

**描述 / Descriptions**

SOD-123 塑封封装 稳压二极管。

Zener Diode in a SOD-123 Plastic Package.

**特征 / Features**

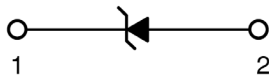
用于 500mW 的 SOD-123 表面贴装稳压电路。无卤产品。

Design for 500mW SOD-123 surface mount. HF Product.

**用途 / Applications**

1.8V-43V 宽稳压范围，耗散功率最大可达 500mW。

Wide zener reverse voltage range 1.8V-43V, Maximum  $P_D$  to 500mW.

**内部等效电路 / Equivalent Circuit****引脚排列 / Pinning**

PIN1:Cathode

PIN2:Anode

**放大及印章代码 /  $h_{FE}$  Classifications & Marking**

见电性能参数。See Electrical Characteristics.

**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

| 参数<br>Parameter                                | 符号<br>Symbol    | 数值<br>Rating | 单位<br>Unit |
|------------------------------------------------|-----------------|--------------|------------|
| Power Dissipation                              | $P_D$           | 500          | mW         |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 340          | °C/W       |
| Typical Thermal Resistance Junction to Lead    | $R_{\theta JL}$ | 150          | °C/W       |
| Junction and Storage Temperature Range         | $T_j, T_{stg}$  | -55~150      | °C         |

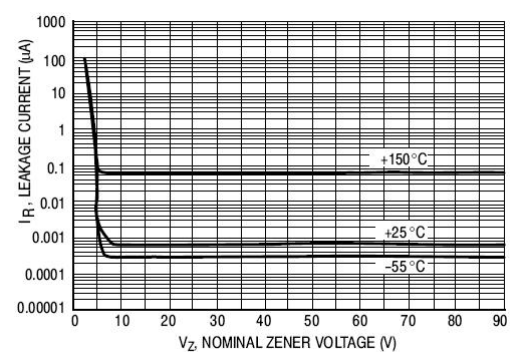
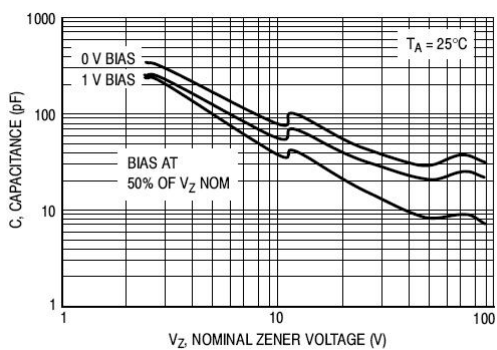
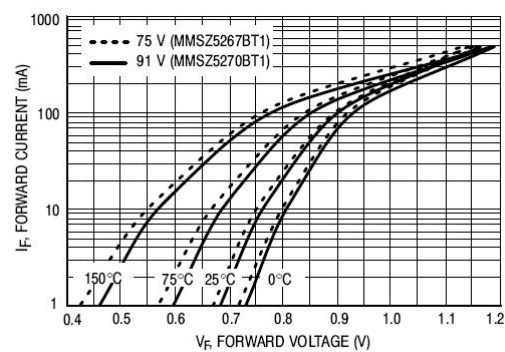
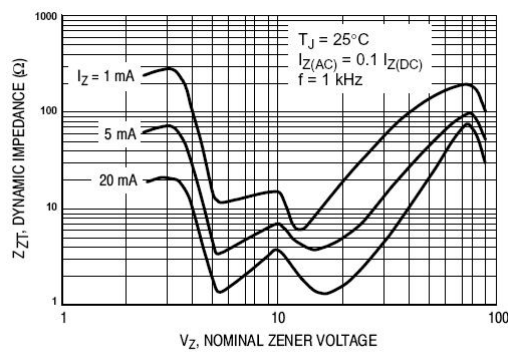
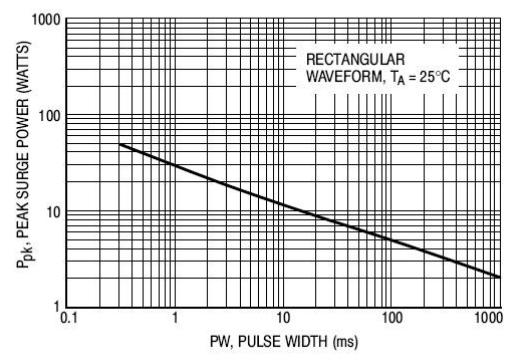
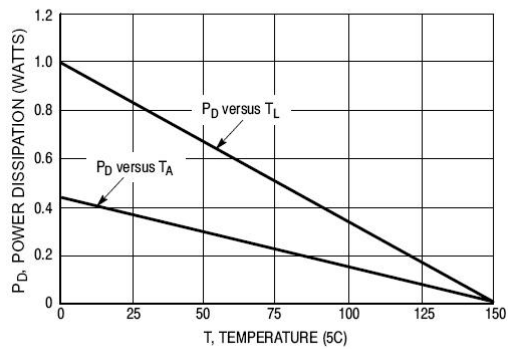
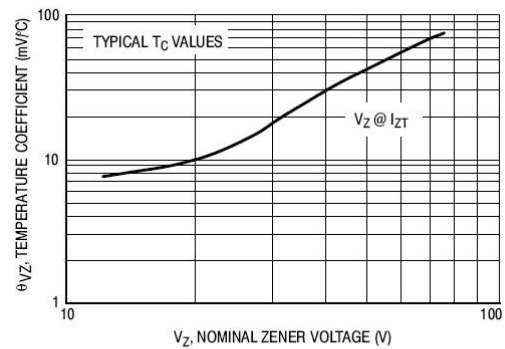
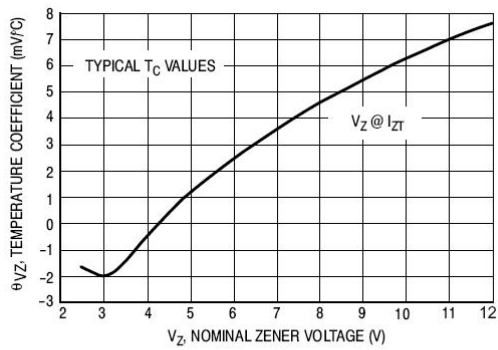
**电性能参数 / Electrical Characteristics(Ta=25°C)**

