

描述 / Descriptions

超快恢复二极管，反向电压：50V~600V，正向电流：1.0A，薄型 SMAF 封装。
Surface Mount Superfast Recovery Rectifier, Reverse Voltage: 50 to 600V, Forward Current: 1.0A, SMAF thin package.

特征 / Features

玻璃钝化芯片，反向恢复时间快，无铅符合欧盟 RoHS 指令 2011/65/EU，适用于表面贴装。无卤产品。
Features: Glass Passivated Chip Junction, Fast reverse recovery time, Lead free in comply with EU R0HS 2011/65/EU directives, For surface mounted applications. Halogen free product.

用途 / Applications

一般用途。
General purpose.

内部等效电路 / Equivalent Circuit

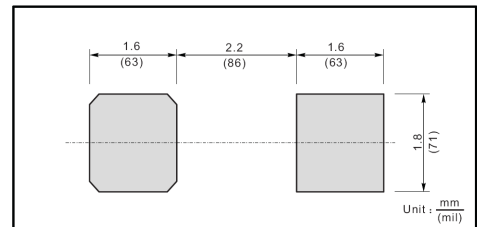


引脚排列 / Pinning



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

The recommended mounting pad size



印章代码 / Marking

见印章说明。See Marking Instructions

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

| 参数 Parameter | 符号 Symbol | 数值 Rating | | | | | | | 单位 Unit |
|---|-----------------|--------------|-------|-------|-------|-------|-------|-------|--------------------|
| | | ES1AF | ES1BF | ES1CF | ES1DF | ES1EF | ES1GF | ES1JF | |
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum Average Forward Rectified Current at $T_L=100^\circ\text{C}$ | $I_{F(AV)}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 30 | | | | | | | A |
| Typical Junction Capacitance at $V_R=4V, f=1\text{MHZ}$ | C_j | 10 | | | | | | | pF |
| Typical Thermal Resistance ¹⁾ | $R_{\theta JA}$ | 115 | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55~+150 | | | | | | | $^\circ\text{C}$ |

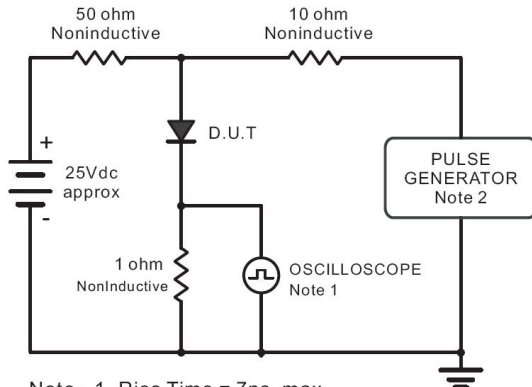
Note:

1) P.C.B. mounted with 0.2X0.2"(5X5 mm) copper pad areas.

