

## FEATURES

- Large selection of zener voltages: 2V ~ 75V
- Tight voltage tolerance:  $\pm 2\%$  for B-series
- Ultra low-profile package well suited for automated assembly
- MSL Class 1 compatible

## APPLICATIONS

- General voltage regulation
- Mobile & handheld systems



## ORDERING INFORMATION

| Part Number          | Marking    | Package |
|----------------------|------------|---------|
| MM3Z2V0BW - MM3Z75BW | See Page 2 | SOD-323 |

## MAXIMUM RATING (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                                | Symbol          | Value      | Unit                      |
|--|-----------------|------------|---------------------------|
| Forward Voltage @ $I_F=10\text{mA}$      | $V_F$           | 0.9        | V                         |
| Power Dissipation                        | $P_D$           | 400        | mW                        |
| Thermal Resistance (Junction-to-Ambient) | $R_{\theta JA}$ | 313        | $^\circ\text{C}/\text{W}$ |
| Junction Temperature Range               | $T_J$           | -55 ~ +150 | $^\circ\text{C}$          |
| Storage Temperature Range                | $T_{STG}$       | -65 ~ +150 | $^\circ\text{C}$          |

Note: Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

**Characteristics at Ta = 25°C**

| Type      | Marking | Zener Voltage Range (1)                |           |           | I <sub>ZT</sub> | Dynamic Impedance                      | Reverse Current |                   |
|-----------|---------|--|-----------|-----------|-----------------|--|-----------------|-------------------|
|           |         | V <sub>ZT</sub> ( at I <sub>ZT</sub> ) |           |           |                 | Z <sub>ZT</sub> ( at I <sub>ZT</sub> ) | I <sub>r</sub>  | at V <sub>r</sub> |
|           |         | Min ( V )                              | Nom ( V ) | Max ( V ) | (mA)            | Max (Ω)                                | Max ( μA )      | ( V )             |
| MM3Z2V0BW | B0      | 1.96                                   | 2.0       | 2.04      | 5               | 100                                    | 120             | 0.5               |
| MM3Z2V2BW | C0      | 2.16                                   | 2.2       | 2.24      | 5               | 100                                    | 120             | 0.7               |
| MM3Z2V4BW | 1C      | 2.35                                   | 2.4       | 2.45      | 5               | 100                                    | 120             | 1                 |
| MM3Z2V7BW | 1D      | 2.65                                   | 2.7       | 2.75      | 5               | 110                                    | 120             | 1                 |
| MM3Z3V0BW | 1E      | 2.94                                   | 3.0       | 3.06      | 5               | 120                                    | 50              | 1                 |
| MM3Z3V3BW | 1F      | 3.23                                   | 3.3       | 3.37      | 5               | 130                                    | 20              | 1                 |
| MM3Z3V6BW | 1H      | 3.53                                   | 3.6       | 3.67      | 5               | 130                                    | 10              | 1                 |
| MM3Z3V9BW | 1J      | 3.82                                   | 3.9       | 3.98      | 5               | 130                                    | 5               | 1                 |
| MM3Z4V3BW | 1K      | 4.21                                   | 4.3       | 4.39      | 5               | 130                                    | 5               | 1                 |
| MM3Z4V7BW | 1M      | 4.61                                   | 4.7       | 4.79      | 5               | 130                                    | 2               | 1                 |
| MM3Z5V1BW | 1N      | 5                                      | 5.1       | 5.2       | 5               | 130                                    | 2               | 1.5               |
| MM3Z5V6BW | 1P      | 5.49                                   | 5.6       | 5.71      | 5               | 80                                     | 1               | 2.5               |
| MM3Z6V2BW | 1R      | 6.08                                   | 6.2       | 6.32      | 5               | 50                                     | 1               | 3                 |
| MM3Z6V8BW | 1X      | 6.66                                   | 6.8       | 6.94      | 5               | 30                                     | 0.5             | 3.5               |
| MM3Z7V5BW | 1Y      | 7.35                                   | 7.5       | 7.65      | 5               | 30                                     | 0.5             | 4                 |
| MM3Z8V2BW | 1Z      | 8.04                                   | 8.2       | 8.36      | 5               | 30                                     | 0.5             | 5                 |
| MM3Z9V1BW | 2A      | 8.92                                   | 9.1       | 9.28      | 5               | 30                                     | 0.5             | 6                 |
| MM3Z10BW  | 2B      | 9.8                                    | 10        | 10.2      | 5               | 30                                     | 0.1             | 7                 |
| MM3Z11BW  | 2C      | 10.78                                  | 11        | 11.22     | 5               | 30                                     | 0.1             | 8                 |
| MM3Z12BW  | 2D      | 11.76                                  | 12        | 12.24     | 5               | 35                                     | 0.1             | 9                 |
| MM3Z13BW  | 2E      | 12.74                                  | 13        | 13.26     | 5               | 35                                     | 0.1             | 10                |
| MM3Z15BW  | 2F      | 14.7                                   | 15        | 15.3      | 5               | 40                                     | 0.1             | 11                |
| MM3Z16BW  | 2H      | 15.68                                  | 16        | 16.32     | 5               | 40                                     | 0.1             | 12                |
| MM3Z18BW  | 2J      | 17.64                                  | 18        | 18.36     | 5               | 45                                     | 0.1             | 13                |
| MM3Z20BW  | 2K      | 19.6                                   | 20        | 20.4      | 5               | 50                                     | 0.1             | 15                |
| MM3Z22BW  | 2M      | 21.56                                  | 22        | 22.44     | 5               | 55                                     | 0.1             | 17                |
| MM3Z24BW  | 2N      | 23.52                                  | 24        | 24.48     | 5               | 60                                     | 0.1             | 19                |
| MM3Z27BW  | 2P      | 26.46                                  | 27        | 27.54     | 2               | 70                                     | 0.1             | 21                |
| MM3Z30BW  | 2R      | 29.4                                   | 30        | 30.60     | 2               | 80                                     | 0.1             | 23                |
| MM3Z33BW  | 2X      | 32.34                                  | 33        | 33.66     | 2               | 80                                     | 0.1             | 25                |
| MM3Z36BW  | 2Y      | 35.28                                  | 36        | 36.72     | 2               | 90                                     | 0.1             | 27                |
| MM3Z39BW  | 2Z      | 38.22                                  | 39        | 39.78     | 2               | 100                                    | 0.1             | 30                |
| MM3Z43BW  | 3A      | 42.14                                  | 43        | 43.86     | 2               | 130                                    | 0.1             | 33                |
| MM3Z47BW  | 3B      | 46.06                                  | 47        | 47.94     | 2               | 150                                    | 0.1             | 36                |
| MM3Z51BW  | 3C      | 49.98                                  | 51        | 52.02     | 2               | 180                                    | 0.1             | 39                |
| MM3Z56BW  | 3D      | 54.88                                  | 56        | 57.12     | 2               | 200                                    | 0.1             | 43                |
| MM3Z62BW  | 3E      | 60.76                                  | 62        | 63.24     | 2               | 215                                    | 0.1             | 47                |
| MM3Z68BW  | 3F      | 66.64                                  | 68        | 69.36     | 2               | 240                                    | 0.1             | 52                |
| MM3Z75BW  | 3H      | 73.5                                   | 75        | 76.5      | 2               | 265                                    | 0.1             | 56                |