| Device   | Device Marking | Zener Voltage |     |       |            | Leakage Current |       |
|----------|----------------|---------------|-----|-------|------------|-----------------|-------|
|          |                | $V_Z$ (Volts) |     |       | @ $I_{ZT}$ | $I_R@V_R$       |       |
|          |                | Min           | Nom | Max   |            | uA              | Volts |
| MMSZ4678 | HCC            | 1.71          | 1.8 | 1.89  | 50         | 7.5             | 1     |
| MMSZ4679 | HCD            | 1.90          | 2.0 | 2.10  | 50         | 5               | 1     |
| MMSZ4680 | HCE            | 2.09          | 2.2 | 2.31  | 50         | 4               | 1     |
| MMSZ4681 | HCF            | 2.28          | 2.4 | 2.52  | 50         | 2               | 1     |
| MMSZ4682 | HCH            | 2.565         | 2.7 | 2.835 | 50         | 1               | 1     |
| MMSZ4683 | HCJ            | 2.85          | 3.0 | 3.15  | 50         | 0.8             | 1     |
| MMSZ4684 | HCK            | 3.13          | 3.3 | 3.47  | 50         | 7.5             | 1.5   |
| MMSZ4685 | HCM            | 3.42          | 3.6 | 3.78  | 50         | 7.5             | 2     |
| MMSZ4686 | HCN            | 3.70          | 3.9 | 4.10  | 50         | 5               | 2     |
| MMSZ4687 | HCP            | 4.09          | 4.3 | 4.52  | 50         | 4               | 2     |
| MMSZ4688 | HCT            | 4.47          | 4.7 | 4.94  | 50         | 10              | 3     |
| MMSZ4689 | HCU            | 4.85          | 5.1 | 5.36  | 50         | 10              | 3     |
| MMSZ4690 | HCV            | 5.32          | 5.6 | 5.88  | 50         | 10              | 4     |
| MMSZ4691 | HCA            | 5.89          | 6.2 | 6.51  | 50         | 10              | 5     |
| MMSZ4692 | HCX            | 6.46          | 6.8 | 7.14  | 50         | 10              | 5.1   |
| MMSZ4693 | HCY            | 7.13          | 7.5 | 7.88  | 50         | 10              | 5.7   |
| MMSZ4694 | HCZ            | 7.79          | 8.2 | 8.61  | 50         | 1               | 6.2   |
| MMSZ4695 | HDC            | 8.27          | 8.7 | 9.14  | 50         | 1               | 6.6   |
| MMSZ4696 | HDD            | 8.65          | 9.1 | 9.56  | 50         | 1               | 6.9   |
| MMSZ4697 | HDE            | 9.50          | 10  | 10.5  | 50         | 1               | 7.6   |

