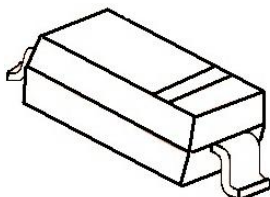


SOD-123



**SOD 123 贴片塑封稳压二极管**  
**SOD-123 Plastic-Encapsulate Zener Diode**

**特征 Features**

- 齐纳击穿阻抗低; Low Zener Impedance
- 最大功率耗散 500mW; Power Dissipation of 500mW
- 高稳定性和可靠性。High Stability and High Reliability

**机械数据 Mechanical Data**

- 封装: SOD-123 封装 SOD-123 Small Outline Plastic Package
- 极性: 色环端为负极 Polarity: Color band denotes cathode end
- 环氧树脂 UL 易燃等级 Epoxy UL: 94V-0
- 安装位置: 任意 Mounting Position: Any

极限值和温度特性(TA = 25℃ 除非另有规定)

**Maximum Ratings & Thermal Characteristics** (Ratings at 25℃ ambient temperature unless otherwise specified.)

| 参数 Parameters                  | 符号 Symbol | 数值 Value          | 单位 Unit |
|--------------------------------|-----------|-------------------|---------|
| 功率消耗 Power Dissipation         | Pd        | 500 <sup>1)</sup> | mW      |
| 正向压降 Forward Voltage @IF=10mA  | Vf        | 0.9 <sup>2)</sup> | V       |
| 存储温度 Storage temperature range | Ts        | -65-+150          | ℃       |

1) Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>

2) Short duration test pulse used to minimize self-heating effect

3) f=1KHz

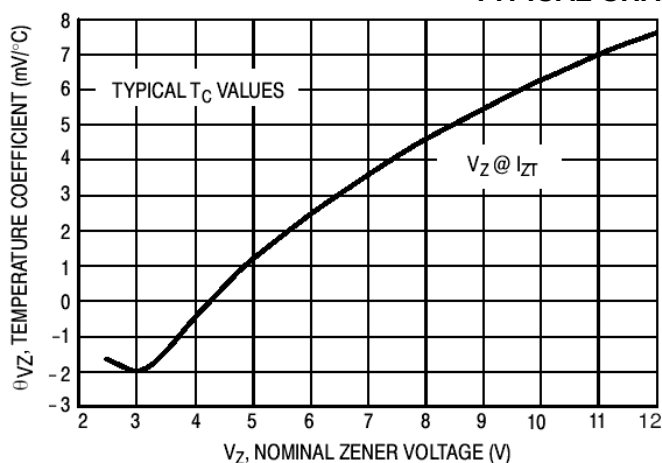
电特性 (TA = 25℃ 除非另有规定)

