

## SOD-123

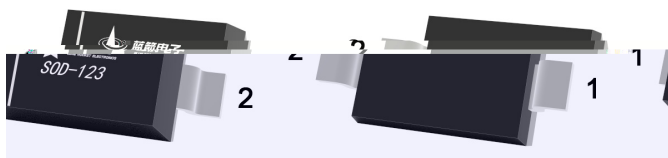
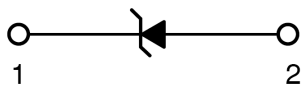
Zener Diode in a SOD-123 Plastic Package.

500mW

500mW power dissipation, medium current, automated assembly processes, HF Product.

2.4V-39V

2.4V to 39V wide zener voltage range applications.



PIN1:Cathode

PIN2:Anode

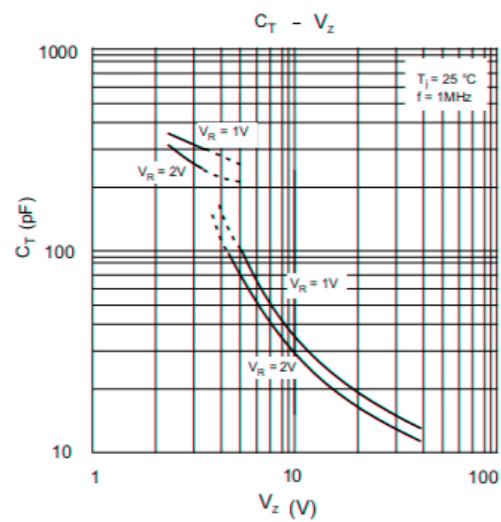
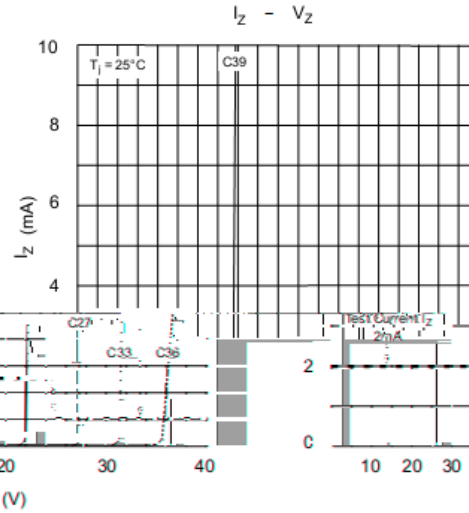
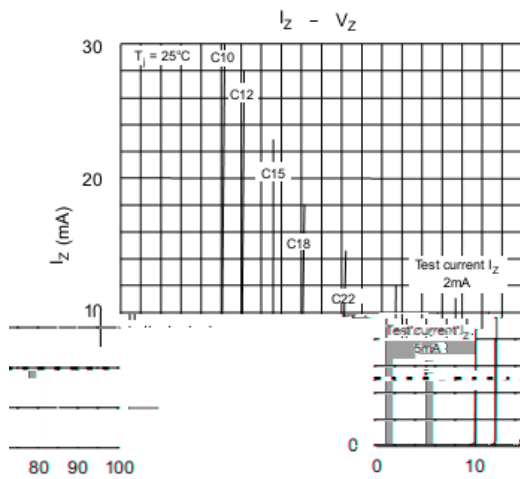
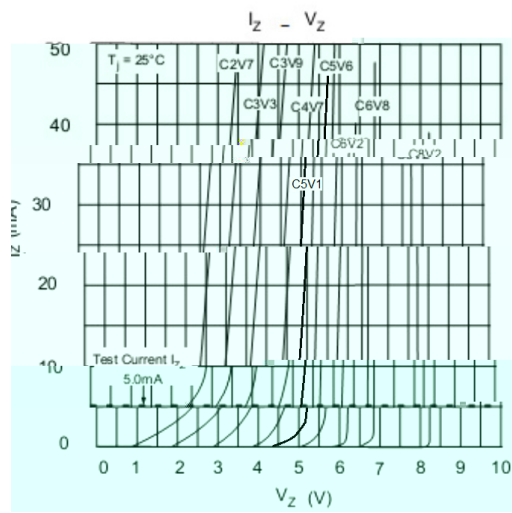
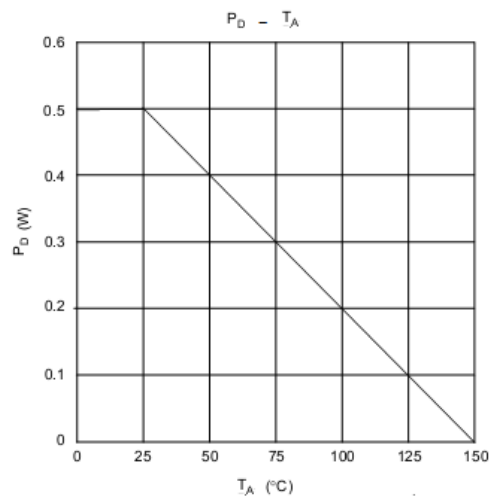
See Electrical Characteristics.

