

ES5AC~ES5JC

Rev.A Nov.-2017

描述 / Descriptions

超快恢复二极管，反向电压：50V~600V，正向电流：5.0A，SMC封装。

Surface Mount Superfast Recovery Rectifier,Reverse Voltage:50 to600V,Forward Current:5.0A, SMC package.

特征 / Features

玻璃钝化芯片，反向恢复时间快，无铅符合 2011/65/EU 欧盟 RoHS 指令，适用于表面贴装。无卤产品。

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

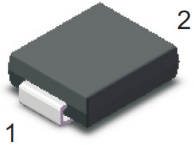
一般用途.

General purpose.

内部等效电路 / Equivalent Circuit

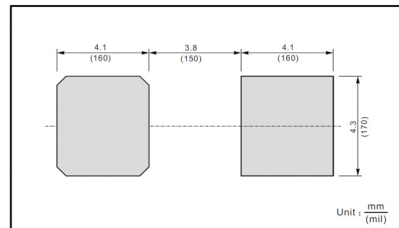


引脚排列 / Pinning



| 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 |
|--|-----------------|--------------|-------|-------|-------|-------|-------|-------|------------|
| | | ES5AC | ES5BC | ES5CC | ES5DC | ES5EC | ES5GC | ES5JC | |
| 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_c 100°C | $I_F (AV)$ | 5.0 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 120 | | | | | | | A |
| Typical Junction Capacitance at $V_R=4V, f=1MHZ$ | C_j | 50 | | | | | | | pF |
| Typical Thermal Resistance ¹⁾ | $R_{\theta JA}$ | 35 | | | | | | | °C/W |
| | $R_{\theta JC}$ | 13 | | | | | | | |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55~+150 | | | | | | | °C |

Note:

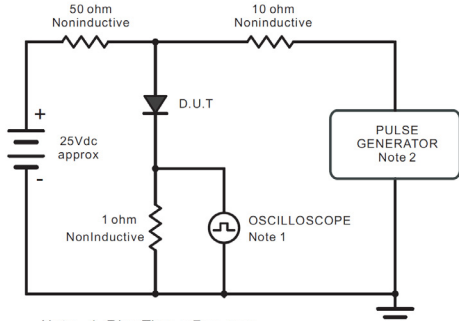
1) P.C.B. mounted with 0.5 X 0.5" (12.7 X 12.7 mm) copper pad areas.

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 |
|---|--------------|--|--------------|-------|-------|-------|-------|-------|------------|
| | | | ES5AC | ES5BC | ES5CC | ES5DC | ES5EC | ES5GC | |
| Maximum Forward Voltage | V_F | $I_F=5.0A$ | 1.0 | | | 1.25 | | 1.68 | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I_R | $T_a=25^\circ C$ | 5.0 | | | | | | μA |
| | | $T_a=125^\circ C$ | 100 | | | | | | μA |
| Maximum Reverse Recovery Time | t_{rr} | $I_F=0.5A$ $I_R=1.0A$ $I_{rr}=0.25A$ | 35 | | | | | | ns |