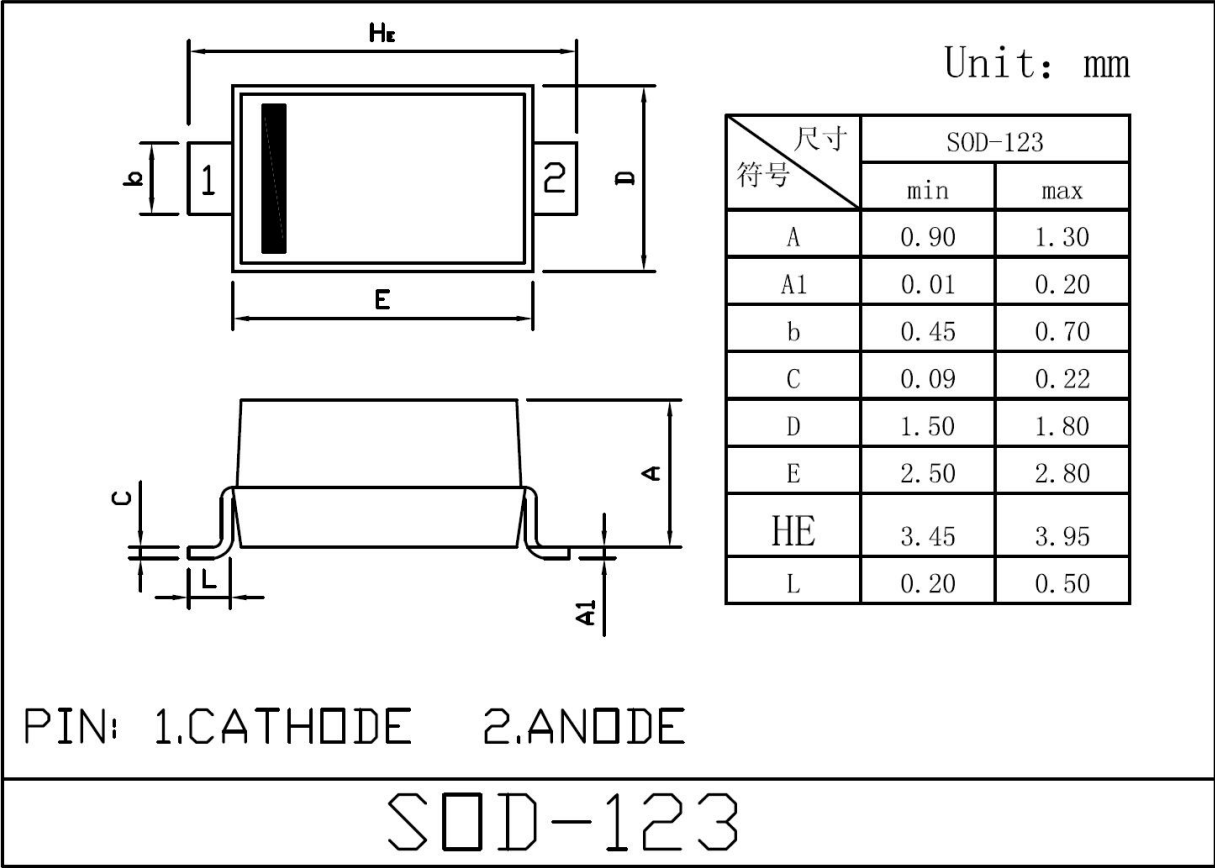
## 电性能参数 / Electrical Characteristics(Ta=25°C)