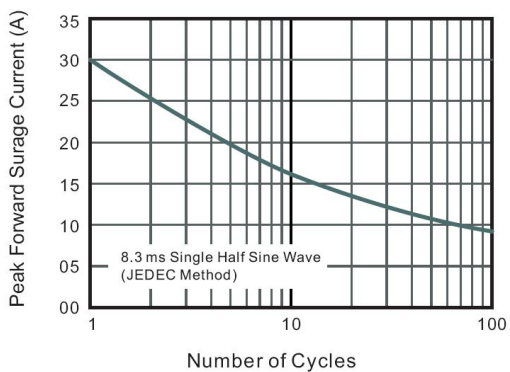
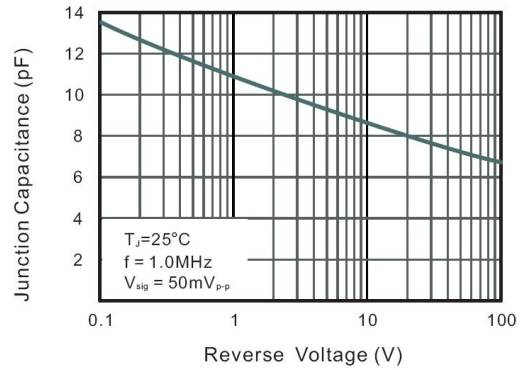
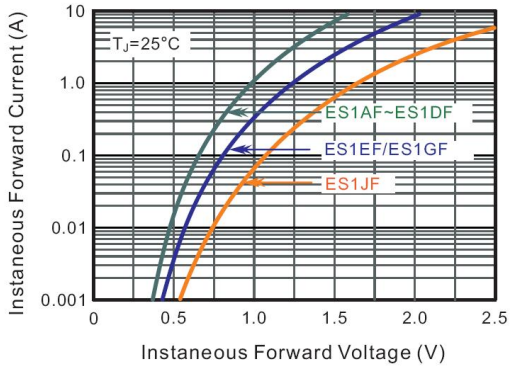
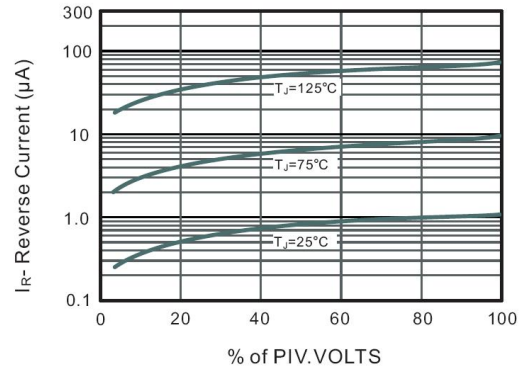
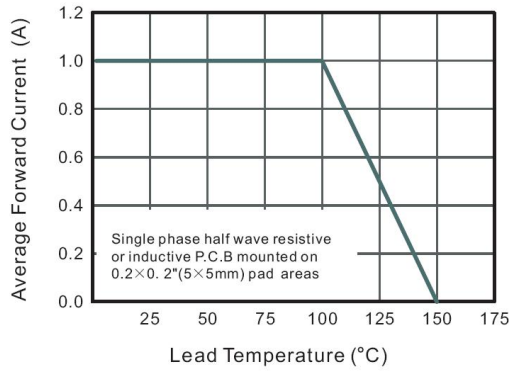
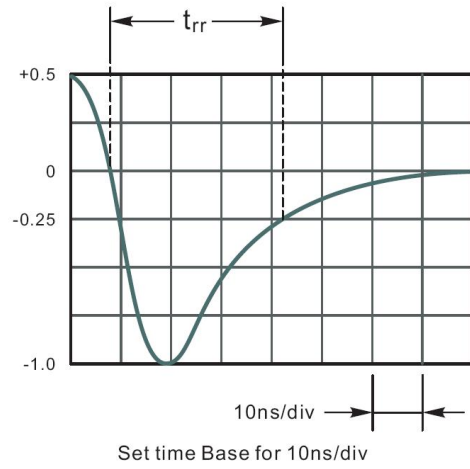
电性能参数 / Electrical Characteristics(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 测试条件 Test Conditions | 数值 Rating | | | | | | | 单位 Unit |
|---|--------------|---|--------------|-------|-------|-------|-------|-------|-------|---------------|
| | | | ES1AF | ES1BF | ES1CF | ES1DF | ES1EF | ES1GF | ES1JF | |
| Maximum Forward Voltage | V_F | $I_F=1.0\text{A}$ | 1.0 | | | | 1.25 | | 1.65 | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I_R | $T_a=25^\circ\text{C}$ | 5.0 | | | | | | | μA |
| | | $T_a=125^\circ\text{C}$ | 100 | | | | | | | μA |
| Maximum Reverse Recovery Time | t_{rr} | $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{rr}=0.25\text{A}$ | 35 | | | | | | | ns |

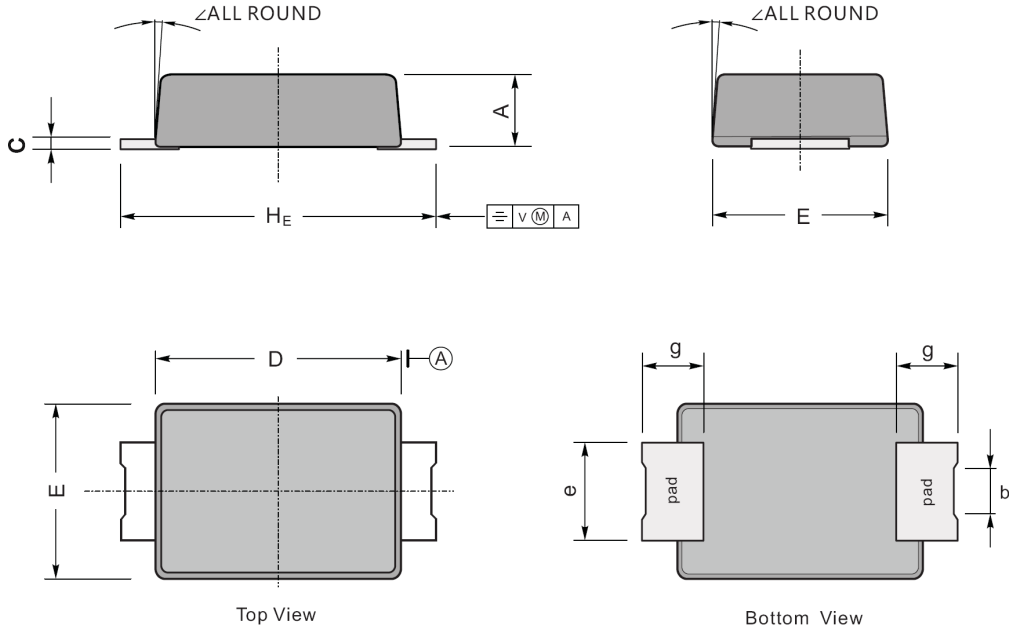
电参数曲线图 / Electrical Characteristic Curve



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise Time = 10ns, max.
Source Impedance = 50 ohms.



