

### 描述 / Descriptions

SOD-123 塑封封装 稳压二极管。  
Zener Diode in a SOD-123 Plastic Package.

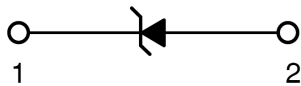
### 特征 / Features

500mW 功耗, 中等电流, 自动贴片组装。无卤产品。  
500mW power dissipation, medium current, automated assembly processes. HF Product.

### 用途 / Applications

适用于 2.4V-39V 的宽范围稳压电路。  
2.4V to 39V wide zener voltage range applications.

### 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 |
|--------------------------------------------------------|-----------------|--------------|------------|
| Forward Voltage (Note 2) $I_F=10\text{mA}$             | $V_F$           | 0.9          | V          |
| Power Dissipation(Note 1)                              | $P_D$           | 500          | mW         |
| Typical Thermal Resistance Junction to Ambient(Note 1) | $R_{\theta JA}$ | 305          | °C/W       |
| Junction and Storage Temperature Range                 | $T_j, T_{stg}$  | -65~150      | °C         |

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

| Type Number | Marking Code | Zener Voltage Range |         |         |          | Maximum Zener Impedance |                   |          | Maximum Reverse Current |         |
|-------------|--------------|---------------------|---------|---------|----------|-------------------------|-------------------|----------|-------------------------|---------|
|             |              | $V_z @ I_{ZT}$      |         |         | $I_{ZT}$ | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ | $I_{ZK}$ | $I_R$                   | @ $V_R$ |
|             |              | Nom (V)             | Min (V) | Max (V) | mA       | $\Omega$                |                   | mA       | $\mu\text{A}$           | V       |
| BZT52B2V4   | H0Z          | 2.4                 | 2.35    | 2.45    | 5        | 94                      | 564               | 1        | 45                      | 1       |
| BZT52B2V7   | H1Z          | 2.7                 | 2.65    | 2.75    | 5        | 94                      | 564               | 1        | 18                      | 1       |
| BZT52B3V0   | H2Z          | 3.0                 | 2.94    | 3.06    | 5        | 89                      | 564               | 1        | 9                       | 1       |
| BZT52B3V3   | H3Z          | 3.3                 | 3.23    | 3.37    | 5        | 89                      | 564               | 1        | 4.5                     | 1       |
| BZT52B3V6   | H4Z          | 3.6                 | 3.53    | 3.67    | 5        | 84                      | 564               | 1        | 4.5                     | 1       |
| BZT52B3V9   | H5Z          | 3.9                 | 3.82    | 3.96    | 5        | 84                      | 564               | 1        | 2.7                     | 1       |
| BZT52B4V3   | H6Z          | 4.3                 | 4.21    | 4.39    | 5        | 84                      | 564               | 1        | 2.7                     | 1       |
| BZT52B4V7   | H7Z          | 4.7                 | 4.61    | 4.79    | 5        | 75                      | 564               | 1        | 2.7                     | 2       |
| BZT52B5V1   | H8Z          | 5.1                 | 5.00    | 5.20    | 5        | 56                      | 470               | 1        | 1.8                     | 2       |
| BZT52B5V6   | H9Z          | 5.6                 | 5.49    | 5.71    | 5        | 27                      | 451               | 1        | 0.9                     | 2       |
| BZT52B6V2   | HAZ          | 6.2                 | 6.08    | 6.32    | 5        | 9                       | 376               | 1        | 2.7                     | 4       |
| BZT52B6V8   | HBZ          | 6.8                 | 6.66    | 6.94    | 5        | 14                      | 141               | 1        | 1.8                     | 4       |
| BZT52B7V5   | HCZ          | 7.5                 | 7.35    | 7.65    | 5        | 14                      | 75                | 1        | 0.9                     | 5       |
| BZT52B8V2   | HDZ          | 8.2                 | 8.04    | 8.36    | 5        | 14                      | 75                | 1        | 0.63                    | 5       |
| BZT52B9V1   | HEZ          | 9.1                 | 8.92    | 9.28    | 5        | 14                      | 94                | 1        | 0.45                    | 6       |
| BZT52B10    | HFZ          | 10                  | 9.80    | 10.20   | 5        | 18                      | 141               | 1        | 0.18                    | 7       |
| BZT52B11    | HGZ          | 11                  | 10.78   | 11.22   | 5        | 18                      | 141               | 1        | 0.09                    | 8       |

