

# P4SMAFJ8.5A~P4SMAFJ170A

Rev.C Feb.-2015

## 描述 / Descriptions

400W 表面贴装瞬态电压抑制器，适用于 8.5V-170V 电压宽范围，薄型 SMAF 封装。

Surface mount transient voltage suppressor power 400W, Stand-Off Voltage:8.5V~170V,SMAF thin package.

## 特征 / Features

玻璃钝化功能，低电感。无卤产品。

Glass passivated junction,Low inductance.Halogen free product.。

## 用途 / Applications

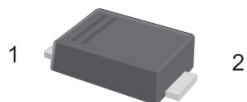
一般用途。

General purpose.

## 内部等效电路 / Equivalent Circuit

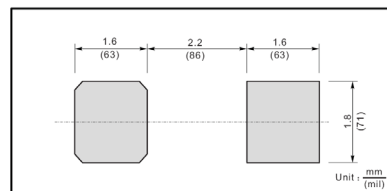


## 引脚排列 / Pinning



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

The recommended mounting pad size



## 印章代码 / Marking

见印章说明。See Marking Instructions.



# P4SMAFJ8.5A~P4SMAFJ170A

Rev.C Feb.-2015

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

| Type       | Marking | Reverse Stand-off Voltage | Breakdown Voltage             |      | Current        | Reverse Leakage                | Max. Clamp Voltage            | Peak Pulse Current |
|------------|---------|---------------------------|-------------------------------|------|----------------|--------------------------------|-------------------------------|--------------------|
|            |         | V <sub>RWM</sub>          | V <sub>BR@I<sub>T</sub></sub> |      | I <sub>T</sub> | I <sub>R@V<sub>RWM</sub></sub> | V <sub>C@I<sub>PP</sub></sub> | I <sub>PP</sub>    |
|            |         |                           | Min                           | Max  |                |                                |                               |                    |
|            |         | V                         | V                             | V    | mA             | μA                             | V                             | A                  |
| P4SMAFJ16A | IP      | 16                        | 17.8                          | 20.5 | 1.0            | 1.0                            | 26.0                          | 15.3               |
| P4SMAFJ17A | IR      | 17                        | 18.9                          | 21.7 | 1.0            | 1.0                            | 27.6                          | 14.5               |
| P4SMAFJ18A | IT      | 18                        | 20.0                          | 23.3 | 1.0            | 1.0                            | 29.2                          | 13.7               |
| P4SMAFJ20A | IV      | 20                        | 22.2                          | 25.5 | 1.0            | 1.0                            | 32.4                          | 12.3               |
| P4SMAFJ22A | IX      | 22                        | 24.4                          | 28.0 | 1.0            | 1.0                            | 35.5                          | 11.2               |
| P4SMAFJ24A | IZ      | 24                        | 26.7                          | 30.7 | 1.0            | 1.0                            | 38.9                          | 10.3               |
| P4SMAFJ26A | JE      | 26                        | 28.9                          | 33.2 | 1.0            | 1.0                            | 42.1                          | 9.5                |
| P4SMAFJ28A | JG      | 28                        | 31.1                          | 35.8 | 1.0            | 1.0                            | 45.4                          | 8.8                |
| P4SMAFJ30A | JK      | 30                        | 33.3                          | 38.3 | 1.0            | 1.0                            | 48.4                          | 8.3                |
| P4SMAFJ33A | JM      | 33                        | 36.7                          | 42.2 | 1.0            | 1.0                            | 53.3                          | 7.5                |
| P4SMAFJ36A | JP      | 36                        | 40.0                          | 46.0 | 1.0            | 1.0                            | 58.1                          | 6.9                |
| P4SMAFJ40A | JR      | 40                        | 44.4                          | 51.1 | 1.0            | 1.0                            | 64.5                          | 6.2                |
| P4SMAFJ43A | JT      | 43                        | 47.8                          | 54.9 | 1.0            | 1.0                            | 69.4                          | 5.7                |
| P4SMAFJ45A | JV      | 45                        | 50.0                          | 57.5 | 1.0            | 1.0                            | 72.7                          | 5.5                |
| P4SMAFJ48A | JX      | 48                        | 53.3                          | 61.3 | 1.0            | 1.0                            | 77.4                          | 5.2                |
| P4SMAFJ51A | JZ      | 51                        | 56.7                          | 65.2 | 1.0            | 1.0                            | 82.4                          | 4.9                |
| P4SMAFJ54A | RE      | 54                        | 60.0                          | 69.0 | 1.0            | 1.0                            | 87.1                          | 4.6                |
| P4SMAFJ58A | RG      | 58                        | 64.4                          | 74.1 | 1.0            | 1.0                            | 93.6                          | 4.3                |
| P4SMAFJ60A | RK      | 60                        | 66.7                          | 76.7 | 1.0            | 1.0                            | 96.8                          | 4.1                |
| P4SMAFJ64A | RM      | 64                        | 71.1                          | 81.8 | 1.0            | 1.0                            | 103                           | 3.9                |
| P4SMAFJ70A | RP      | 70                        | 77.8                          | 89.5 | 1.0            | 1.0                            | 113                           | 3.5                |
| P4SMAFJ75A | RR      | 75                        | 83.3                          | 95.8 | 1.0            | 1.0                            | 121                           | 3.3                |
| P4SMAFJ78A | RT      | 78                        | 86.7                          | 99.7 | 1.0            | 1.0                            | 126                           | 2.2                |