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

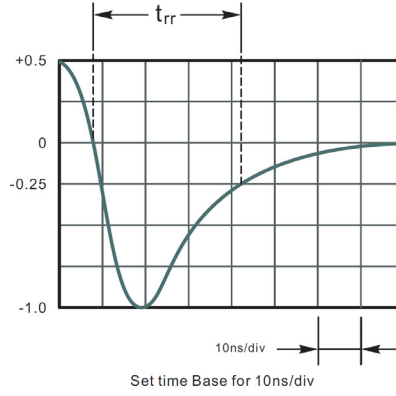


Fig.2 Maximum Average Forward Current Rating

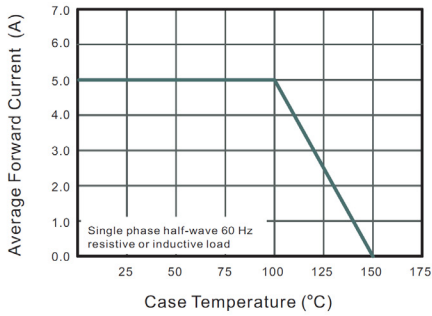


Fig.3 Typical Reverse Characteristics

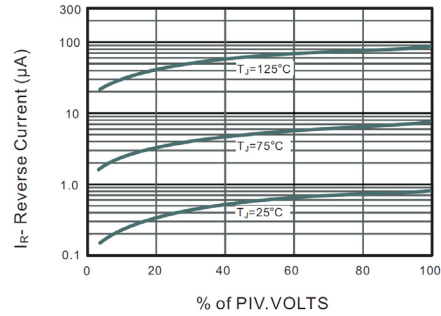


Fig.4 Typical Forward Characteristics

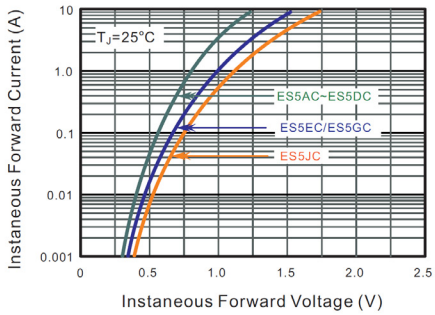


Fig.5 Typical Junction Capacitance

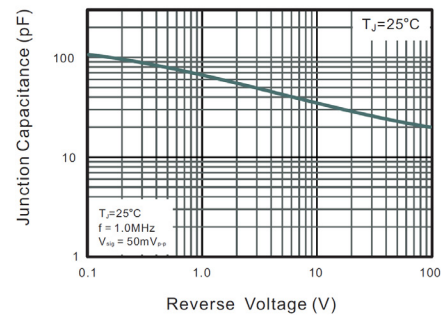
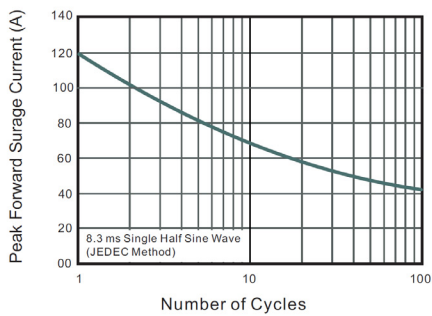
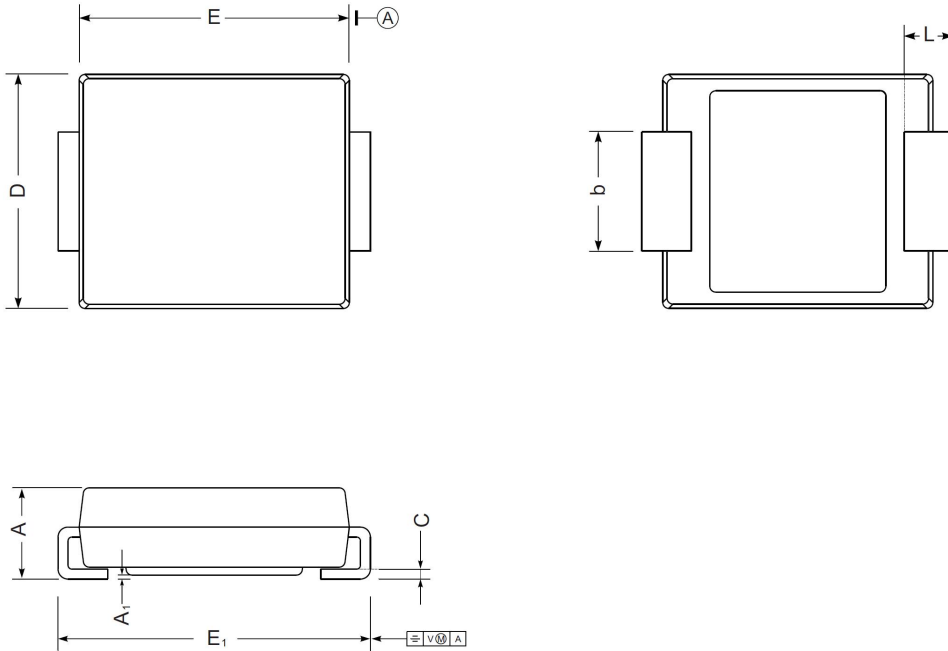