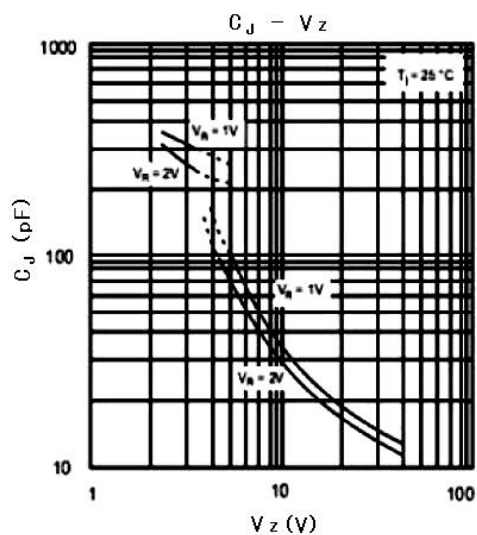
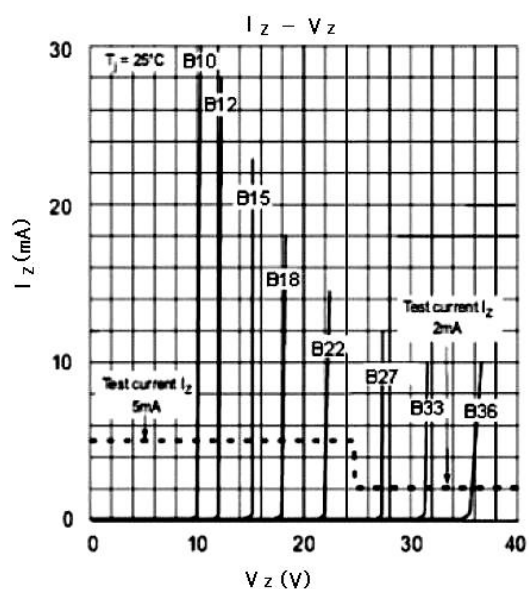
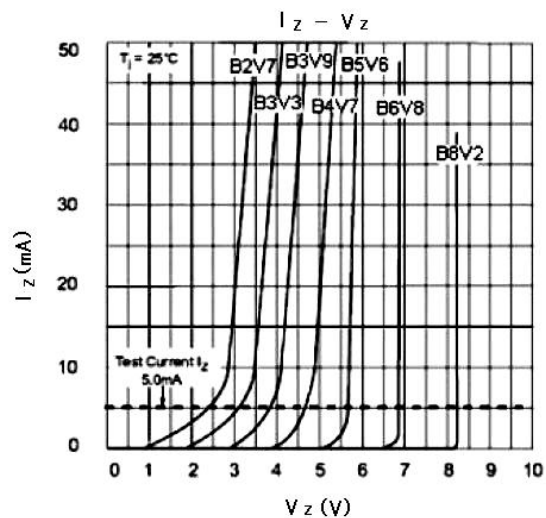
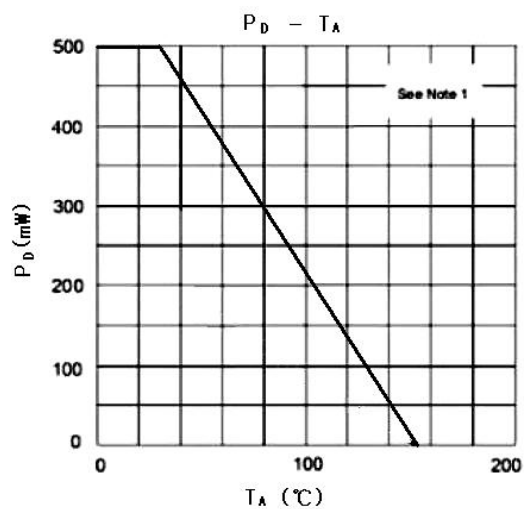
**电性能参数 / Electrical Characteristics(Ta=25°C)**