# P4SMAFJ8.5A~P4SMAFJ170A

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

| Type        | Marking | Reverse Stand-off Voltage | Breakdown Voltage             |     | Current        | Reverse Leakage                | Max. Clamp Voltage            | Peak Pulse Current |
|-------------|---------|---------------------------|-------------------------------|-----|----------------|--------------------------------|-------------------------------|--------------------|
|             |         | V <sub>RWM</sub>          | V <sub>BR@I<sub>T</sub></sub> |     | I <sub>T</sub> | I <sub>R@V<sub>RWM</sub></sub> | V <sub>C@I<sub>PP</sub></sub> | I <sub>PP</sub>    |
|             |         |                           | Min                           | Max |                |                                |                               |                    |
|             |         | V                         | V                             | V   | mA             | μA                             | V                             | A                  |
| P4SMAFJ85A  | RV      | 85                        | 94.4                          | 108 | 1.0            | 1.0                            | 137                           | 2.9                |
| P4SMAFJ90A  | RX      | 90                        | 100                           | 116 | 1.0            | 1.0                            | 146                           | 2.7                |
| P4SMAFJ100A | RZ      | 100                       | 111                           | 128 | 1.0            | 1.0                            | 162                           | 2.5                |
| P4SMAFJ110A | SE      | 110                       | 122                           | 141 | 1.0            | 1.0                            | 177                           | 2.3                |
| P4SMAFJ120A | SG      | 120                       | 133                           | 153 | 1.0            | 1.0                            | 193                           | 2.0                |
| P4SMAFJ130A | SK      | 130                       | 144                           | 166 | 1.0            | 1.0                            | 209                           | 1.9                |
| P4SMAFJ150A | SM      | 150                       | 167                           | 193 | 1.0            | 1.0                            | 243                           | 1.6                |
| P4SMAFJ160A | SP      | 160                       | 178                           | 205 | 1.0            | 1.0                            | 259                           | 1.5                |
| P4SMAFJ170A | SR      | 170                       | 189                           | 218 | 1.0            | 1.0                            | 275                           | 1.4                |



