

**描述 / Descriptions**

SOD-323 塑封封装 稳压二极管。

Zener Diode in a SOD-323 Plastic Package.

**特征 / Features**

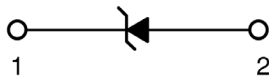
2.4V-110V 宽稳压范围，耗散功率最大可达 200mW。无卤产品。

Wide zener reverse voltage range 2.4V-110V, Maximum  $P_D$  to 200mW. HF Product.

**用途 / Applications**

用于 200mW 的 SOD-323 表面贴装稳压电路。

Design for 200mW SOD-323 surface mount.

**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 |
|------------------------------------------------|-----------------|--------------|------------|
| Power Dissipation                              | $P_D$           | 200          | mW         |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 625          | °C/W       |
| Typical Thermal Resistance Junction to Lead    | $R_{\theta JL}$ | 150          | °C/W       |
| Junction and Storage Temperature Range         | $T_J, T_{stg}$  | -55~150      | °C         |

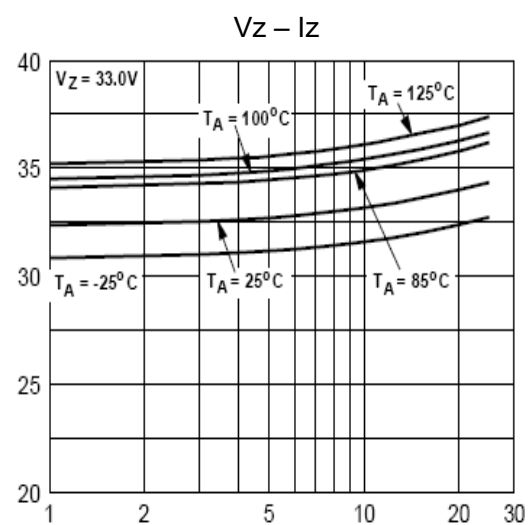
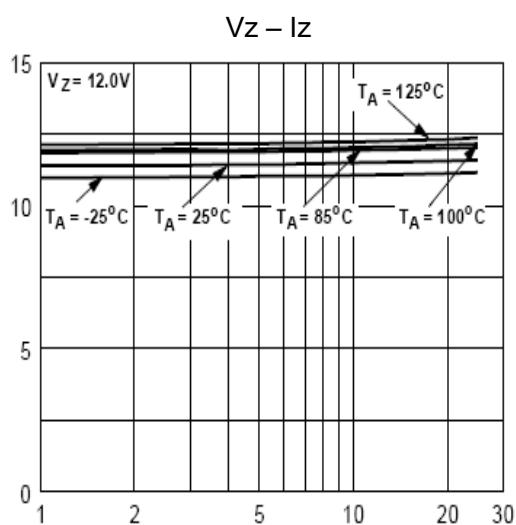
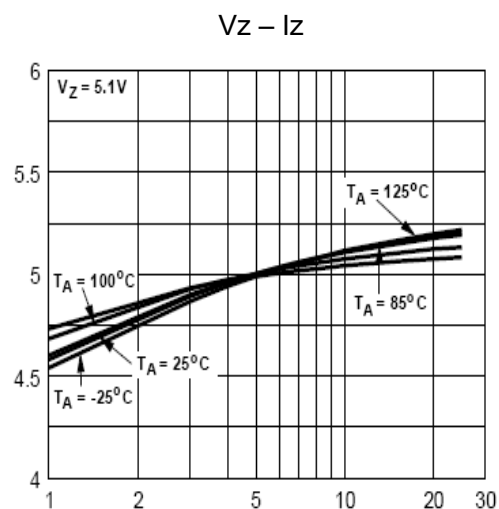
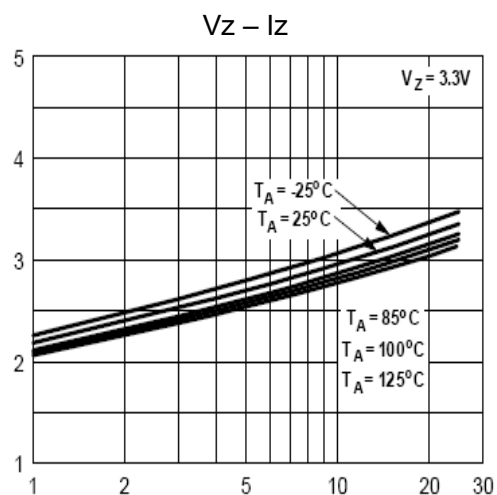
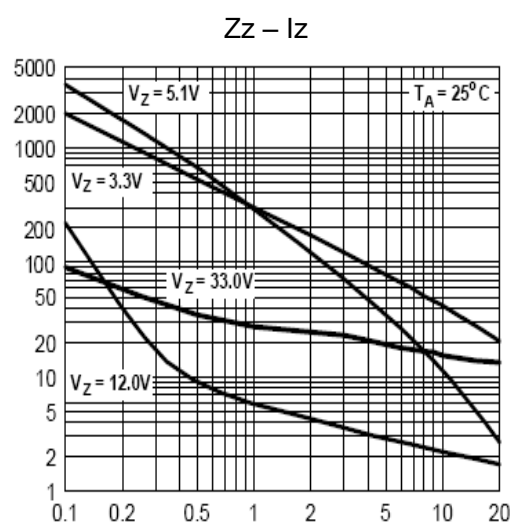
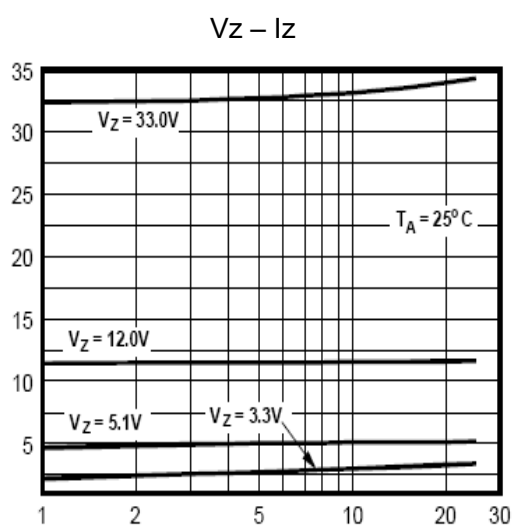
## 电性能参数 / Electrical Characteristics(Ta=25°C)