| Type Number | Marking Code | Zener Voltage Range (Note 2)    |         |         |                 | Maximum Zener Impedance (Note 3) |                                  |                 | Maximum Reverse Current |                 |
|-------------|--------------|---------------------------------|---------|---------|-----------------|----------------------------------|----------------------------------|-----------------|-------------------------|-----------------|
|             |              | V <sub>Z</sub> @I <sub>ZT</sub> |         |         | I <sub>ZT</sub> | Z <sub>ZT</sub> @I <sub>ZT</sub> | Z <sub>ZK</sub> @I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>          | @V <sub>R</sub> |
|             |              | Nom (V)                         | Min (V) | Max (V) | mA              | Ω                                |                                  | mA              | uA                      | V               |
| BZT52B12    | HHZ          | 12                              | 11.76   | 12.24   | 5               | 23                               | 141                              | 1               | 0.09                    | 8               |
| BZT52B13    | HJZ          | 13                              | 12.74   | 13.26   | 5               | 28                               | 160                              | 1               | 0.045                   | 8               |
| BZT52B15    | HKZ          | 15                              | 14.70   | 15.30   | 5               | 28                               | 188                              | 1               | 0.045                   | 10.5            |
| BZT52B16    | HLZ          | 16                              | 15.68   | 16.32   | 5               | 37                               | 188                              | 1               | 0.045                   | 11.2            |
| BZT52B18    | HMZ          | 18                              | 17.64   | 18.36   | 5               | 42                               | 212                              | 1               | 0.045                   | 12.6            |
| BZT52B20    | HNZ          | 20                              | 19.60   | 20.40   | 5               | 51                               | 212                              | 1               | 0.045                   | 14.0            |
| BZT52B22    | HPZ          | 22                              | 21.56   | 22.44   | 5               | 51                               | 235                              | 1               | 0.045                   | 15.4            |
| BZT52B24    | HRZ          | 24                              | 23.52   | 24.48   | 5               | 65                               | 235                              | 1               | 0.045                   | 16.8            |
| BZT52B27    | HSZ          | 27                              | 26.46   | 27.54   | 5               | 75                               | 282                              | 0.5             | 0.045                   | 18.9            |
| BZT52B30    | HTZ          | 30                              | 29.40   | 30.60   | 5               | 75                               | 282                              | 0.5             | 0.045                   | 21.0            |
| BZT52B33    | HUZ          | 33                              | 32.34   | 33.66   | 5               | 75                               | 306                              | 0.5             | 0.045                   | 23.0            |
| BZT52B36    | HVZ          | 36                              | 35.28   | 36.72   | 5               | 84                               | 329                              | 0.5             | 0.045                   | 25.2            |
| BZT52B39    | HWZ          | 39                              | 38.22   | 39.78   | 5               | 122                              | 329                              | 0.5             | 0.045                   | 27.3            |

