

### 描述 / Descriptions

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

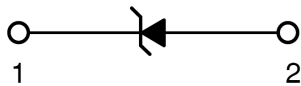
### 特征 / Features

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) ( $I_F=10mA$ )        | $V_F$           | 0.9          | V          |
| Power Dissipation(Note 1)                      | $P_D$           | 500          | mW         |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 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 | Mark-<br>ing<br>Code | Zener Voltage Range<br>(Note 2) |            |            |                 | Maximum Zener<br>mpedance (Note 3)  |                                     |                 | Maximum<br>Reverse<br>Current<br>(Note 2) |                 | Typical<br>Temperature<br>Coefficient<br>@I <sub>ZTC</sub><br>mV/°C |     | Test<br>Curre<br>nt I <sub>ZTC</sub> |
|-------------|----------------------|---------------------------------|------------|------------|-----------------|-------------------------------------|-------------------------------------|-----------------|-------------------------------------------|-----------------|---------------------------------------------------------------------|-----|--------------------------------------|
|             |                      | V <sub>z</sub> @I <sub>ZT</sub> |            |            | I <sub>ZT</sub> | Z <sub>ZT</sub><br>@I <sub>ZT</sub> | Z <sub>ZK</sub><br>@I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>                            | @V <sub>R</sub> |                                                                     |     |                                      |
|             |                      | Nom<br>(V)                      | Min<br>(V) | Max<br>(V) | mA              | Ω                                   |                                     | mA              | uA                                        | V               | Min                                                                 | Max | mA                                   |
| BZT52C2V4   | HWX                  | 2.4                             | 2.2        | 2.6        | 5               | 100                                 | 600                                 | 1               | 50                                        | 1               | -3.5                                                                | 0   | 5                                    |
| BZT52C2V7   | HW1                  | 2.7                             | 2.5        | 2.9        | 5               | 100                                 | 600                                 | 1               | 20                                        | 1               | -3.5                                                                | 0   | 5                                    |
| BZT52C3V0   | HW2                  | 3.0                             | 2.8        | 3.2        | 5               | 95                                  | 600                                 | 1               | 10                                        | 1               | -3.5                                                                | 0   | 5                                    |
| BZT52C3V3   | HW3                  | 3.3                             | 3.1        | 3.5        | 5               | 95                                  | 600                                 | 1               | 5                                         | 1               | -3.5                                                                | 0   | 5                                    |
| BZT52C3V6   | HW4                  | 3.6                             | 3.4        | 3.8        | 5               | 90                                  | 600                                 | 1               | 5                                         | 1               | -3.5                                                                | 0   | 5                                    |
| BZT52C3V9   | HW5                  | 3.9                             | 3.7        | 4.1        | 5               | 90                                  | 600                                 | 1               | 3                                         | 1               | -3.5                                                                | 0   | 5                                    |
| BZT52C4V3   | HW6                  | 4.3                             | 4          | 4.6        | 5               | 90                                  | 600                                 | 1               | 3                                         | 1               | -3.5                                                                | 0   | 5                                    |
| BZT52C4V7   | HW7                  | 4.7                             | 4.4        | 5          | 5               | 80                                  | 500                                 | 1               | 3                                         | 2               | -3.5                                                                | 0.2 | 5                                    |
| BZT52C5V1   | HW8                  | 5.1                             | 4.8        | 5.4        | 5               | 60                                  | 480                                 | 1               | 2                                         | 2               | -2.7                                                                | 1.2 | 5                                    |
| BZT52C5V6   | HW9                  | 5.6                             | 5.2        | 6          | 5               | 40                                  | 400                                 | 1               | 1                                         | 2               | -2                                                                  | 2.5 | 5                                    |
| BZT52C6V2   | HWA                  | 6.2                             | 5.8        | 6.6        | 5               | 10                                  | 150                                 | 1               | 3                                         | 4               | 0.4                                                                 | 3.7 | 5                                    |
| BZT52C6V8   | HWB                  | 6.8                             | 6.4        | 7.2        | 5               | 15                                  | 80                                  | 1               | 2                                         | 4               | 1.2                                                                 | 4.5 | 5                                    |
| BZT52C7V5   | HWC                  | 7.5                             | 7          | 7.9        | 5               | 15                                  | 80                                  | 1               | 1                                         | 5               | 2.5                                                                 | 5.3 | 5                                    |
| BZT52C8V2   | HWD                  | 8.2                             | 7.7        | 8.7        | 5               | 15                                  | 80                                  | 1               | 0.7                                       | 5               | 3.2                                                                 | 6.2 | 5                                    |
| BZT52C9V1   | HWE                  | 9.1                             | 8.5        | 9.6        | 5               | 15                                  | 100                                 | 1               | 0.5                                       | 6               | 3.8                                                                 | 7   | 5                                    |
| BZT52C10    | HWF                  | 10                              | 9.4        | 10.6       | 5               | 20                                  | 150                                 | 1               | 0.2                                       | 7               | 4.5                                                                 | 8   | 5                                    |