| Device   | Device Marking | Zener Voltage          |     |       |                  | Leakage Current                |       |
|----------|----------------|------------------------|-----|-------|------------------|--------------------------------|-------|
|          |                | V <sub>Z</sub> (Volts) |     |       | @I <sub>ZT</sub> | I <sub>R</sub> @V <sub>R</sub> |       |
|          |                | Min                    | Nom | Max   | uA               | uA                             | Volts |
| MMSZ4698 | HDF            | 10.45                  | 11  | 11.55 | 50               | 0.05                           | 8.4   |
| MMSZ4699 | HDH            | 11.40                  | 12  | 12.60 | 50               | 0.05                           | 9.1   |
| MMSZ4700 | HDJ            | 12.35                  | 13  | 13.65 | 50               | 0.05                           | 9.8   |
| MMSZ4701 | HDK            | 13.30                  | 14  | 14.70 | 50               | 0.05                           | 10.6  |
| MMSZ4702 | HDM            | 14.25                  | 15  | 15.75 | 50               | 0.05                           | 11.4  |
| MMSZ4703 | HDN            | 15.20                  | 16  | 16.80 | 50               | 0.05                           | 12.1  |
| MMSZ4704 | HDP            | 16.15                  | 17  | 17.85 | 50               | 0.05                           | 12.9  |
| MMSZ4705 | HDT            | 17.10                  | 18  | 18.90 | 50               | 0.05                           | 13.6  |
| MMSZ4706 | HDU            | 18.05                  | 19  | 19.95 | 50               | 0.05                           | 14.4  |
| MMSZ4707 | HDV            | 19.00                  | 20  | 21.00 | 50               | 0.01                           | 15.2  |
| MMSZ4708 | HDA            | 20.90                  | 22  | 23.10 | 50               | 0.01                           | 16.7  |
| MMSZ4709 | HDX            | 22.80                  | 24  | 25.20 | 50               | 0.01                           | 18.2  |
| MMSZ4710 | HDY            | 23.75                  | 25  | 26.25 | 50               | 0.01                           | 19.0  |
| MMSZ4711 | HEA            | 25.65                  | 27  | 28.35 | 50               | 0.01                           | 20.4  |
| MMSZ4712 | HEC            | 26.60                  | 28  | 29.40 | 50               | 0.01                           | 21.2  |
| MMSZ4713 | HED            | 28.50                  | 30  | 31.50 | 50               | 0.01                           | 22.8  |
| MMSZ4714 | HEE            | 31.35                  | 33  | 34.65 | 50               | 0.01                           | 25.0  |
| MMSZ4715 | HEF            | 34.20                  | 36  | 37.80 | 50               | 0.01                           | 27.3  |
| MMSZ4716 | HEH            | 37.05                  | 39  | 40.95 | 50               | 0.01                           | 29.6  |
| MMSZ4717 | HEJ            | 40.87                  | 43  | 45.15 | 50               | 0.01                           | 32.6  |

## 电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions



**印章说明 / Marking Instructions**



说明：

H： 为公司代码

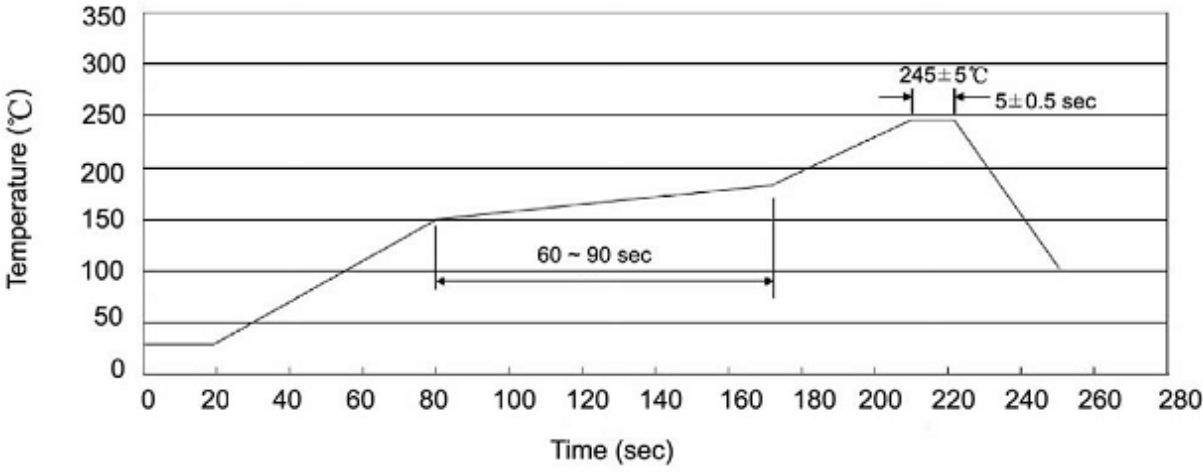
CC： 为型号代码

Note:

H: Company Code.

CC: Product Type.

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 150 ~ 180°C，时间 60 ~ 90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C      时间：10±1 sec.      Temp.:260±5°C      Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                                    | Inner Box 盒 | Outer Box 箱 |
| SOD-123              | 3,000              | 10                      | 30,000                 | 6                            | 180,000                | 7" x8                                   | 180×120×180 | 390×385×205 |

使用说明 / Notices