

1SMA5913A~1SMA5957A

Rev.B Jun.-2021

描述 / Descriptions

SMA 塑封封装，稳压二极管

Zener Diode in a SMA Plastic Package.

特征 / Features

总功耗：最大不超过 1.5W，齐纳反向电压宽：3.3~240V，小型塑料包装适合表面安装设计。无卤产品。

Total power dissipation: Max. 1.5W, Wide zener reverse voltage range 3.3V to 240V, Small plastic package suitable for surface mounted design. HF Product.

用途 / Applications

一般用途.

General purpose.

内部等效电路 / Equivalent Circuit

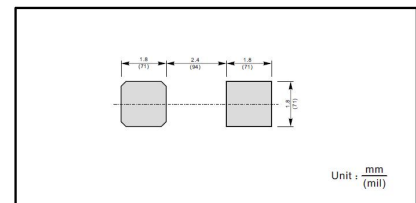


引脚排列 / Pinning



| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |

The recommended mounting pad size



印章代码 / Marking

见印章说明。See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|--------------------------------|------------------|---------------|------------|
| power dissipation at TL=75°C | P _D | 1.5 | W |
| Forward Voltage at IF = 200 mA | VF | 1.5 | V |
| Junction Temperature Range | T _J | - 55 to + 150 | °C |
| Storage Temperature Range | T _{STG} | - 55 to + 150 | °C |

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

| Type7 (note1) | Marking (note1) | Zener Voltage Range (note2) | | | | Dynamic Impedance Z _{ZT} (at I _{ZT}) | Reverse Current | | Admissible Zener Current I _{ZM} (mA) |
|------------------|--------------------|---------------------------------------|---------|---------|--------------------|--|-----------------|-------------------|--|
| | | V _{ZT} (at I _{ZT}) | | | at I _{ZT} | | I _R | at V _R | |
| | | Min (V) | Nom (V) | Max (V) | (mA) | Max (Ω) | Max(μ A) | (V) | |
| 1SMA5913A | 913A | 2.97 | 3.3 | 3.63 | 113.6 | 10 | 100 | 1 | 454 |
| 1SMA5914A | 914A | 3.24 | 3.6 | 3.96 | 104.2 | 9.0 | 75 | 1 | 416 |
| 1SMA5915A | 915A | 3.51 | 3.9 | 4.29 | 96.1 | 7.5 | 25 | 1 | 384 |
| 1SMA5916A | 916A | 3.87 | 4.3 | 4.73 | 87.2 | 6.0 | 5 | 1 | 348 |
| 1SMA5917A | 917A | 4.23 | 4.7 | 5.17 | 79.8 | 5.0 | 5 | 1.5 | 319 |
| 1SMA5918A | 918A | 4.59 | 5.1 | 5.61 | 73.5 | 4.0 | 5 | 2 | 294 |
| 1SMA5919A | 919A | 5.04 | 5.6 | 6.16 | 66.9 | 2.0 | 5 | 3 | 267 |
| 1SMA5920A | 920A | 5.58 | 6.2 | 6.82 | 60.5 | 2.0 | 5 | 4 | 241 |
| 1SMA5921A | 921A | 6.12 | 6.8 | 7.48 | 55 | 2.5 | 5 | 5.2 | 220 |
| 1SMA5922A | 922A | 6.75 | 7.5 | 8.25 | 50 | 3.0 | 5 | 6 | 200 |
| 1SMA5923A | 923A | 7.38 | 8.2 | 9.02 | 45.7 | 3.5 | 5 | 6.5 | 182 |
| 1SMA5924A | 924A | 8.19 | 9.1 | 10.01 | 41.2 | 4.0 | 5 | 7 | 164 |
| 1SMA5925A | 925A | 9.0 | 10 | 11 | 37.5 | 4.5 | 5 | 8 | 150 |
| 1SMA5926A | 926A | 9.9 | 11 | 12.1 | 34 | 5.5 | 1 | 8.4 | 136 |
| 1SMA5927A | 927A | 10.8 | 12 | 13.2 | 31.2 | 6.5 | 1 | 9 | 125 |
| 1SMA5928A | 928A | 11.7 | 13 | 14.3 | 28.8 | 7.0 | 1 | 9.9 | 115 |
| 1SMA5929A | 929A | 13.5 | 15 | 16.5 | 25 | 9.0 | 1 | 11.4 | 100 |
| 1SMA5930A | 930A | 14.4 | 16 | 17.6 | 23.4 | 10 | 1 | 12.2 | 93 |

