



## 1.主要用途与主要特点

### 1.1 主要用途

小功率稳压管主要用于移动电话，手持设备和高密度电脑主板等产品的电路电压调整。

### 1.2 主要特点

- 适合高密度应用的小型化封装尺寸
- 5%的高精度稳压电压稳定性
- 高可靠性芯片和封装工艺

## 2. 封装管芯示意图



SOD-123

## 3. 电参数极限值

除非另有规定， $T_{amb}=25^{\circ}\text{C}$

| 参 数 名 称                   | 符号              | 额定值     | 单位                          |
|---------------------------|-----------------|---------|-----------------------------|
| 正向电压（ $I_F=10\text{mA}$ ） | $V_F$           | 0.85    | V                           |
| 总耗散功率（FR-5 版，注 1）         | $P_D$           | 500     | mW                          |
| 热阻（FR-5 Board，注 1）        | $R_{\theta JA}$ | 556     | $^{\circ}\text{C}/\text{W}$ |
| 热阻（AL 基板，注 2）             | $R_{\theta JA}$ | 417     | $^{\circ}\text{C}/\text{W}$ |
| 最高工作结温                    | $T_j$           | 150     | $^{\circ}\text{C}$          |
| 贮存温度                      | $T_{stg}$       | -55~150 | $^{\circ}\text{C}$          |

注 1:FR-5=1.0\*0.75\*0.62 in.

注 2:Alumina=0.4\*0.3\*0.024 in., 99.5% alumina



#### 4. 电参数特性表

除非另有规定,  $T_{amb} = 25^{\circ}\text{C}$

| DEVICE        | VZ(V) @ IZ=5mA |     |       | ZZ@<br>IZ1=1mA | ZZ @<br>IZ2 = 5 mA | ZZ @<br>IZ3 = 20mA | IR@VR | VR | Typical Temperature<br>Coefficient(mV/°C)@<br>IZ=5mA |      |
|---------------|----------------|-----|-------|----------------|--------------------|--------------------|-------|----|------------------------------------------------------|------|
|               | MIN            | NOM | MAX   | (Ω)            | (Ω)                | (Ω)                | (uA)  | V  | Min                                                  | Max  |
| HBZT52C2V4T1G | 2.28           | 2.4 | 2.52  | 570            | 95                 | 47.5               | 40    | 1  | -3.5                                                 | 0    |
| HBZT52C2V7T1G | 2.57           | 2.7 | 2.84  | 570            | 95                 | 47.5               | 16    | 1  | -3.5                                                 | 0    |
| HBZT52C3V0T1G | 2.85           | 3   | 3.15  | 570            | 90                 | 47.5               | 8     | 1  | -3.5                                                 | 0    |
| HBZT52C3V3T1G | 3.14           | 3.3 | 3.47  | 570            | 90                 | 38                 | 4     | 1  | -3.5                                                 | 0    |
| HBZT52C3V6T1G | 3.42           | 3.6 | 3.78  | 570            | 85                 | 38                 | 4     | 1  | -3.5                                                 | 0    |
| HBZT52C3V9T1G | 3.72           | 3.9 | 4.08  | 570            | 85                 | 28.5               | 2.4   | 1  | -3.5                                                 | 0    |
| HBZT52C4V3T1G | 4.09           | 4.3 | 4.52  | 570            | 85                 | 28.5               | 2.4   | 1  | -3.5                                                 | 0    |
| HBZT52C4V7T1G | 4.47           | 4.7 | 4.94  | 475            | 75                 | 14                 | 2.4   | 2  | -3.5                                                 | 0.2  |
| HBZT52C5V1T1G | 4.85           | 5.1 | 5.36  | 455            | 57                 | 14                 | 1.6   | 2  | -2.7                                                 | 1.2  |
| HBZT52C5V6T1G | 5.32           | 5.6 | 5.88  | 380            | 38                 | 9.5                | 0.8   | 2  | -2                                                   | 2.5  |
| HBZT52C6V2T1G | 5.89           | 6.2 | 6.51  | 150            | 9.5                | 5.7                | 2.4   | 4  | 0.4                                                  | 3.7  |
| HBZT52C6V8T1G | 6.46           | 6.8 | 7.14  | 76             | 14.2               | 5.7                | 1.6   | 4  | 1.2                                                  | 4.5  |
| HBZT52C7V5T1G | 7.13           | 7.5 | 7.88  | 76             | 14.2               | 5.7                | 0.8   | 5  | 2.5                                                  | 5.3  |
| HBZT52C8V2T1G | 7.79           | 8.2 | 8.61  | 76             | 14.2               | 5.7                | 0.56  | 5  | 3.2                                                  | 6.2  |
| HBZT52C9V1T1G | 8.65           | 9.1 | 9.56  | 95             | 14.2               | 7.6                | 0.16  | 7  | 3.8                                                  | 7.0  |
| HBZT52C10T1G  | 9.50           | 10  | 10.50 | 142.5          | 19                 | 9.5                | 0.08  | 8  | 4.5                                                  | 8.0  |
| HBZT52C11T1G  | 10.45          | 11  | 11.55 | 142.5          | 19                 | 9.5                | 0.08  | 8  | 5.4                                                  | 9.0  |
| HBZT52C12T1G  | 11.4           | 12  | 12.60 | 150            | 23.7               | 9.5                | 0.08  | 8  | 6.0                                                  | 10.0 |
| HBZT52C13T1G  | 12.35          | 13  | 13.65 | 170            | 28.5               | 14.2               | 0.08  | 8  | 7.0                                                  | 11.0 |
| HBZT52C15T1G  | 14.25          | 15  | 15.75 | 190            | 28.5               | 19                 | 0.04  | 11 | 9.2                                                  | 13.0 |
| HBZT52C16T1G  | 15.2           | 16  | 16.80 | 190            | 38                 | 19                 | 0.04  | 11 | 10.4                                                 | 14.0 |
| HBZT52C18T1G  | 17.10          | 18  | 18.90 | 213            | 42.7               | 19                 | 0.04  | 13 | 12.4                                                 | 16.0 |
| HBZT52C20T1G  | 19.0           | 20  | 21.0  | 213            | 52.2               | 19                 | 0.04  | 14 | 14.4                                                 | 18.0 |
| HBZT52C22T1G  | 20.9           | 22  | 23.10 | 237            | 52.2               | 23.7               | 0.04  | 15 | 16.4                                                 | 20.0 |
| HBZT52C24T1G  | 22.8           | 24  | 25.2  | 250            | 66.5               | 23.7               | 0.04  | 17 | 18.4                                                 | 22.0 |