外形尺寸图 / Package Dimensions

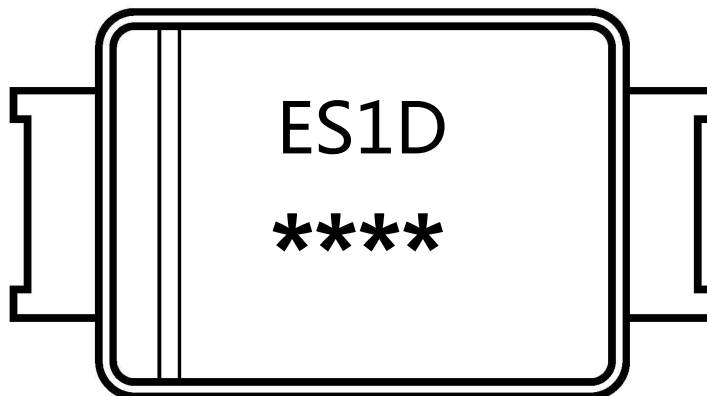


| UNIT | | A | C | D | E | e | g | H_E | b | \angle |
|------|-----|-----|------|-----|-----|-----|-----|-------|------|----------|
| mm | max | 1.2 | 0.20 | 3.7 | 2.7 | 1.6 | 1.2 | 4.9 | 1.05 | 7° |
| | min | 0.9 | 0.12 | 3.3 | 2.4 | 1.3 | 0.8 | 4.4 | 0.65 | |
| mil | max | 47 | 7.9 | 146 | 106 | 63 | 47 | 193 | 41 | |
| | min | 35 | 4.7 | 130 | 94 | 51 | 31 | 173 | 26 | |

Marking

| Type number | Marking code |
|-------------|--------------|
| ES1AF | ES1A |
| ES1BF | ES1B |
| ES1CF | ES1C |
| ES1DF | ES1D |
| ES1EF | ES1E |
| ES1GF | ES1G |
| ES1JF | ES1J |

印章说明 / Marking Instructions



说明：

ES1D： 为型号代码

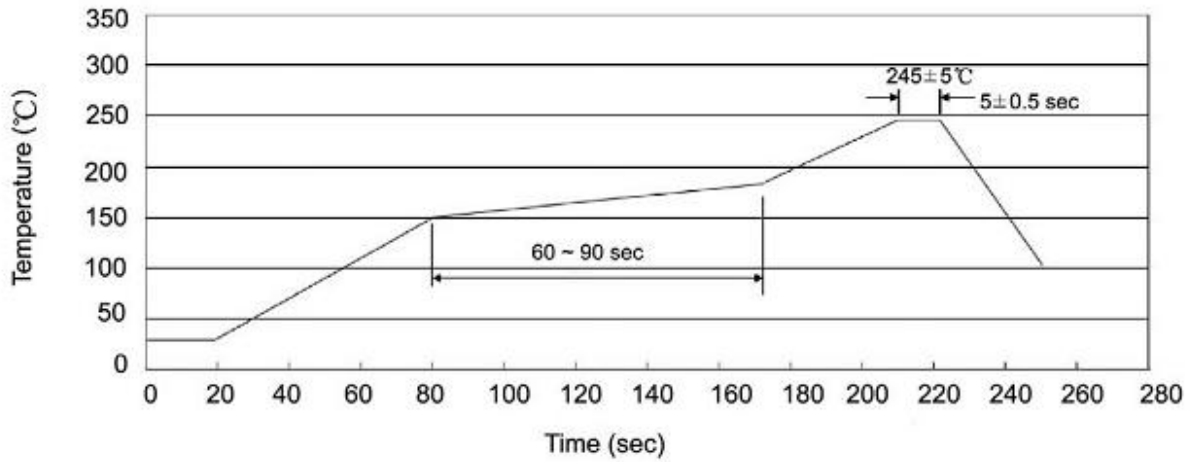
****： 为生产批号追溯码，第1个*为年月代码，后面3个*为当月小批号代码

Note:

ES1D： 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 |
| SMAF | 3000 | 5 | 15000 | 5 | 75000 | 7" ×11 | 185X180X105 | 390X385X205 |

使用说明 / Notices