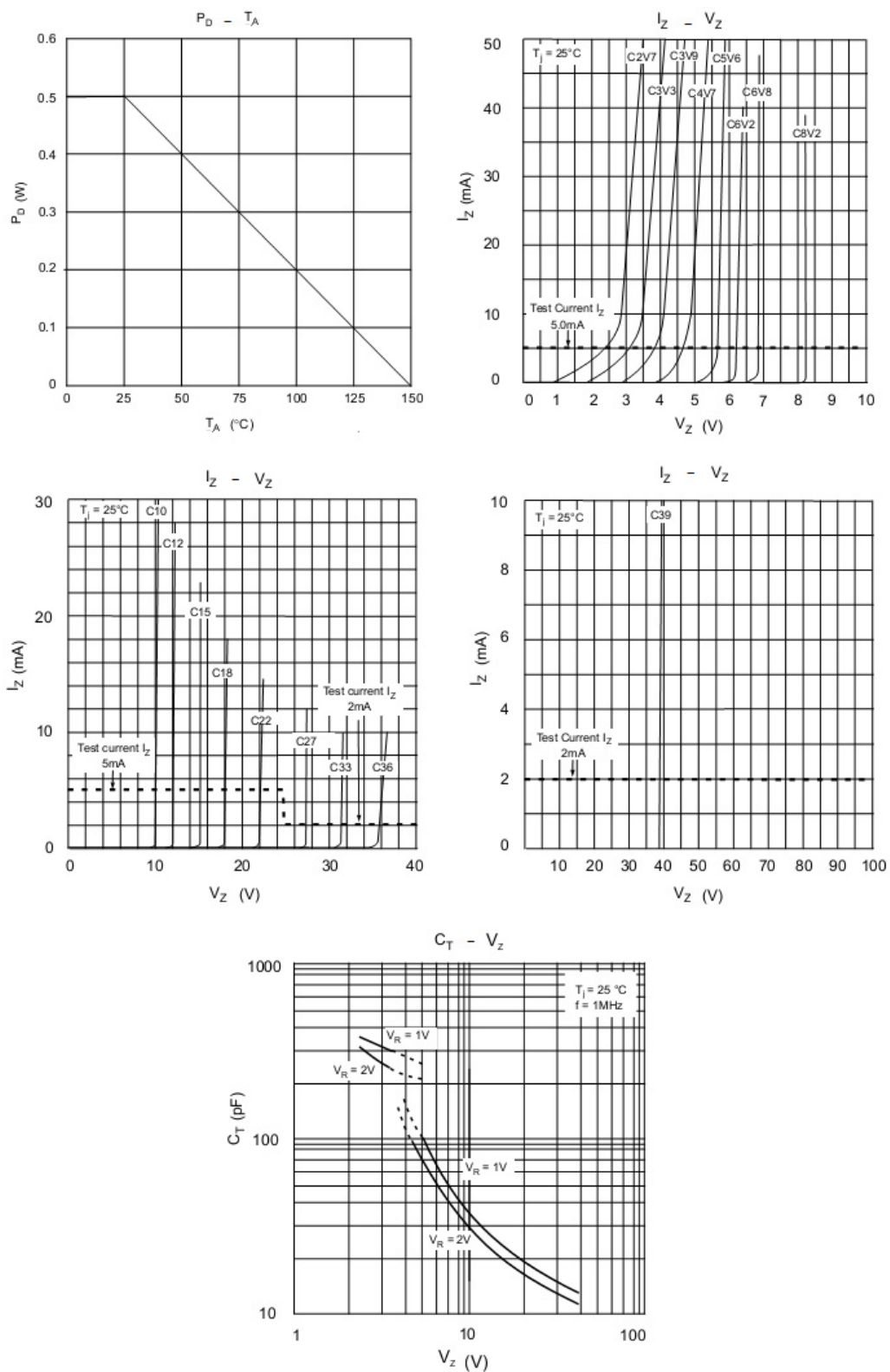
**电性能参数 / Electrical Characteristics(Ta=25°C)**