## 电参数曲线图 / Electrical Characteristic Curve

Fig.1 Peak Pulse Power Rating Curve

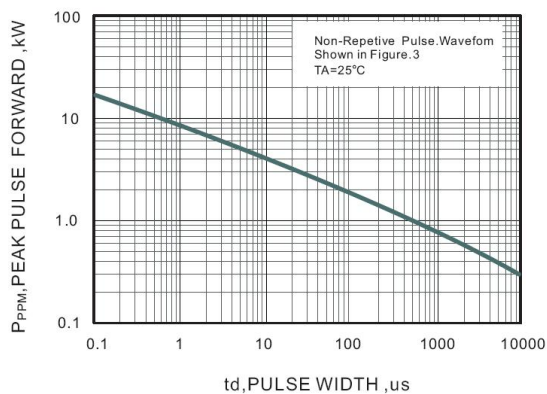


Fig.2 Forward Current Derating Curve

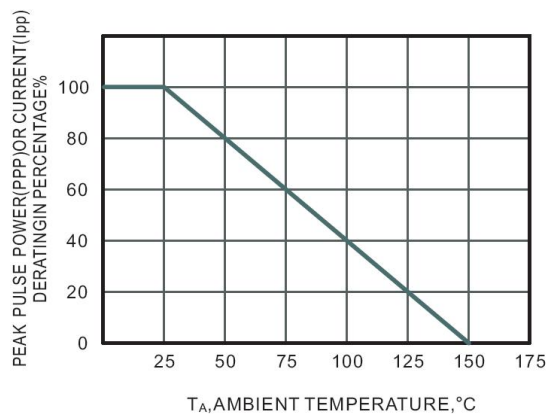


Fig.3 Pulse Waveform

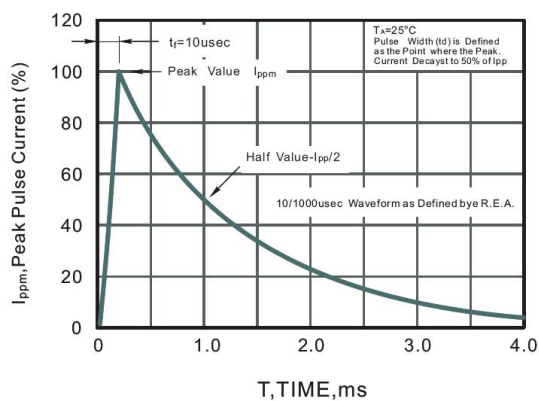
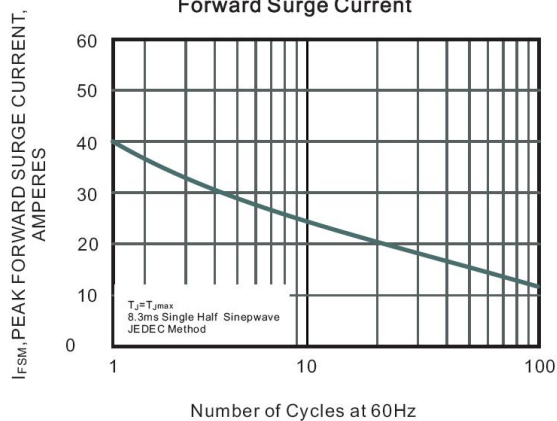
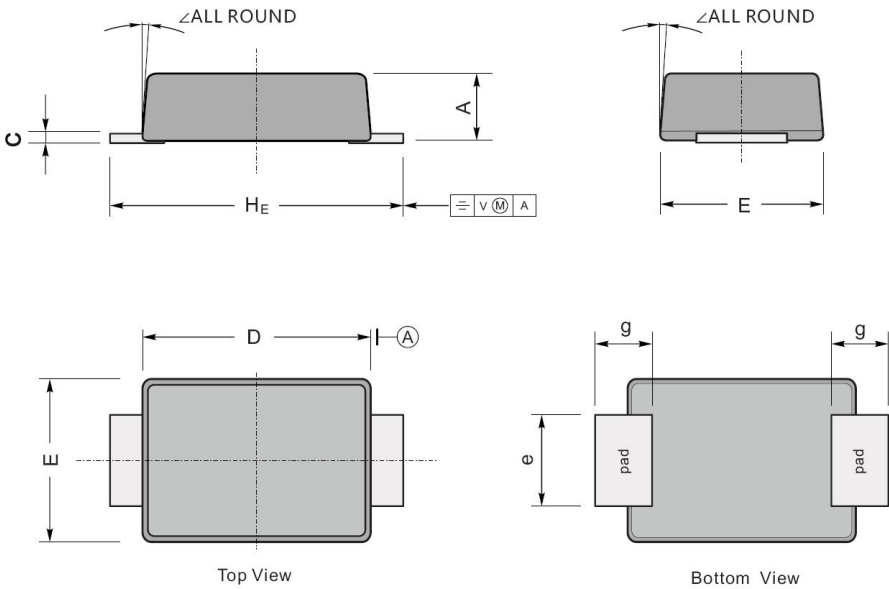