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

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DATA SHEET

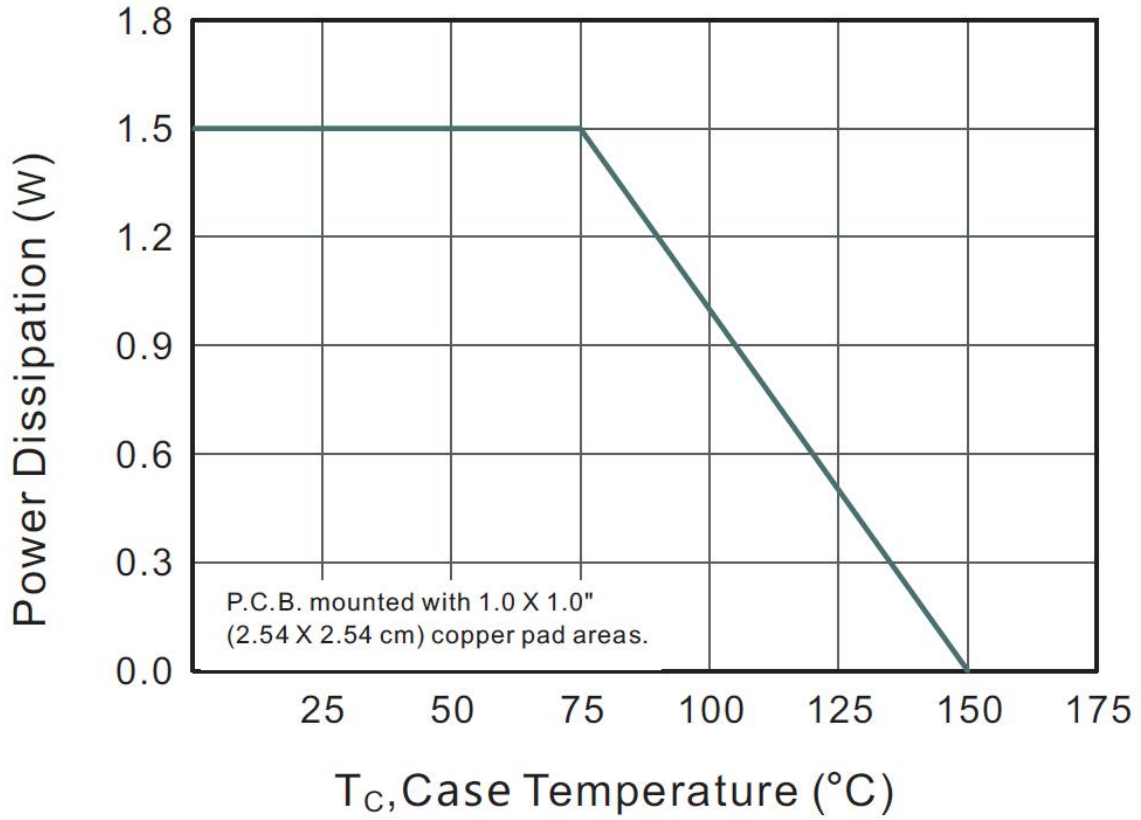
| Type (note1) | Marking (note1) | Zener Voltage Range (note2) | | | | Dynamic Impedance | Reverse Current | | Admissible Zener Current I_{ZM} (mA) |
|-----------------|--------------------|---------------------------------------|---------|---------|--------------------|---------------------------------------|-----------------|-------------------|---|
| | | V _{ZT} (at I _{ZT}) | | | at I _{ZT} | Z _{ZT} (at I _{ZT}) | I _R | at V _R | |
| | | Min (V) | Nom (V) | Max (V) | (mA) | Max (Ω) | Max(μ a) | (V) | |
| 1SMA5931A | 931A | 16.2 | 18 | 19.8 | 21 | 12 | 1 | 13.7 | 83 |
| 1SMA5932A | 932A | 18 | 20 | 22 | 19 | 14 | 1 | 15.2 | 75 |
| 1SMA5933A | 933A | 19.8 | 22 | 24.2 | 17 | 18 | 1 | 16.7 | 68 |
| 1SMA5934A | 934A | 21.6 | 24 | 26.4 | 16 | 19 | 1 | 18.2 | 62 |
| 1SMA5935A | 935A | 24.3 | 27 | 29.7 | 14 | 23 | 1 | 20.6 | 55 |
| 1SMA5936A | 936A | 27 | 30 | 33 | 12.5 | 26 | 1 | 23 | 50 |
| 1SMA5937A | 937A | 29.7 | 33 | 36.3 | 11.4 | 33 | 1 | 25 | 45 |
| 1SMA5938A | 938A | 32.4 | 36 | 39.6 | 10.4 | 38 | 1 | 27 | 41 |