| DEVICE       | VZ(V) @ IZ=2mA |     |       | ZZ @<br>IZ = 0.5 mA | ZZ @<br>IZ = 2 mA | ZZ @<br>IZ = 10mA | IR@VR | VR | Typical<br>Temperature<br>Coefficient(mV/°C)@<br>IZ=2mA |      |
|--------------|----------------|-----|-------|---------------------|-------------------|-------------------|-------|----|---------------------------------------------------------|------|
|              | MIN            | NOM | MAX   | (Ω)                 | (Ω)               | (Ω)               | (uA)  | V  | Min                                                     | Max  |
| HBZT52C27T1G | 25.65          | 27  | 28.35 | 295                 | 75                | 43                | 0.04  | 19 | 21.4                                                    | 25.3 |
| HBZT52C30T1G | 28.50          | 30  | 31.50 | 295                 | 75                | 48                | 0.04  | 21 | 24.4                                                    | 29.4 |
| HBZT52C33T1G | 31.35          | 33  | 34.65 | 320                 | 75                | 53                | 0.04  | 23 | 27.4                                                    | 33.4 |
| HBZT52C36T1G | 34.20          | 36  | 37.80 | 345                 | 85                | 58                | 0.04  | 25 | 30.4                                                    | 37.4 |
| HBZT52C39T1G | 37.05          | 39  | 40.95 | 345                 | 125               | 68                | 0.04  | 27 | 33.4                                                    | 41.2 |
| HBZT52C43T1G | 40.85          | 43  | 45.15 | 370                 | 145               | 78                | 0.04  | 30 | 37.6                                                    | 46.6 |
| HBZT52C47T1G | 44.65          | 47  | 49.35 | 370                 | 165               | 88                | 0.04  | 33 | 42.0                                                    | 51.8 |
| HBZT52C51T1G | 48.45          | 51  | 53.55 | 395                 | 175               | 98                | 0.04  | 36 | 46.6                                                    | 57.2 |
| HBZT52C56T1G | 52.2           | 56  | 58.8  | 420                 | 195               | 108               | 0.04  | 39 | 52.2                                                    | 63.8 |
| HBZT52C62T1G | 58.9           | 62  | 65.1  | 445                 | 210               | 118               | 0.04  | 43 | 58.8                                                    | 71.6 |
| HBZT52C68T1G | 64.6           | 68  | 71.4  | 470                 | 235               | 128               | 0.04  | 48 | 65.6                                                    | 79.8 |
| HBZT52C75T1G | 71.25          | 75  | 78.75 | 495                 | 250               | 138               | 0.04  | 53 | 73.4                                                    | 88.6 |