**Electrical Characteristics** (Ratings at 25℃ ambient temperature unless otherwise specified).

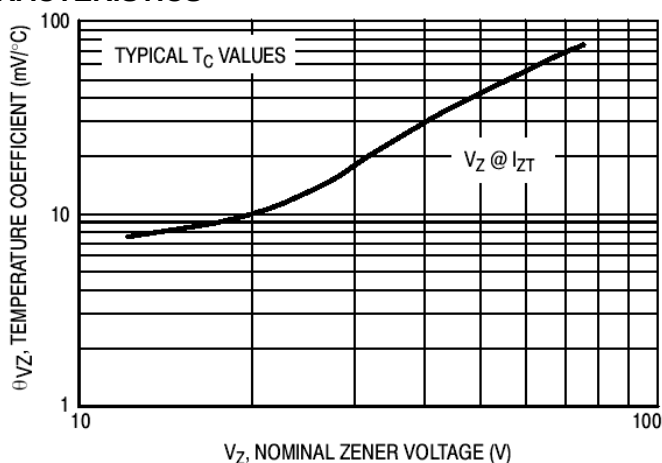
| Device   | Marking | Zener Voltage Range |         |        |           | Maximum Reverse Current |         |
|----------|---------|---------------------|---------|--------|-----------|-------------------------|---------|
|          |         | Vz@Izt              |         |        | Izt<br>uA | IR<br>uA                | VR<br>V |
|          |         | Min(V)              | Nom (V) | Max(V) |           |                         |         |
| MMSZ4678 | CC      | 1.71                | 1.8     | 1.89   | 50        | 7.5                     | 1       |
| MMSZ4679 | CD      | 1.90                | 2.0     | 2.10   | 50        | 5                       | 1       |
| MMSZ4680 | CE      | 2.09                | 2.2     | 2.31   | 50        | 4                       | 1       |
| MMSZ4681 | CF      | 2.28                | 2.4     | 2.52   | 50        | 2                       | 1       |
| MMSZ4682 | CH      | 2.57                | 2.7     | 2.84   | 50        | 1                       | 1       |
| MMSZ4683 | CJ      | 2.85                | 3.0     | 3.15   | 50        | 0.8                     | 1       |
| MMSZ4684 | CK      | 3.13                | 3.3     | 3.47   | 50        | 7.5                     | 1.5     |
| MMSZ4685 | CM      | 3.42                | 3.6     | 3.78   | 50        | 7.5                     | 2       |
| MMSZ4686 | CN      | 3.70                | 3.9     | 4.10   | 50        | 5                       | 2       |
| MMSZ4687 | CP      | 4.09                | 4.3     | 4.52   | 50        | 4                       | 2       |
| MMSZ4688 | CT      | 4.47                | 4.7     | 4.94   | 50        | 10                      | 3       |
| MMSZ4689 | CU      | 4.85                | 5.1     | 5.36   | 50        | 10                      | 3       |
| MMSZ4690 | CV      | 5.32                | 5.6     | 5.88   | 50        | 10                      | 4       |
| MMSZ4691 | CA      | 5.89                | 6.2     | 6.51   | 50        | 10                      | 5       |
| MMSZ4692 | CX      | 6.46                | 6.8     | 7.14   | 50        | 10                      | 5.1     |
| MMSZ4693 | CY      | 7.13                | 7.5     | 7.88   | 50        | 10                      | 5.7     |
| MMSZ4694 | CZ      | 7.79                | 8.2     | 8.61   | 50        | 1                       | 6.2     |
| MMSZ4695 | DC      | 8.27                | 8.7     | 9.14   | 50        | 1                       | 6.6     |



| Device   | Marking | Zener Voltage Range             |        |        |                       | Maximum Reverse Current |                     |
|----------|---------|---------------------------------|--------|--------|-----------------------|-------------------------|---------------------|
|          |         | V <sub>Z</sub> @I <sub>ZT</sub> |        |        | I <sub>ZT</sub><br>uA | I <sub>R</sub><br>uA    | V <sub>R</sub><br>V |
|          |         | Nom(V)                          | Min(V) | Max(V) |                       |                         |                     |
| MMSZ4696 | DD      | 8.65                            | 9.1    | 9.56   | 50                    | 1                       | 6.9                 |
| MMSZ4697 | DE      | 9.50                            | 10.0   | 10.50  | 50                    | 1                       | 7.6                 |
| MMSZ4698 | DF      | 10.45                           | 11.0   | 11.55  | 50                    | 0.05                    | 8.4                 |
| MMSZ4699 | WH      | 11.40                           | 12.0   | 12.60  | 50                    | 0.05                    | 9.1                 |
| MMSZ4700 | DJ      | 12.35                           | 13.0   | 13.65  | 50                    | 0.05                    | 9.8                 |
| MMSZ4701 | DK      | 13.30                           | 14.0   | 14.70  | 50                    | 0.05                    | 10.6                |
| MMSZ4702 | DM      | 14.25                           | 15.0   | 15.75  | 50                    | 0.05                    | 11.4                |
| MMSZ4703 | DN      | 15.20                           | 16.0   | 16.80  | 50                    | 0.05                    | 12.1                |
| MMSZ4704 | DP      | 16.15                           | 17.0   | 17.85  | 50                    | 0.05                    | 12.9                |
| MMSZ4705 | DT      | 17.10                           | 18.0   | 18.90  | 50                    | 0.05                    | 13.6                |
| MMSZ4706 | DU      | 18.05                           | 19.0   | 19.95  | 50                    | 0.05                    | 14.4                |
| MMSZ4707 | DV      | 19.00                           | 20.0   | 21.00  | 50                    | 0.01                    | 15.2                |
| MMSZ4708 | DA      | 20.90                           | 22.0   | 23.10  | 50                    | 0.01                    | 16.7                |
| MMSZ4709 | DX      | 22.80                           | 24.0   | 25.20  | 50                    | 0.01                    | 18.2                |
| MMSZ4710 | DY      | 23.75                           | 25.0   | 26.25  | 50                    | 0.01                    | 19                  |
| MMSZ4711 | EA      | 25.65                           | 27.0   | 28.35  | 50                    | 0.01                    | 20.4                |
| MMSZ4712 | EC      | 26.60                           | 28.0   | 29.40  | 50                    | 0.01                    | 21.2                |
| MMSZ4713 | ED      | 28.50                           | 30.0   | 31.50  | 50                    | 0.01                    | 22.8                |
| MMSZ4714 | EE      | 31.35                           | 33.0   | 34.65  | 50                    | 0.01                    | 25                  |
| MMSZ4715 | EF      | 34.20                           | 36.0   | 37.80  | 50                    | 0.01                    | 27.3                |
| MMSZ4716 | EH      | 37.05                           | 39.0   | 40.95  | 50                    | 0.01                    | 29.6                |
| MMSZ4717 | EJ      | 40.85                           | 43.0   | 45.15  | 50                    | 0.01                    | 32.6                |