| 1SMA5939A | 939A | 35.1 | 39 | 42.9 | 9.6 | 45 | 1 | 30 | 38 |
| 1SMA5940A | 940A | 38.7 | 43 | 47.3 | 8.7 | 53 | 1 | 33 | 34 |
| 1SMA5941A | 941A | 42.3 | 47 | 51.7 | 8.0 | 67 | 1 | 36 | 31 |
| 1SMA5942A | 942A | 45.9 | 51 | 56.1 | 7.3 | 70 | 1 | 39 | 29 |
| 1SMA5943A | 943A | 50.4 | 56 | 61.6 | 6.7 | 86 | 1 | 42 | 26 |
| 1SMA5944A | 944A | 55.8 | 62 | 68.2 | 6.0 | 100 | 1 | 47 | 24 |
| 1SMA5945A | 945A | 61.2 | 68 | 74.8 | 5.5 | 120 | 1 | 52 | 22 |
| 1SMA5946A | 946A | 67.5 | 75 | 82.5 | 5.0 | 140 | 1 | 57 | 20 |
| 1SMA5947A | 947A | 73.8 | 82 | 90.2 | 4.6 | 160 | 1 | 62 | 18 |
| 1SMA5948A | 948A | 81.9 | 91 | 100.1 | 4.1 | 200 | 1 | 69 | 16 |
| 1SMA5949A | 949A | 90 | 100 | 110 | 3.7 | 250 | 1 | 76 | 15 |
| 1SMA5950A | 950A | 99 | 110 | 121 | 3.4 | 300 | 1 | 84 | 13 |
| 1SMA5951A | 951A | 108 | 120 | 132 | 3.1 | 380 | 1 | 91 | 12 |
| 1SMA5952A | 952A | 117 | 130 | 143 | 2.9 | 450 | 1 | 100 | 11 |
| 1SMA5953A | 953A | 135 | 150 | 165 | 2.5 | 600 | 1 | 114 | 10 |
| 1SMA5954A | 954A | 144 | 160 | 176 | 2.3 | 700 | 1 | 121.6 | 9.0 |
| 1SMA5955A | 955A | 162 | 180 | 198 | 2.1 | 900 | 1 | 136.8 | 8.0 |
| 1SMA5956A | 956A | 180 | 200 | 220 | 1.9 | 1200 | 1 | 152 | 7.0 |
| 1SMA5957A | 957A | 216 | 240 | 264 | 1.5 | 1600 | 1 | 182.4 | 6.0 |