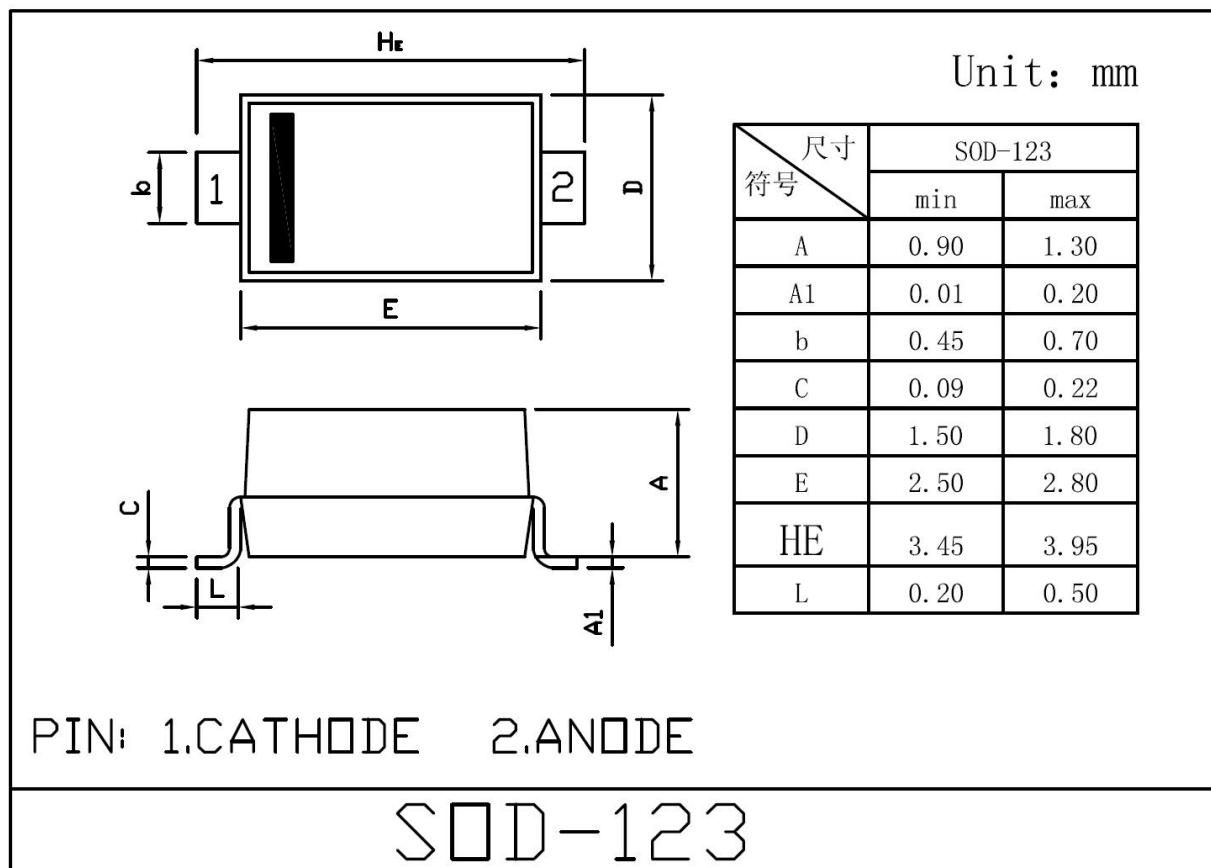
**Notes:**

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

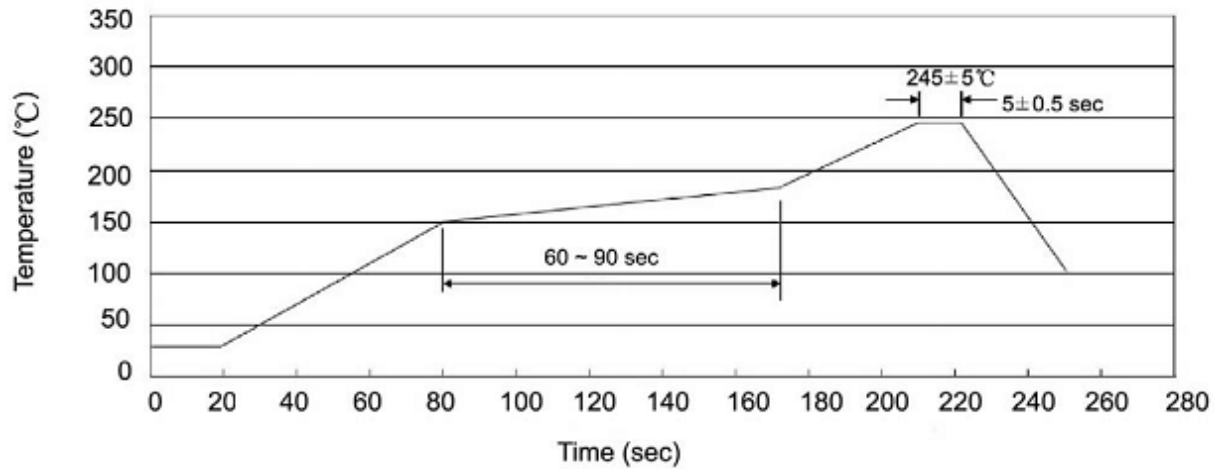
OZ： 为型号代码

Note:

H: Company Code.

OZ: 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" ×8                                   | 180×120×180 | 390×385×205 |

使用说明 / Notices