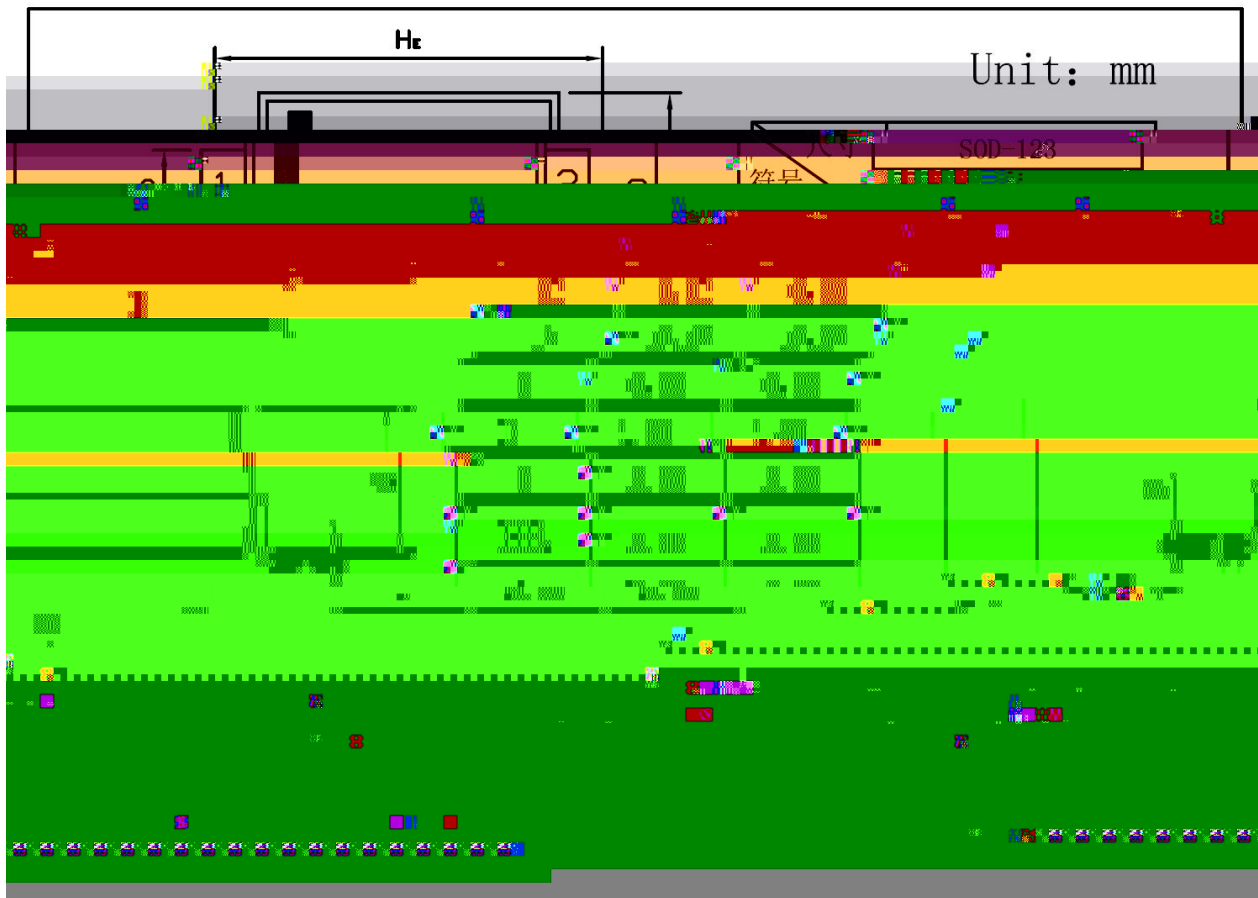
| Parameter                                                                                | Symbol   | Rating | Unit          |
|------------------------------------------------------------------------------------------|----------|--------|---------------|
| Forward Voltage (Note 2) ( $I_F=10mA$ )                                                  | $V_F$    | 0.9    | V             |
| Power Dissipation(Note 1)                                                                | $P_D$    | 500    | mW            |
| Typical Thermal Resistance Junction to Ambient<br>Junction and Storage Temperature Range | $R_{JA}$ | 305    | $^{\circ}C/W$ |

| 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              |                                  |                                  | 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.







H

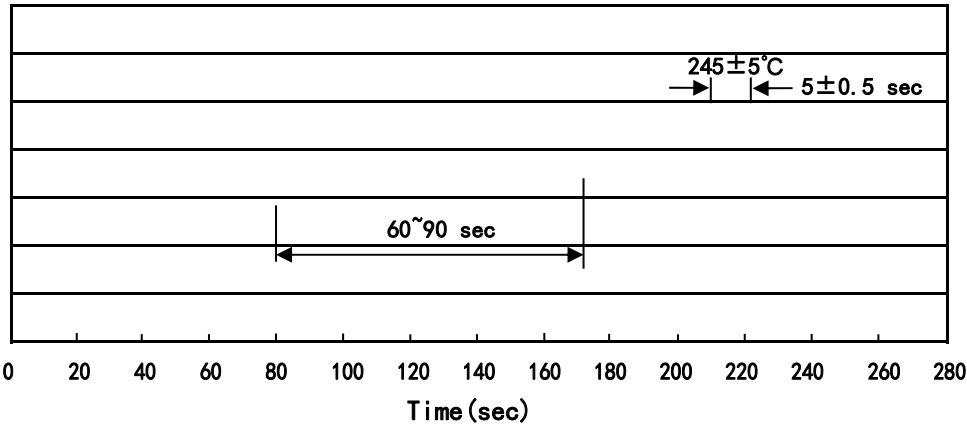
WX

Note:

H: Company Code

WX: Product Type Code

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245±5

5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

260±5                      10±1 sec.                      Temp.:260±5                      Time:10±1 sec

/ REEL

| Package Type | Units      |                 |                 |                       |                 | Dimension (unit mm <sup>3</sup> ) |             |             |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|-----------------------------------|-------------|-------------|
|              | Units/Reel | Reels/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Reel                              | Inner Box   | Outer Box   |
| SOD-123      | 3,000      | 10              | 30,000          | 6                     | 180,000         | 7" ×8                             | 180×120×180 | 390×385×205 |