| Device     | Device Marking | Zener Voltage |     |       |               | Zener Impedance        |                 |      | Leakage Current |       |
|------------|----------------|---------------|-----|-------|---------------|------------------------|-----------------|------|-----------------|-------|
|            |                | $V_Z$ (Volts) |     |       | @<br>$I_{ZT}$ | $Z_{ZT}$<br>@ $I_{ZT}$ | $Z_{zk}@I_{zk}$ |      | $I_R@V_R$       |       |
|            |                | Min           | Nom | Max   | mA            | $\Omega$               | $\Omega$        | mA   | $\mu A$         | Volts |
| MMSZ5221BS | HC1            | 2.28          | 2.4 | 2.52  | 20            | 30                     | 1200            | 0.25 | 100             | 1     |
| MMSZ5222BS | HC2            | 2.38          | 2.5 | 2.63  | 20            | 30                     | 1250            | 0.25 | 100             | 1     |
| MMSZ5223BS | HC3            | 2.57          | 2.7 | 2.84  | 20            | 30                     | 1300            | 0.25 | 75              | 1     |
| MMSZ5224BS | HC4            | 2.66          | 2.8 | 2.94  | 20            | 30                     | 1400            | 0.25 | 75              | 1     |
| MMSZ5225BS | HC5            | 2.85          | 3.0 | 3.15  | 20            | 29                     | 1600            | 0.25 | 50              | 1     |
| MMSZ5226BS | HD1            | 3.13          | 3.3 | 3.47  | 20            | 28                     | 1600            | 0.25 | 25              | 1     |
| MMSZ5227BS | HD2            | 3.42          | 3.6 | 3.78  | 20            | 24                     | 1700            | 0.25 | 15              | 1     |
| MMSZ5228BS | HD3            | 3.71          | 3.9 | 4.10  | 20            | 23                     | 1900            | 0.25 | 10              | 1     |
| MMSZ5229BS | HD4            | 4.09          | 4.3 | 4.52  | 20            | 22                     | 2000            | 0.25 | 5               | 1     |
| MMSZ5230BS | HD5            | 4.47          | 4.7 | 4.94  | 20            | 19                     | 1900            | 0.25 | 5               | 2     |
| MMSZ5231BS | HE1            | 4.85          | 5.1 | 5.36  | 20            | 17                     | 1600            | 0.25 | 5               | 2     |
| MMSZ5232BS | HE2            | 5.32          | 5.6 | 5.88  | 20            | 11                     | 1600            | 0.25 | 5               | 3     |
| MMSZ5233BS | HE3            | 5.70          | 6.0 | 6.30  | 20            | 7                      | 1600            | 0.25 | 5               | 3.5   |
| MMSZ5234BS | HE4            | 5.89          | 6.2 | 6.51  | 20            | 7                      | 1000            | 0.25 | 5               | 4     |
| MMSZ5235BS | HE5            | 6.46          | 6.8 | 7.14  | 20            | 5                      | 750             | 0.25 | 3               | 5     |
| MMSZ5236BS | HF1            | 7.13          | 7.5 | 7.88  | 20            | 6                      | 500             | 0.25 | 3               | 6     |
| MMSZ5237BS | HF2            | 7.79          | 8.2 | 8.61  | 20            | 8                      | 500             | 0.25 | 3               | 6.5   |
| MMSZ5238BS | HF3            | 8.27          | 8.7 | 9.14  | 20            | 8                      | 600             | 0.25 | 3               | 6.5   |
| MMSZ5239BS | HF4            | 8.65          | 9.1 | 9.56  | 20            | 10                     | 600             | 0.25 | 3               | 7     |
| MMSZ5240BS | HF5            | 9.50          | 10  | 10.50 | 20            | 17                     | 600             | 0.25 | 3               | 8     |

