



# 安徽富信半导体科技有限公司

ANHUI FOSAN SEMICONDUCTOR TECHNOLOGY CO., LTD.

MM1Z2V0-MM1Z75

SOD-123 Surface Mounted Zener Diode 表面贴装稳压二极管

## ■SOD-123 Internal Configuration 内部结构



## ■Features 特点

| Characteristic 特性参数                      | Symbol 符号                   | Max 最大值   | Unit 单位                   |
|--|-----------------------------|---|---------------------------|
| Power dissipation 耗散功率                   | $P_D(T_a=25^\circ\text{C})$ | 500   | mW                        |
| Forward Voltage 正向电压                     | $V_F(@ I_F=10\text{mA})$    | 0.9   | V                         |
| Reverse Voltage 反向电压                     | $V_Z$                       | 2.0-75  | V                         |
| Thermal Resistance J-A 结到环境热阻            | $R_{\theta JA}$             | 340   | $^\circ\text{C}/\text{W}$ |
| Junction and Storage Temperature 结温和储藏温度 | $T_J, T_{\text{stg}}$       | 150 $^\circ\text{C}$ , -55to+150 $^\circ\text{C}$ |                           |

| ELECTRICAL CHARACTERISTICS |                                     |
|----------------------------|-------------------------------------|
| SYMBOL                     | PARAMETER                           |
| $V_Z$                      | Reverse Zener voltage at $I_{ZT}$   |
| $I_{ZT}$                   | Reverse current                     |
| $Z_{ZT}$                   | Maximum Zener impedance at $I_{ZT}$ |
| $I_{ZK}$                   | Reverse current                     |
| $Z_{ZK}$                   | Maximum Zener impedance at $I_{ZK}$ |
| $I_R$                      | Reverse leakage current at $V_R$    |
| $V_R$                      | Reverse voltage                     |
| $I_F$                      | Forward current                     |
| $V_F$                      | Forward voltage at $I_F$            |
| $I_{ZM}$                   | Maximum DC Zener current            |



## ■Electrical Characteristics 电特性

( $T_A=25^\circ\text{C}$  unless otherwise noted 如无特殊说明, 温度为 25 $^\circ\text{C}$ )