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



外形尺寸图 / Package Dimensions

SMC



SMC mechanical data

| UNIT | | A | E | D | E ₁ | A ₁ | C | L | b |
|------|-----|------|-----|-----|----------------|----------------|------|-----|------|
| mm | max | 2.62 | 7.0 | 6.2 | 8.0 | 0.21 | 0.31 | 1.6 | 3.25 |
| | min | 2.00 | 6.5 | 5.6 | 7.6 | 0.05 | 0.15 | 0.9 | 2.75 |
| mil | max | 103 | 276 | 244 | 315 | 8.3 | 12 | 63 | 128 |
| | min | 79 | 256 | 220 | 299 | 2.0 | 5.9 | 35 | 108 |

Marking

| Type number | Marking code |
|-------------|--------------|
| ES5AC | ES5A |
| ES5BC | ES5B |
| ES5CC | ES5C |
| ES5DC | ES5D |
| ES5EC | ES5E |
| ES5GC | ES5G |
| ES5JC | ES5J |

印章说明 / Marking Instructions



说明：

ES5A： 为型号代码

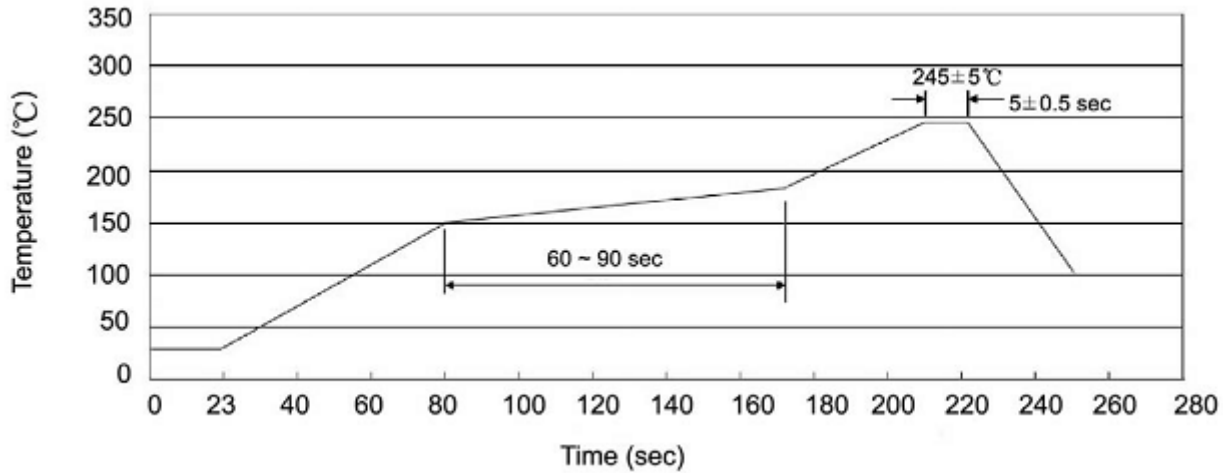
****： 为生产批号追溯码，第1个*为年月代码，后面3个*为当月小批号代码

Note:

ES5A： 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 25~150℃，时间 60~90sec;
- 2、峰值温度 245±5℃，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10℃/sec.

Note:

- 1.Preheating:25~150℃, Time:60~90sec.
- 2.Peak Temp.:245±5℃, Duration:5±0.5sec.
3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5℃

时间：10±1 sec.

Temp.:260±5℃

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 |
| SMC | 3000 | 5 | 15000 | 5 | 75000 | 7" ×11 | 185X180X105 | 390X385X205 |

使用说明 / Notices

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