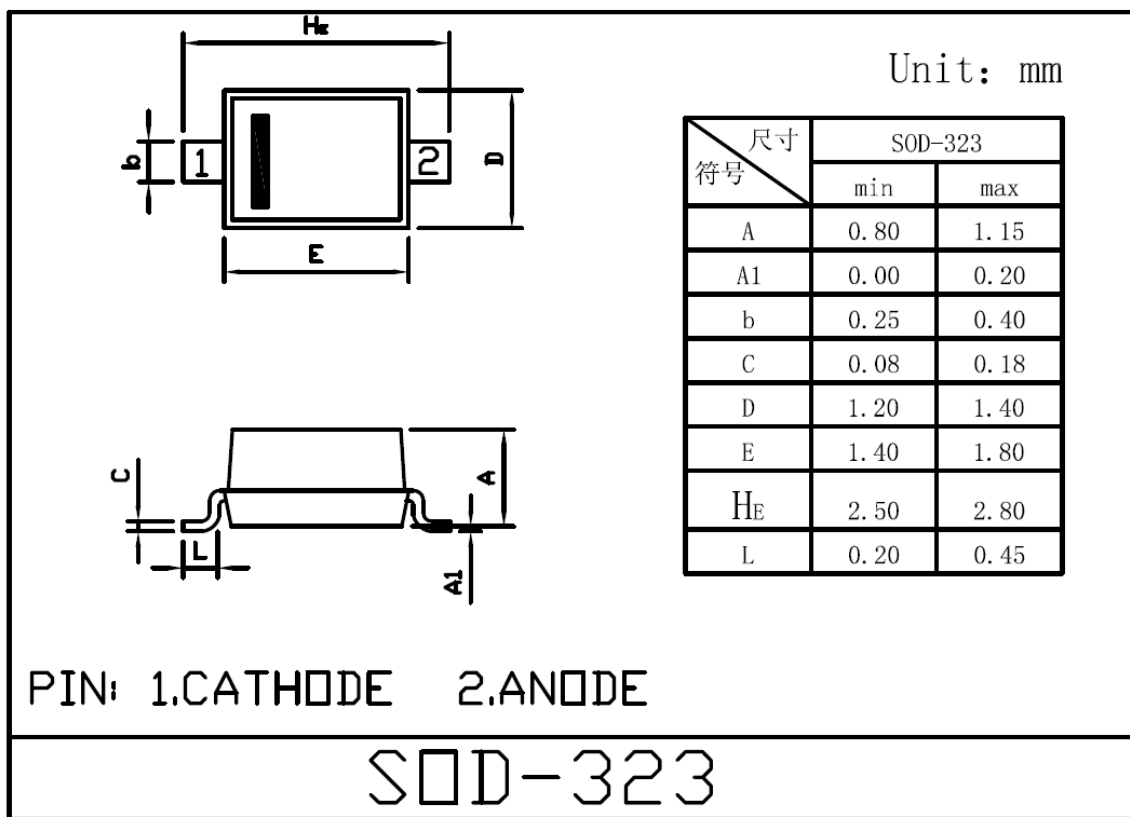
## 电性能参数 / Electrical Characteristics(Ta=25°C)