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| Type Number | V <sub>Z</sub> (V)@I <sub>ZT</sub> |      |      | I <sub>ZT</sub> (mA) | Z <sub>ZT</sub> (Ω) @I <sub>ZT</sub> | I <sub>R</sub> (uA) @V <sub>R</sub> | V <sub>R</sub> (V) | Marking |
|-------------|------------------------------------|------|------|----------------------|--------------------------------------|-------------------------------------|--------------------|---------|
|             | Nom.                               | Min. | Max. |                      |                                      |                                     |                    |         |
| MM1Z2V0     | 2.0                                | 1.8  | 2.15 | 5                    | 100                                  | 120                                 | 0.5                | 4A      |
| MM1Z2V2     | 2.2                                | 2.08 | 2.33 | 5                    | 100                                  | 120                                 | 0.7                | 4B      |
| MM1Z2V4     | 2.4                                | 2.28 | 2.56 | 5                    | 100                                  | 120                                 | 1                  | 4C      |
| MM1Z2V7     | 2.7                                | 2.5  | 2.9  | 5                    | 110                                  | 120                                 | 1                  | 4D      |
| MM1Z3V0     | 3.0                                | 2.8  | 3.2  | 5                    | 120                                  | 50                                  | 1                  | 4E      |
| MM1Z3V3     | 3.3                                | 3.1  | 3.5  | 5                    | 130                                  | 20                                  | 1                  | 4F      |
| MM1Z3V6     | 3.6                                | 3.4  | 3.8  | 5                    | 130                                  | 10                                  | 1                  | 4H      |
| MM1Z3V9     | 3.9                                | 3.7  | 4.1  | 5                    | 130                                  | 5                                   | 1                  | 4J      |
| MM1Z4V3     | 4.3                                | 4.0  | 4.6  | 5                    | 130                                  | 5                                   | 1                  | 4K      |
| MM1Z4V7     | 4.7                                | 4.4  | 5.0  | 5                    | 130                                  | 2                                   | 1                  | 4M      |
| MM1Z5V1     | 5.1                                | 4.8  | 5.4  | 5                    | 130                                  | 2                                   | 1                  | 4N      |
| MM1Z5V6     | 5.6                                | 5.2  | 6.0  | 5                    | 80                                   | 1                                   | 2                  | 4P      |
| MM1Z6V2     | 6.2                                | 5.8  | 6.6  | 5                    | 50                                   | 1                                   | 3                  | 4R      |
| MM1Z6V8     | 6.8                                | 6.4  | 7.2  | 5                    | 30                                   | 0.5                                 | 4                  | 4X      |
| MM1Z7V5     | 7.5                                | 7.0  | 7.9  | 5                    | 30                                   | 0.5                                 | 5                  | 4Y      |
| MM1Z8V2     | 8.2                                | 7.7  | 8.7  | 5                    | 30                                   | 0.5                                 | 6                  | 4Z      |
| MM1Z9V1     | 9.1                                | 8.5  | 9.6  | 5                    | 30                                   | 0.5                                 | 7                  | 5A      |
| MM1Z10      | 10                                 | 9.4  | 10.6 | 5                    | 30                                   | 0.1                                 | 7                  | 5B      |
| MM1Z11      | 11                                 | 10.4 | 11.6 | 5                    | 30                                   | 0.1                                 | 8                  | 5C      |
| MM1Z12      | 12                                 | 11.4 | 12.7 | 5                    | 35                                   | 0.1                                 | 9                  | 5D      |
| MM1Z13      | 13                                 | 12.4 | 14.1 | 5                    | 35                                   | 0.1                                 | 10                 | 5E      |
| MM1Z15      | 15                                 | 13.8 | 16.2 | 5                    | 40                                   | 0.1                                 | 11                 | 5F      |
| MM1Z16      | 16                                 | 15.3 | 17.1 | 5                    | 40                                   | 0.1                                 | 12                 | 5H      |
| MM1Z18      | 18                                 | 16.8 | 19.1 | 5                    | 45                                   | 0.1                                 | 13                 | 5J      |
| MM1Z20      | 20                                 | 18.8 | 21.2 | 5                    | 50                                   | 0.1                                 | 15                 | 5K      |
| MM1Z22      | 22                                 | 20.8 | 23.3 | 5                    | 55                                   | 0.1                                 | 17                 | 5M      |
| MM1Z24      | 24                                 | 22.8 | 25.6 | 5                    | 60                                   | 0.1                                 | 18                 | 5N      |
| MM1Z27      | 27                                 | 25.1 | 28.9 | 2                    | 70                                   | 0.1                                 | 21                 | 5P      |
| MM1Z30      | 30                                 | 28   | 32   | 2                    | 80                                   | 0.1                                 | 23                 | 5R      |
| MM1Z33      | 33                                 | 31   | 35   | 2                    | 80                                   | 0.1                                 | 25                 | 5X      |
| MM1Z36      | 36                                 | 34   | 38   | 2                    | 90                                   | 0.1                                 | 27                 | 5Y      |
| MM1Z39      | 39                                 | 37   | 41   | 2                    | 100                                  | 0.1                                 | 30                 | 5Z      |
| MM1Z43      | 43                                 | 40   | 46   | 2                    | 130                                  | 0.1                                 | 32                 | 6A      |
| MM1Z47      | 47                                 | 44   | 50   | 2                    | 150                                  | 0.1                                 | 35                 | 6B      |
| MM1Z51      | 51                                 | 48   | 54   | 2                    | 180                                  | 0.1                                 | 38                 | 6C      |
| MM1Z56      | 56                                 | 52   | 60   | 2                    | 200                                  | 0.1                                 | 42                 | 6D      |
| MM1Z62      | 62                                 | 58   | 66   | 2                    | 215                                  | 0.1                                 | 47                 | 6E      |
| MM1Z68      | 68                                 | 64   | 72   | 2                    | 240                                  | 0.1                                 | 52                 | 6F      |
| MM1Z75      | 75                                 | 70   | 79   | 2                    | 265                                  | 0.1                                 | 56                 | 6H      |

