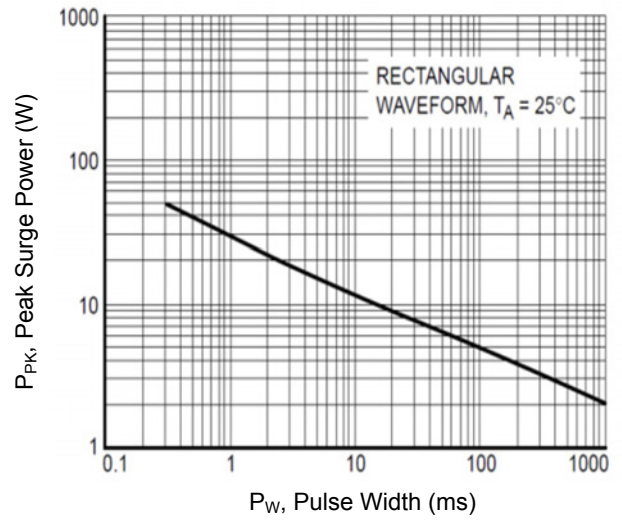
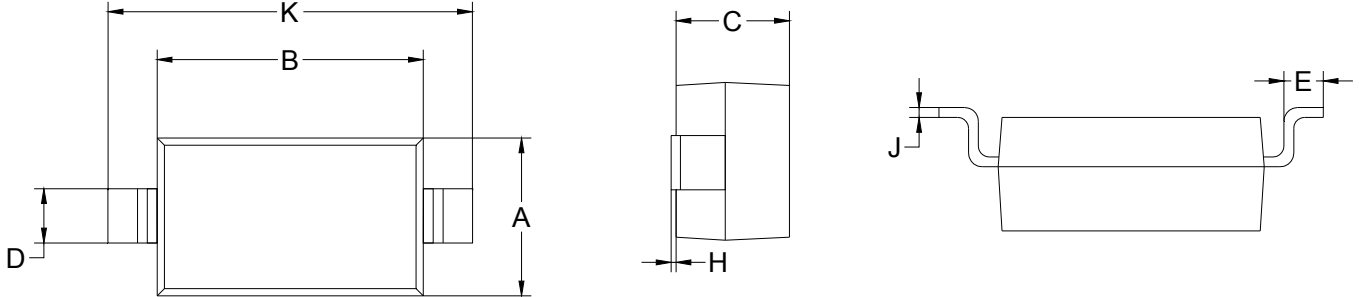


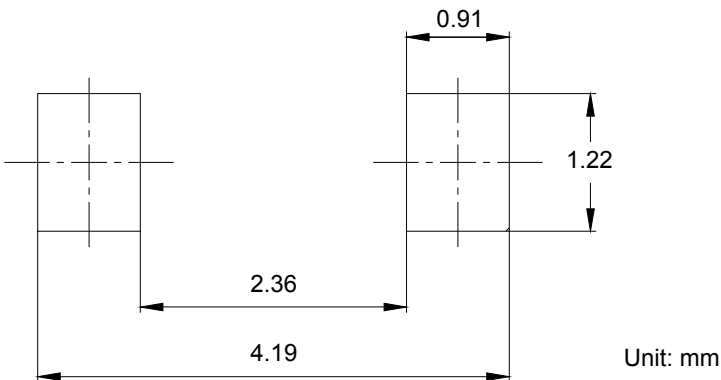
Figure 4. Maximum Non-repetitive Surge Power

## Package Outline Dimensions (SOD-123)



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 1.400                     | 1.750 | 0.055                | 0.069 |
| B      | 2.500                     | 2.850 | 0.098                | 0.112 |
| C      | 1.150 TYP                 |       | 0.045 TYP            |       |
| D      | 0.550 TYP                 |       | 0.022 TYP            |       |
| E      | 0.200                     | 0.450 | 0.008                | 0.018 |
| H      | 0.000                     | 0.100 | 0.000                | 0.004 |
| J      | 0.100 TYP                 |       | 0.004 TYP            |       |
| K      | 3.500                     | 3.850 | 0.138                | 0.152 |

## Recommended Pad Layout



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