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



外形尺寸图 / Package Dimensions

SMAF

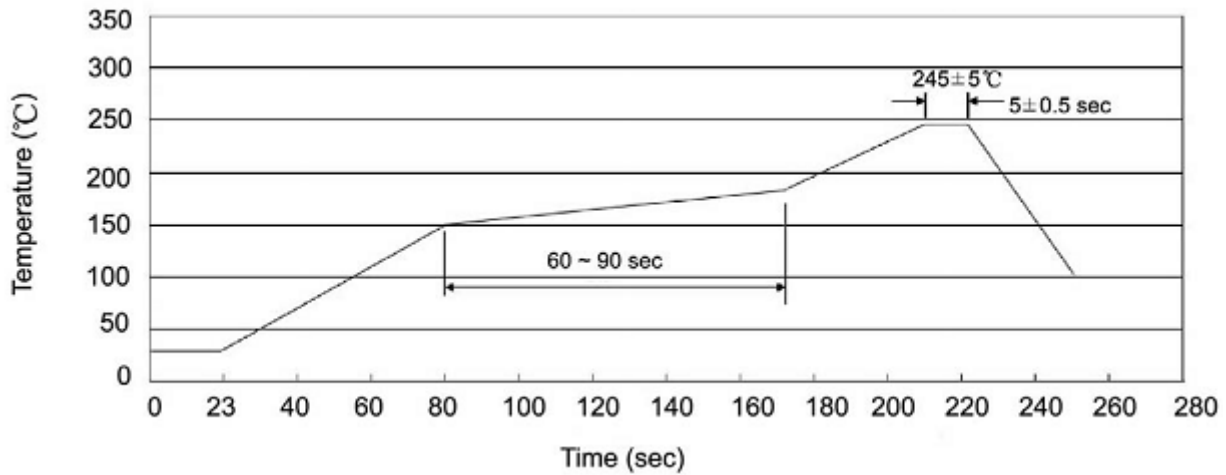


| UNIT |     | A   | C    | D   | E   | e   | g   | H <sub>E</sub> | ∠  |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----|
| mm   | max | 1.1 | 0.20 | 3.7 | 2.7 | 1.6 | 1.2 | 4.9            | 7° |
|      | min | 0.9 | 0.12 | 3.3 | 2.4 | 1.3 | 0.8 | 4.4            |    |
| mil  | max | 43  | 7.9  | 146 | 106 | 63  | 47  | 193            |    |
|      | min | 35  | 4.7  | 130 | 94  | 51  | 31  | 173            |    |


**印章说明 / Marking Instructions**

| Type number | Marking |
|-------------|---------|
| P4SMAFJ8.5A | HT      |
| P4SMAFJ9.0A | HV      |
| P4SMAFJ10A  | HX      |
| P4SMAFJ11A  | HZ      |
| P4SMAFJ12A  | IE      |
| P4SMAFJ13A  | IG      |
| P4SMAFJ14A  | IK      |
| P4SMAFJ15A  | IM      |
| P4SMAFJ16A  | IP      |
| P4SMAFJ17A  | IR      |
| P4SMAFJ18A  | IT      |
| P4SMAFJ20A  | IV      |
| P4SMAFJ22A  | IX      |
| P4SMAFJ24A  | IZ      |
| P4SMAFJ26A  | JE      |
| P4SMAFJ28A  | JG      |
| P4SMAFJ30A  | JK      |
| P4SMAFJ33A  | JM      |
| P4SMAFJ36A  | JP      |
| P4SMAFJ40A  | JR      |
| P4SMAFJ43A  | JT      |
| P4SMAFJ45A  | JV      |
| P4SMAFJ48A  | JX      |
| P4SMAFJ51A  | JZ      |
| P4SMAFJ54A  | RE      |
| P4SMAFJ58A  | RG      |
| P4SMAFJ60A  | RK      |
| P4SMAFJ64A  | RM      |
| P4SMAFJ70A  | RP      |
| P4SMAFJ75A  | RR      |
| P4SMAFJ78A  | RT      |
| P4SMAFJ85A  | RV      |
| P4SMAFJ90A  | RX      |
| P4SMAFJ100A | RZ      |
| P4SMAFJ110A | SE      |
| P4SMAFJ120A | SG      |
| P4SMAFJ130A | SK      |
| P4SMAFJ150A | SM      |
| P4SMAFJ160A | SP      |
| P4SMAFJ170A | SR      |

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 25 ~ 150°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:25~150°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 |
| SMAF                 | 3000               | 5                       | 15000                  | 5                            | 75000                  | 7" ×11                                  | 185X180X105 | 550X210X220 |

使用说明 / Notices