## ■ Typical Characteristic Curve 典型特性曲线

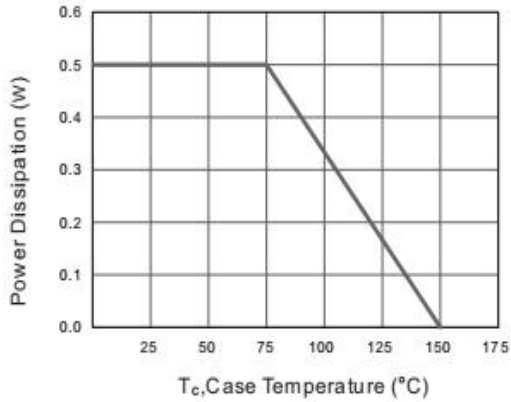


Figure 1: Power Derating Curve

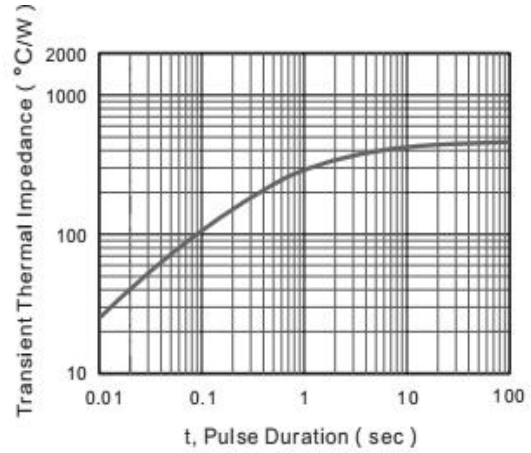
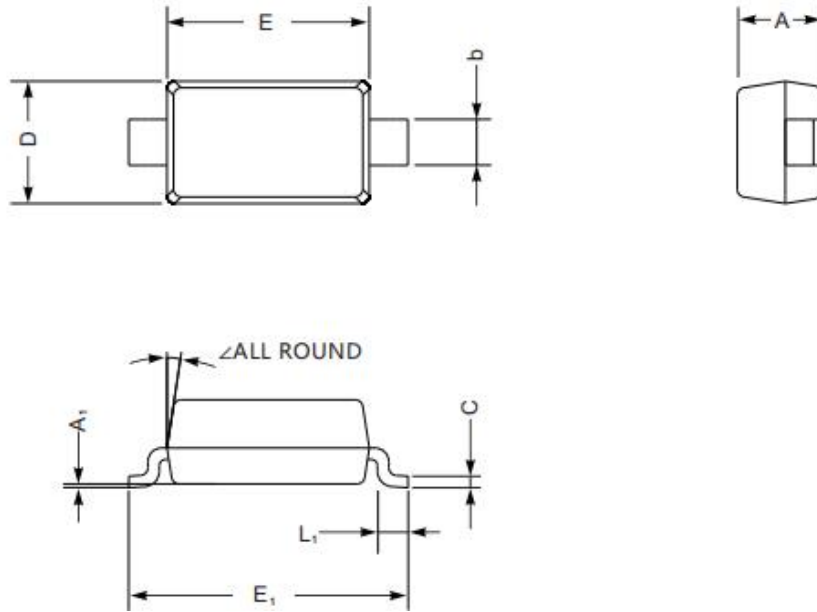


Figure 2: Zener Impedance Characteristics

## ■ Dimension 外形封装尺寸



| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | L <sub>1</sub> | b   | A <sub>1</sub> | ∠  |
|------|-----|-----|------|-----|-----|----------------|----------------|-----|----------------|----|
| mm   | max | 1.3 | 0.22 | 1.8 | 2.8 | 3.9            | 0.45           | 0.7 | 0.2            | 9° |
|      | min | 0.9 | 0.09 | 1.5 | 2.5 | 3.6            | 0.25           | 0.5 | —              |    |
| mil  | max | 51  | 8.7  | 71  | 110 | 154            | 18             | 28  | 8              |    |
|      | min | 35  | 3.5  | 59  | 98  | 142            | 10             | 20  | —              |    |

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