**TYPICAL CHARACTERISTICS**

**Figure 1. Temperature Coefficients**  
(Temperature Range -55°C to +150°C)



**Figure 2. Temperature Coefficients**  
(Temperature Range -55°C to +150°C)

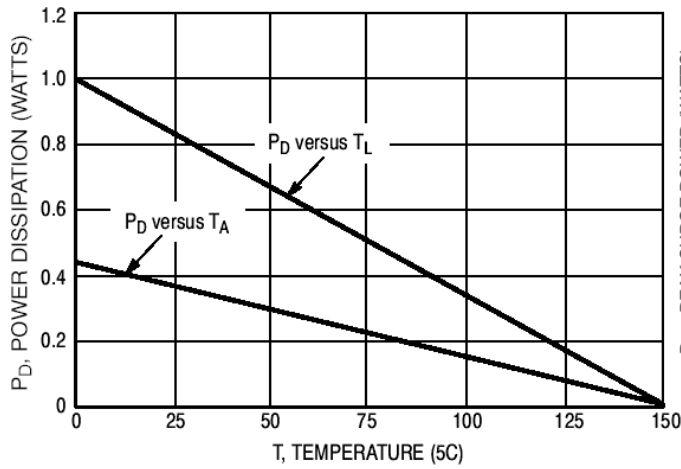


Figure 3. Steady State Power Derating

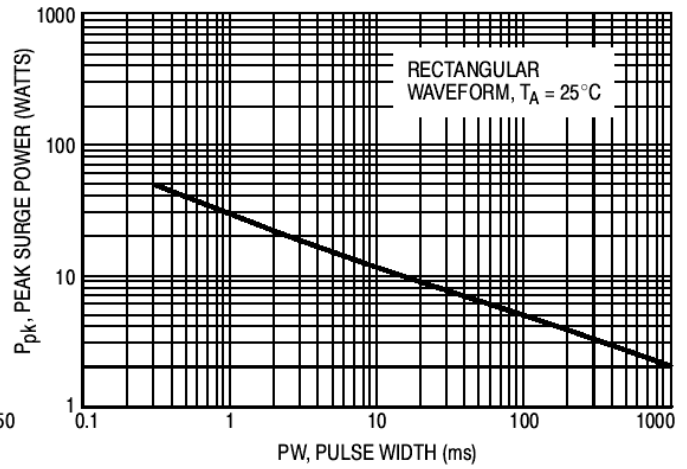


Figure 4. Maximum Nonrepetitive Surge Power

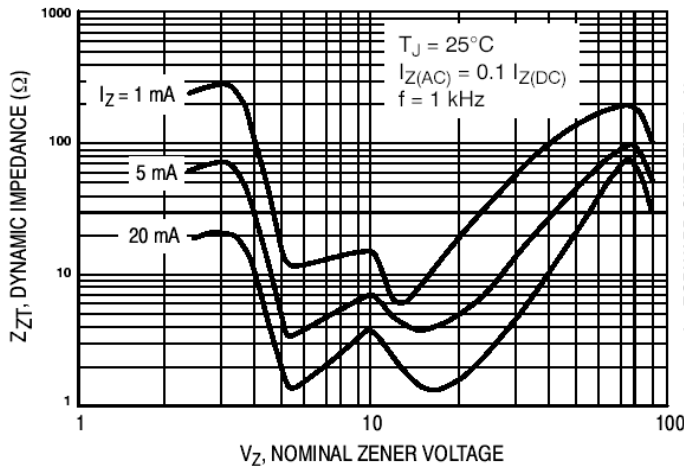


Figure 5. Effect of Zener Voltage on Zener Impedance

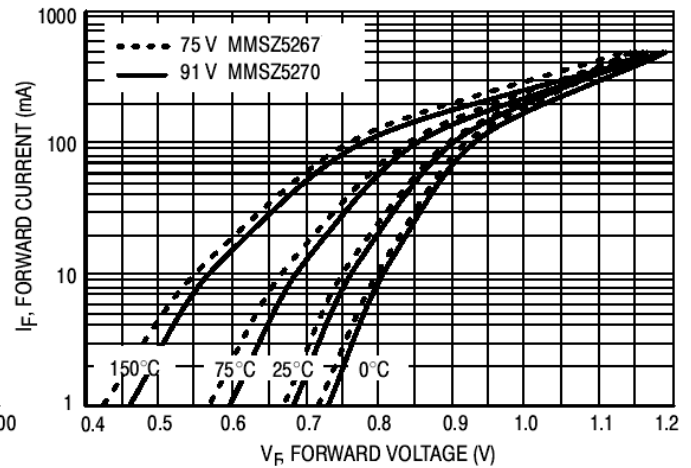


Figure 6. Typical Forward Voltage

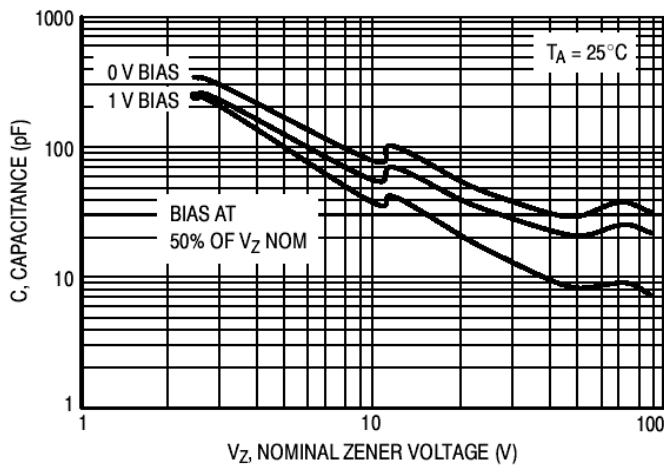