1) Suffix "A" indicates ±10% tolerance, Suffix "B" indicates ±5% tolerance

2) V_{ZT} is tested with pulses (20 ms)

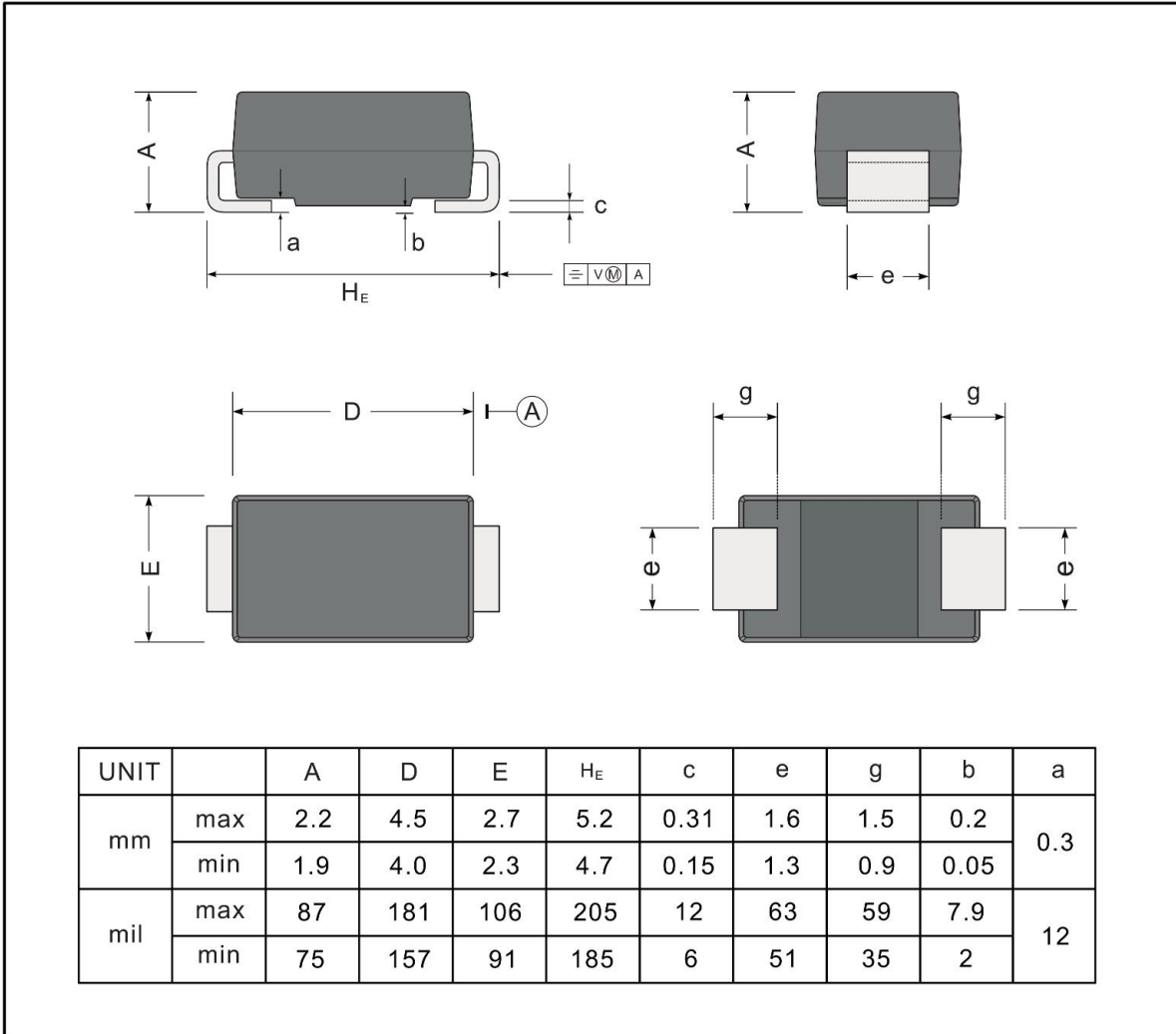
电参数曲线图 / Electrical Characteristic Curve

Fig.1 Maximum Continuous Power Derating



外形尺寸图 / Package Dimensions

SMA



印章说明 / Marking Instructions



说明：

913A : 为型号代码

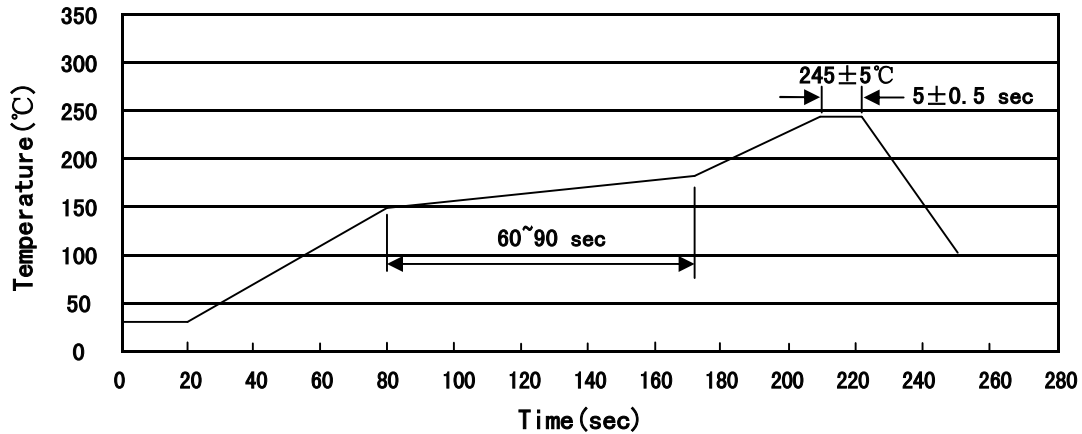
***** : 为生产批号追溯码，第 1 个*为年月代码，后面 3 个*为当月小批号代码

Note:

913A : Product Type Code

***** : Lot No. Code , The 1st * means:YM Code , The last 3 * means:little Lot
No Code

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 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: mm ³) | | |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
| | Units/Reel 只/卷盘 | Reels/Inner Box 卷盘/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Reel | Inner Box 盒 | Outer Box 箱 |
| SMA | 5000 | 2 | 10000 | 7 | 70000 | 13" ×12 | 336X336X40 | 380X335X366 |

使用说明 / Notices