| Type Number | Marking Code | Zener Voltage Range (Note 2)    |         |         |                 | Maximum Zener impedance (Note 3) |                                  |                 | Maximum Reverse Current (Note 2) |                 | Typical Temperature Coefficient @I <sub>ZTC</sub> mV/°C |      | Test Current I <sub>ZTC</sub> |
|-------------|--------------|---------------------------------|---------|---------|-----------------|----------------------------------|----------------------------------|-----------------|----------------------------------|-----------------|---------------------------------------------------------|------|-------------------------------|
|             |              | 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               | Min                                                     | Max  | mA                            |
| BZT52C11    | HWG          | 11                              | 10.4    | 11.6    | 5               | 20                               | 150                              | 1               | 0.1                              | 8               | 5.4                                                     | 9    | 5                             |
| BZT52C12    | HWH          | 12                              | 11.4    | 12.7    | 5               | 25                               | 150                              | 1               | 0.1                              | 8               | 6                                                       | 10   | 5                             |
| BZT52C13    | HWI          | 13                              | 12.4    | 14.1    | 5               | 30                               | 170                              | 1               | 0.1                              | 8               | 7                                                       | 11   | 5                             |
| BZT52C15    | HWJ          | 15                              | 13.8    | 15.6    | 5               | 30                               | 200                              | 1               | 0.1                              | 10.5            | 9.2                                                     | 13   | 5                             |
| BZT52C16    | HWK          | 16                              | 15.3    | 17.1    | 5               | 40                               | 200                              | 1               | 0.1                              | 11.2            | 10.4                                                    | 14   | 5                             |
| BZT52C18    | HWL          | 18                              | 16.8    | 19.1    | 5               | 45                               | 225                              | 1               | 0.1                              | 12.6            | 12.4                                                    | 16   | 5                             |
| BZT52C20    | HWM          | 20                              | 18.8    | 21.2    | 5               | 55                               | 225                              | 1               | 0.1                              | 14              | 14.4                                                    | 18   | 5                             |
| BZT52C22    | HWN          | 22                              | 20.8    | 23.3    | 5               | 55                               | 250                              | 1               | 0.1                              | 15.4            | 16.4                                                    | 20   | 5                             |
| BZT52C24    | HWO          | 24                              | 22.8    | 25.6    | 5               | 70                               | 250                              | 1               | 0.1                              | 16.8            | 18.4                                                    | 22   | 5                             |
| BZT52C27    | HWP          | 27                              | 25.1    | 28.9    | 2               | 80                               | 300                              | 0.5             | 0.1                              | 18.9            | 21.4                                                    | 25.3 | 2                             |
| BZT52C30    | HWQ          | 30                              | 28      | 32      | 2               | 80                               | 300                              | 0.5             | 0.1                              | 21              | 24.4                                                    | 29.4 | 2                             |
| BZT52C33    | HWR          | 33                              | 31      | 35      | 2               | 80                               | 325                              | 0.5             | 0.1                              | 23.1            | 27.4                                                    | 33.4 | 2                             |
| BZT52C36    | HWS          | 36                              | 34      | 38      | 2               | 90                               | 350                              | 0.5             | 0.1                              | 25.2            | 30.4                                                    | 37.4 | 2                             |
| BZT52C39    | HWT          | 39                              | 37      | 41      | 2               | 130                              | 350                              | 0.5             | 0.1                              | 27.3            | 33.4                                                    | 41.2 | 2                             |