| Device     | Device Marking | Zoner Voltage          |     |       |                   | Zener Impedance                      |                                  |      | Leakage Current                |       |
|------------|----------------|------------------------|-----|-------|-------------------|--------------------------------------|----------------------------------|------|--------------------------------|-------|
|            |                | V <sub>z</sub> (Volts) |     |       | @ I <sub>zT</sub> | Z <sub>zT</sub><br>@ I <sub>zT</sub> | Z <sub>zk</sub> @I <sub>zk</sub> |      | I <sub>R</sub> @V <sub>R</sub> |       |
|            |                | Min                    | Nom | Max   | mA                | Ω                                    | Ω                                | mA   | uA                             | Volts |
| MMSZ5241BS | HH1            | 10.45                  | 11  | 11.55 | 20                | 22                                   | 600                              | 0.25 | 2                              | 8.4   |
| MMSZ5242BS | HH2            | 11.40                  | 12  | 12.60 | 20                | 30                                   | 600                              | 0.25 | 1                              | 9.1   |
| MMSZ5243BS | HH3            | 12.35                  | 13  | 13.65 | 9.5               | 13                                   | 600                              | 0.25 | 0.5                            | 9.9   |
| MMSZ5244BS | HH4            | 13.30                  | 14  | 14.70 | 9.0               | 15                                   | 600                              | 0.25 | 0.1                            | 10    |
| MMSZ5245BS | HH5            | 14.25                  | 15  | 15.75 | 8.5               | 16                                   | 600                              | 0.25 | 0.1                            | 11    |
| MMSZ5246BS | HJ1            | 15.20                  | 16  | 16.80 | 7.8               | 17                                   | 600                              | 0.25 | 0.1                            | 12    |
| MMSZ5247BS | HJ2            | 16.15                  | 17  | 17.85 | 7.4               | 19                                   | 600                              | 0.25 | 0.1                            | 13    |
| MMSZ5248BS | HJ3            | 17.10                  | 18  | 18.90 | 7.0               | 21                                   | 600                              | 0.25 | 0.1                            | 14    |
| MMSZ5249BS | HJ4            | 18.05                  | 19  | 19.05 | 6.6               | 23                                   | 600                              | 0.25 | 0.1                            | 14    |
| MMSZ5250BS | HJ5            | 19.00                  | 20  | 21.00 | 6.2               | 25                                   | 600                              | 0.25 | 0.1                            | 15    |
| MMSZ5251BS | HK1            | 20.90                  | 22  | 23.10 | 5.6               | 29                                   | 600                              | 0.25 | 0.1                            | 17    |
| MMSZ5252BS | HK2            | 22.80                  | 24  | 25.20 | 5.2               | 33                                   | 600                              | 0.25 | 0.1                            | 18    |
| MMSZ5253BS | HK3            | 23.75                  | 25  | 26.25 | 5.0               | 35                                   | 600                              | 0.25 | 0.1                            | 19    |
| MMSZ5254BS | HK4            | 25.65                  | 27  | 28.35 | 4.6               | 41                                   | 600                              | 0.25 | 0.1                            | 21    |
| MMSZ5255BS | HK5            | 26.60                  | 28  | 29.40 | 4.5               | 44                                   | 600                              | 0.25 | 0.1                            | 21    |
| MMSZ5256BS | HM1            | 28.50                  | 30  | 31.50 | 4.2               | 49                                   | 600                              | 0.25 | 0.1                            | 23    |
| MMSZ5257BS | HM2            | 31.35                  | 33  | 34.65 | 3.8               | 58                                   | 700                              | 0.25 | 0.1                            | 25    |
| MMSZ5258BS | HM3            | 34.20                  | 36  | 37.80 | 3.4               | 70                                   | 700                              | 0.25 | 0.1                            | 27    |
| MMSZ5259BS | HM4            | 37.05                  | 39  | 40.95 | 3.2               | 80                                   | 800                              | 0.25 | 0.1                            | 30    |
| MMSZ5260BS | HM5            | 40.85                  | 43  | 45.15 | 3.0               | 93                                   | 900                              | 0.25 | 0.1                            | 33    |
| MMSZ5261BS | HN1            | 44.65                  | 47  | 49.35 | 2.7               | 105                                  | 1000                             | 0.25 | 0.1                            | 36    |
| MMSZ5262BS | HN2            | 48.45                  | 51  | 53.55 | 2.5               | 125                                  | 1100                             | 0.25 | 0.1                            | 39    |
| MMSZ5263BS | HN3            | 53.20                  | 56  | 58.80 | 2.2               | 150                                  | 1300                             | 0.25 | 0.1                            | 43    |
| MMSZ5264BS | HN4            | 57.00                  | 60  | 63.00 | 2.1               | 170                                  | 1400                             | 0.25 | 0.1                            | 46    |
| MMSZ5265BS | HN5            | 58.90                  | 62  | 65.10 | 2.0               | 185                                  | 1400                             | 0.25 | 0.1                            | 47    |
| MMSZ5266BS | HP1            | 64.60                  | 68  | 71.40 | 1.8               | 230                                  | 1600                             | 0.25 | 0.1                            | 52    |
| MMSZ5267BS | HP2            | 71.25                  | 75  | 78.75 | 1.7               | 270                                  | 1700                             | 0.25 | 0.1                            | 56    |
| MMSZ5268BS | HP3            | 77.90                  | 82  | 86.10 | 1.5               | 330                                  | 2000                             | 0.25 | 0.1                            | 62    |
| MMSZ5269BS | HP4            | 82.65                  | 87  | 91.35 | 1.4               | 370                                  | 2200                             | 0.25 | 0.1                            | 68    |
| MMSZ5270BS | HP5            | 86.45                  | 91  | 95.55 | 1.4               | 400                                  | 2300                             | 0.25 | 0.1                            | 69    |
| MMSZ5272BS | HR2            | 104.5                  | 110 | 115.5 | 1.1               | 750                                  | 3000                             | 0.25 | 0.1                            | 84    |