 ( 1 ) V<sub>ZT</sub> is tested with pulses (20 ms)

**TYPICAL CHARACTERISTICS** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)


Fig. 1 Power Derating Curve



Fig. 2 Typical Zener Breakdown Characteristics



Fig. 3 Typical Zener Breakdown Characteristics

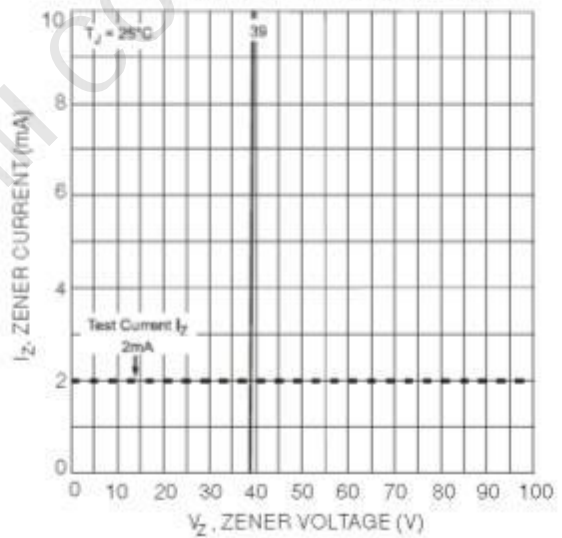


Fig. 4 Typical Zener Breakdown Characteristics



Fig. 5 Typical Temperature Coefficient of Zener Voltage

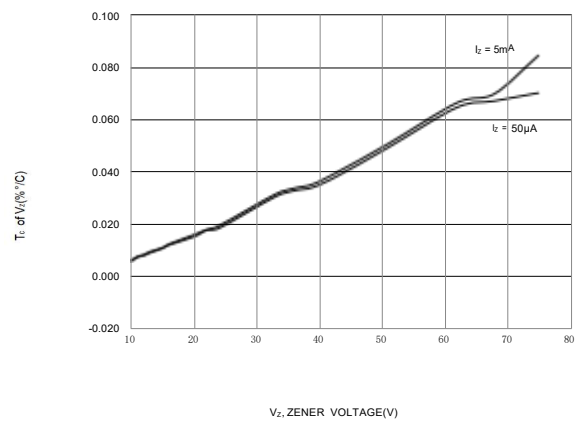
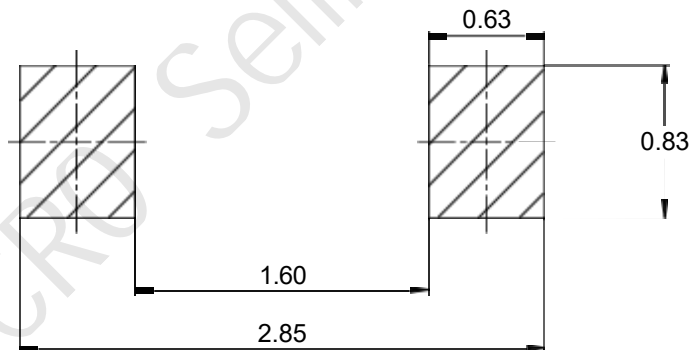


Fig. 6 Typical Temperature Coefficient of Zener Voltage

**PACKAGE OUTLINE** (Unit: mm)

Plastic surface mounted package


**MOUNTING PAD LAYOUT** (Unit: mm)

**PACKAGE INFORMATION**

| Part Number          | Package | Shipping Quantity     |
|----------------------|---------|-----------------------|
| MM3Z2V0BW – MM3Z75BW | SOD-323 | 3000pcs / Tape & Reel |