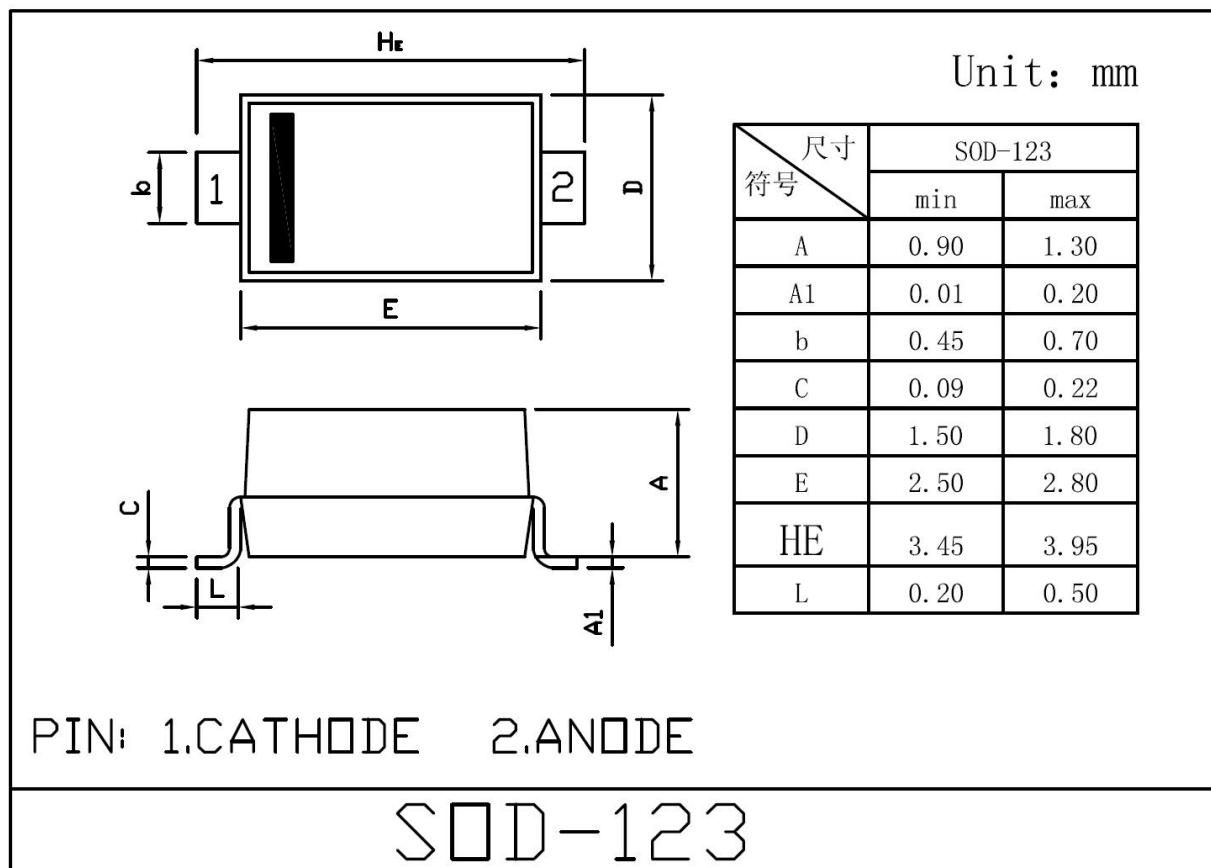
Notes:

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

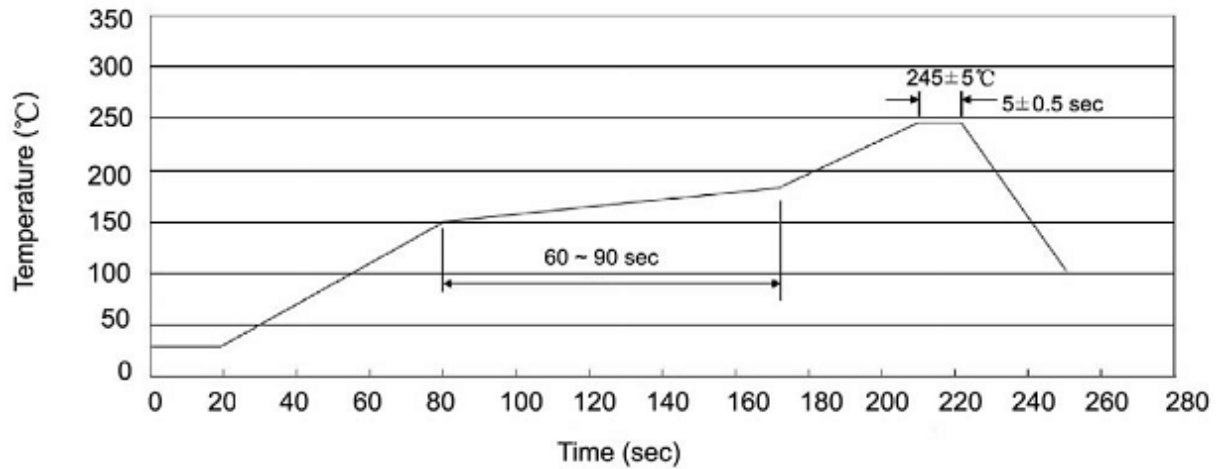
WX： 为型号代码

Note:

H: Company Code.

WX: 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