Figure 7. Typical Capacitance

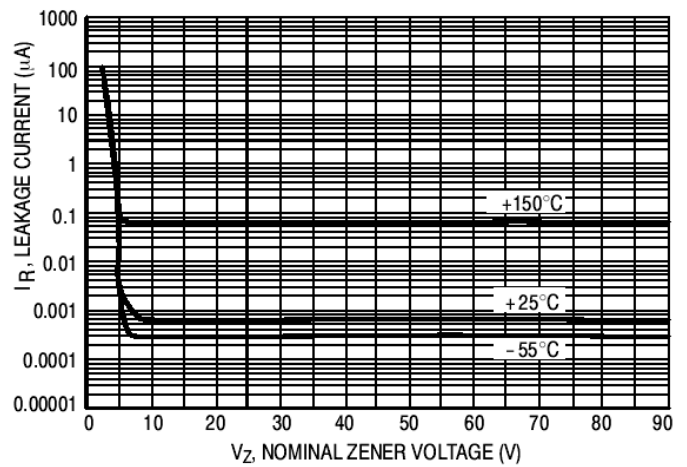


Figure 8. Typical Leakage Current

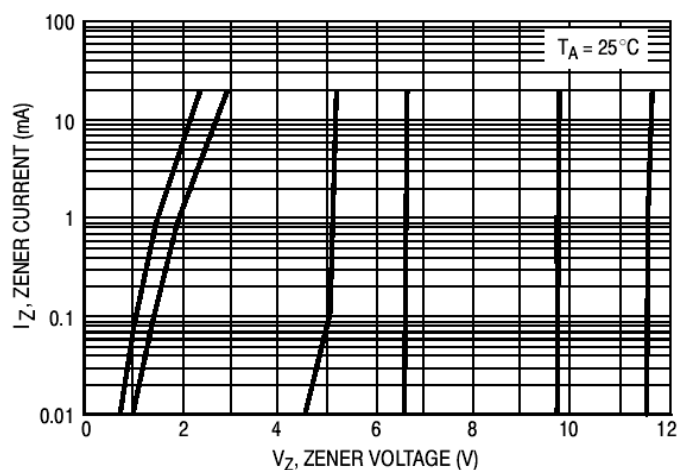


Figure 9. Zener Voltage versus Zener Current  
( $V_Z$  Up to 12 V)

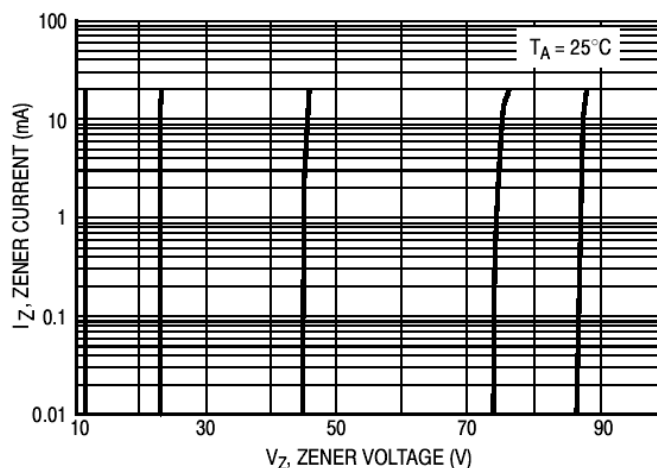
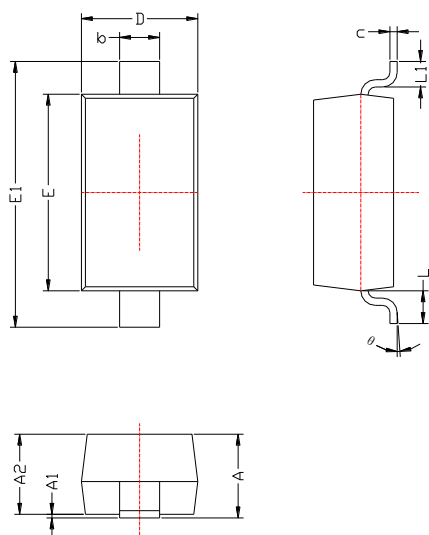


Figure 10. Zener Voltage versus Zener Current  
(12 V to 91 V)

### SOD-123 PACKAGE OUTLINE Plastic surface mounted package

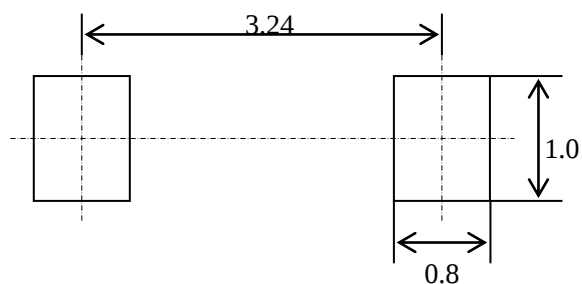


| SYMBOL | DIMENSIONS |       |
|--------|------------|-------|
|        | MIN.       | MAX.  |
| A      | 1.050      | 1.250 |
| A1     | 0.000      | 0.100 |
| A2     | 1.050      | 1.150 |
| b      | 0.450      | 0.650 |
| c      | 0.080      | 0.150 |
| D      | 1.500      | 1.700 |
| E      | 2.600      | 2.800 |
| E1     | 3.550      | 3.850 |
| L      | 0.500REF   |       |
| L1     | 0.250      | 0.450 |
| θ      | 0°         | 8°    |

### 焊盘设计参考

Precautions: PCB Design

Recommended land dimensions for SOD-123 diode. Electrode patterns for PCBs



中心距: 3.24  
脚宽: 0.55  
焊盘宽: 1.00  
脚长: 0.50  
焊盘长: 0.80

技术要求:

- 1, 塑封体尺寸: 2.70 X 1.60
- 2: 未注公差为:  $\pm 0.05$
- 3, 所有单位: mm