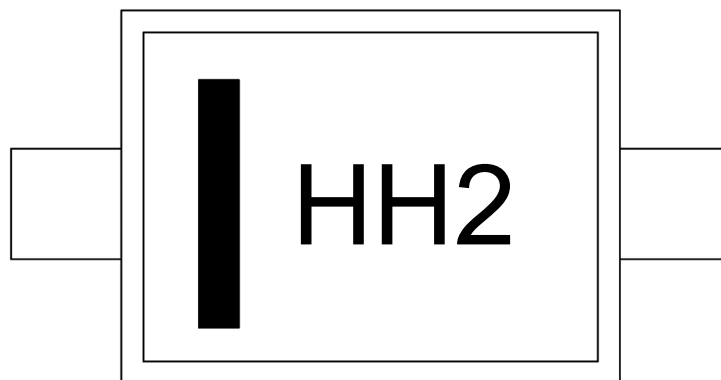
## 电参数曲线图 / Electrical Characteristic Curve



## 外形尺寸图 / Package Dimensions



**印章说明 / Marking Instructions**



说明：

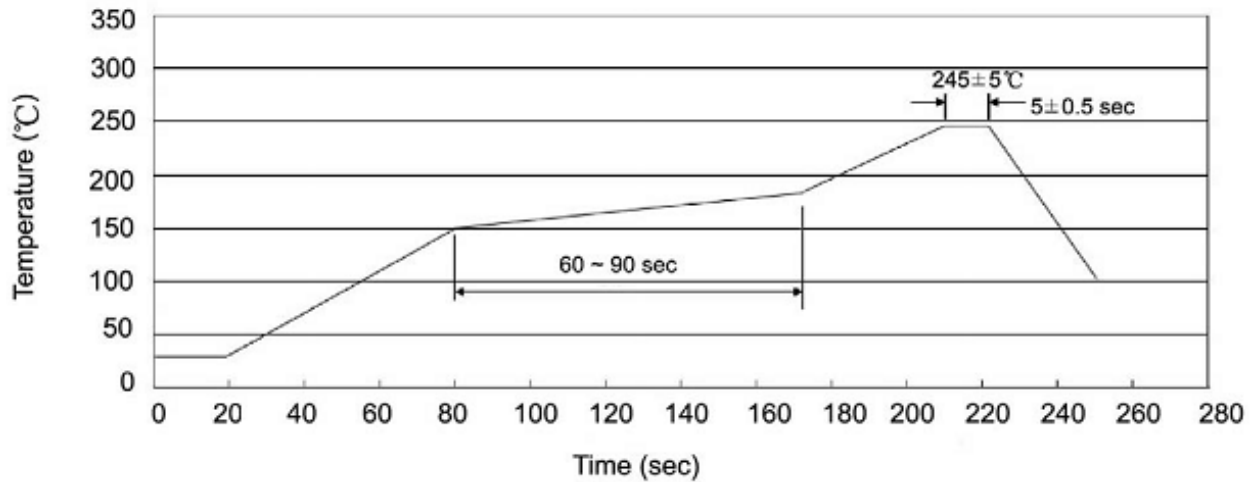
H： 为公司代码

H2： 为型号代码

Note:

H: Company Code.

H2: 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-323              | 3,000              | 10                      | 30,000                 | 6                            | 180,000                | 7" x8                                   | 180×120×180 | 390×385×205 |

**使用说明 / Notices**