



## Features

Planar die construction.  
200mW power dissipation on ceramic PBC.  
General purpose, medium current.  
Ideally suited for automated assembly processes.  
Available in lead free version.



SOD-123



## Package Marking and Ordering Information

| Product ID | Pack    | Marking | Qty(PCS) |
|------------|---------|---------|----------|
| HBZT52C20X | SOD-123 | WM      | 3000     |

## Absolute Maximum Ratings(Ta=25°C)

| Symbol           | Parameter                                       | Value    | Unit |
|------------------|-------------------------------------------------|----------|------|
| V <sub>F</sub>   | Forward Voltage (Note 2) @ I <sub>F</sub> =10mA | 0.9      | V    |
| P <sub>d</sub>   | Power Dissipation (Note 1)                      | 500      | mW   |
| R <sub>ΘJA</sub> | Thermal Resistance From Junction To Ambient     | 625      | °C/W |
| T <sub>J</sub>   | Operation Junction Temperature Range            | -40~+125 | °C   |
| T <sub>STG</sub> | Storage Temperature Range                       | -55~+150 | °C   |

## Electrical Characteristics (Ta=25°C unless otherwise specified)

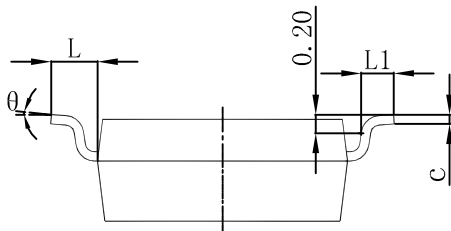
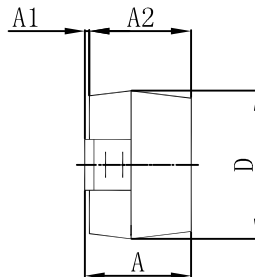
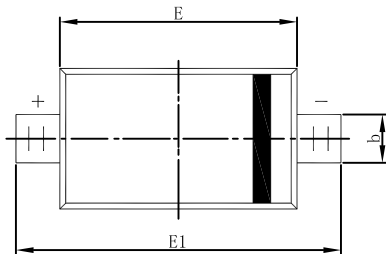
| Type       | Zener Voltage Range (Note 2)         |     |     |                 | Maximum Zener Impedance (Note 3) |                                  |                 | Maximum Reverse Current (Note 2) |                | Typical Temperature Coefficient @ I <sub>ZTC</sub> mV/°C |     | Test Current I <sub>ZTC</sub> |
|------------|--------------------------------------|-----|-----|-----------------|----------------------------------|----------------------------------|-----------------|----------------------------------|----------------|----------------------------------------------------------|-----|-------------------------------|
|            | V <sub>Z</sub> @ I <sub>ZT</sub> (V) |     |     | I <sub>ZT</sub> | V <sub>Z</sub> @ I <sub>ZT</sub> | V <sub>Z</sub> @ I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>                   | V <sub>R</sub> |                                                          |     |                               |
|            | Nom                                  | Min | Max | (mA)            | Ω                                |                                  | (mA)            | μA                               | V              | Min                                                      | Max | mA                            |
| HBZT52C20X | 20                                   | 19  | 21  | 5               | 19                               | 52.2                             | 1.0             | 0.04                             | 14             | 14.4                                                     | 18  | 5                             |

Notes:

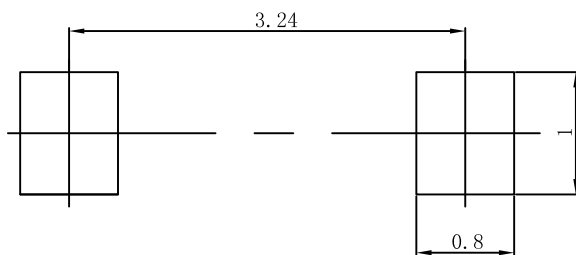
1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>.
2. Short duration test pulse used to minimize self-heating effect.
3. f = 1kHz.



## Package Outline Dimensions SOD-123



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 1.050                     | 1.250 | 0.041                | 0.049 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 1.050                     | 1.150 | 0.041                | 0.045 |
| b      | 0.450                     | 0.650 | 0.018                | 0.026 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.500                     | 1.700 | 0.059                | 0.067 |
| E      | 2.600                     | 2.800 | 0.102                | 0.110 |
| E1     | 3.550                     | 3.850 | 0.140                | 0.152 |
| L      | 0.500 REF                 |       | 0.020 REF            |       |
| L1     | 0.250                     | 0.450 | 0.010                | 0.018 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.



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