## 5. 特性曲线图表

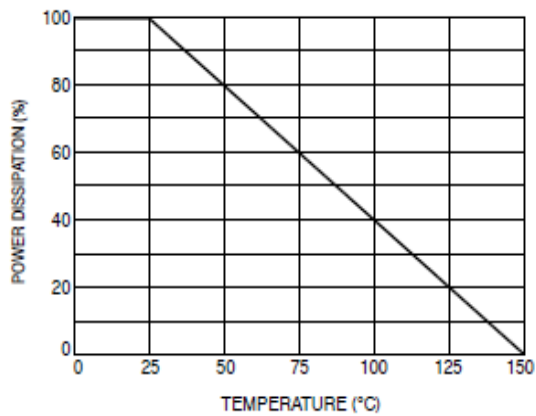


图 1 最大连续功率损耗

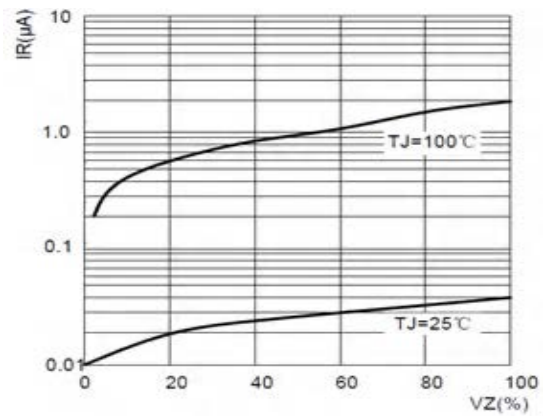


图 2 典型反向特性

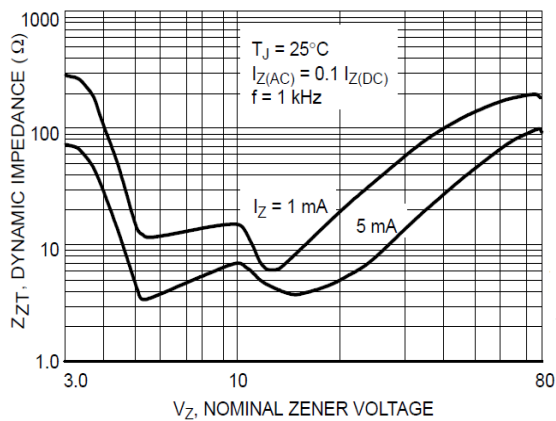


图 3 反向电压与阻抗特性曲线

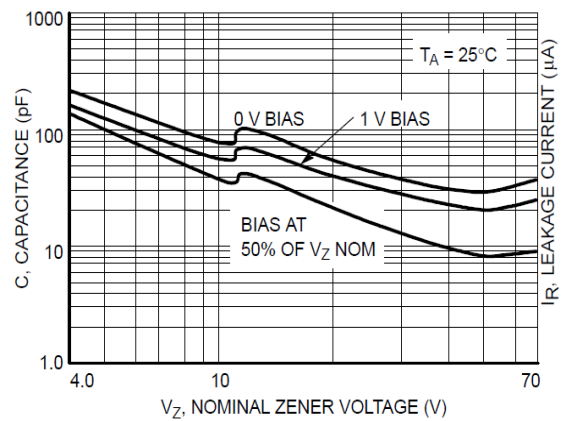
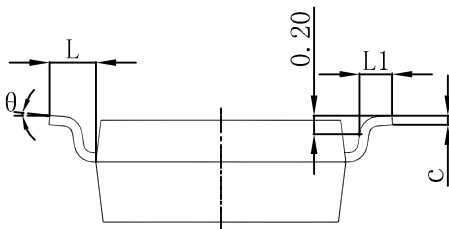
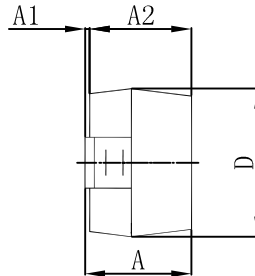
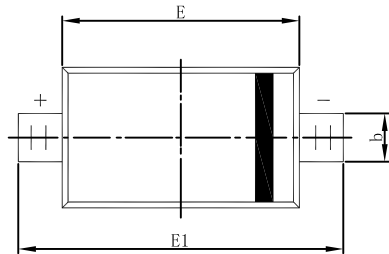


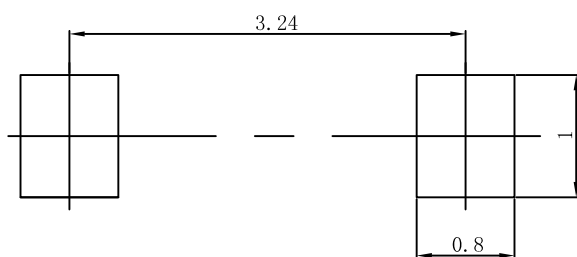
图 4 典型电容特性曲线



## SOD-123 Package Outline Dimensions



| 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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