

ES3AC~ES3JC

Rev.B Feb.-2021

描述 / Descriptions

超快恢复二极管，反向电压：50V~600V，正向电流：3.0A，SMC封装。

Surface Mount Superfast Recovery Rectifier,Reverse Voltage:50 to600V,Forward Current:3.0A, 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

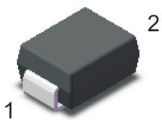
一般用途.

General purpose.

内部等效电路 / Equivalent Circuit

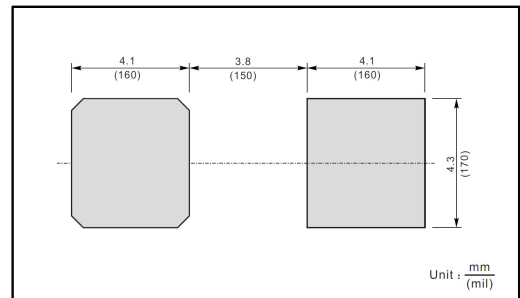


引脚排列 / Pinning



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
		ES3AC	ES3BC	ES3CC	ES3DC	ES3EC	ES3GC	ES3JC	
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 $T_c=125^\circ\text{C}$	$I_{F(AV)}$	3.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	90							A
Typical Junction Capacitance at $V_R=4\text{V}$, $f=1\text{MHz}$	C_j	40							pF
Typical Thermal Resistance ⁽¹⁾	$R_{\theta JA}$	40							°C/W
	$R_{\theta JC}$	16							
Operating and Storage Temperature Range	T_j, T_{stg}	-55~+150							°C

Note:

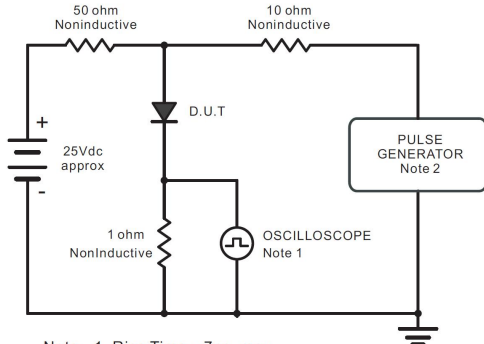
(1) P.C.B. mounted with 2.0 X 2.0" (5 X 5 cm) copper pad areas.

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
			ES3AC	ES3BC	ES3CC	ES3DC	ES3EC	ES3GC	
Maximum Forward Voltage	V_F	$I_F=3.0\text{A}$	1.0			1.25		1.68	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

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

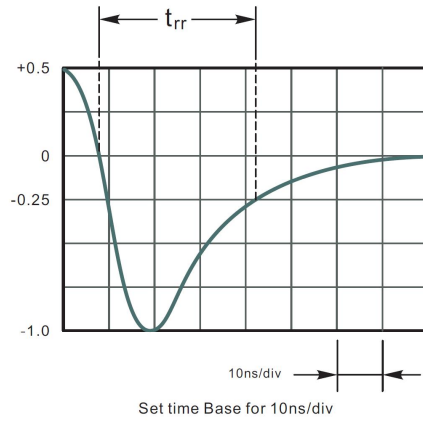


Fig.2 Maximum Average Forward Current Rating

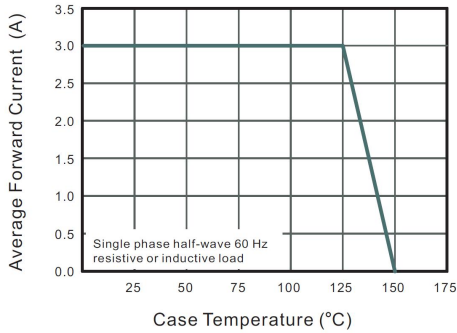


Fig.3 Typical Reverse Characteristics

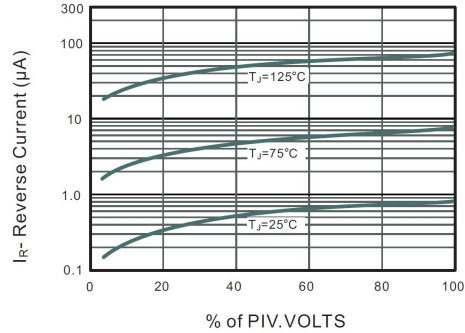


Fig.4 Typical Forward Characteristics

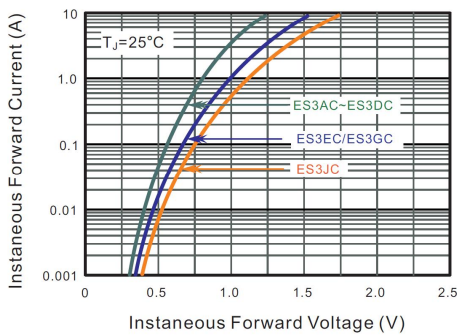


Fig.5 Typical Junction Capacitance

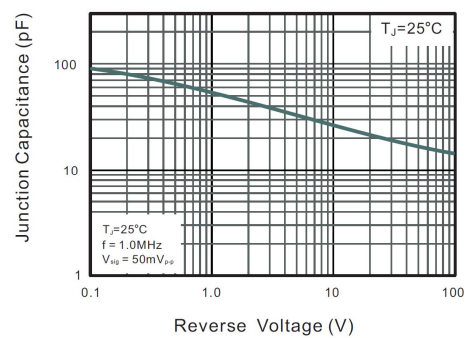
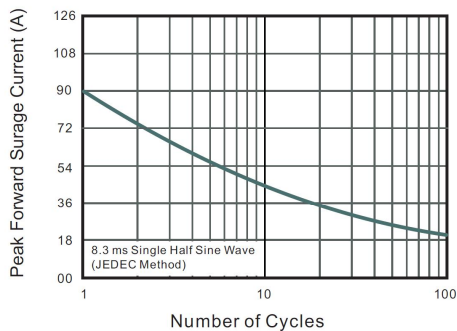
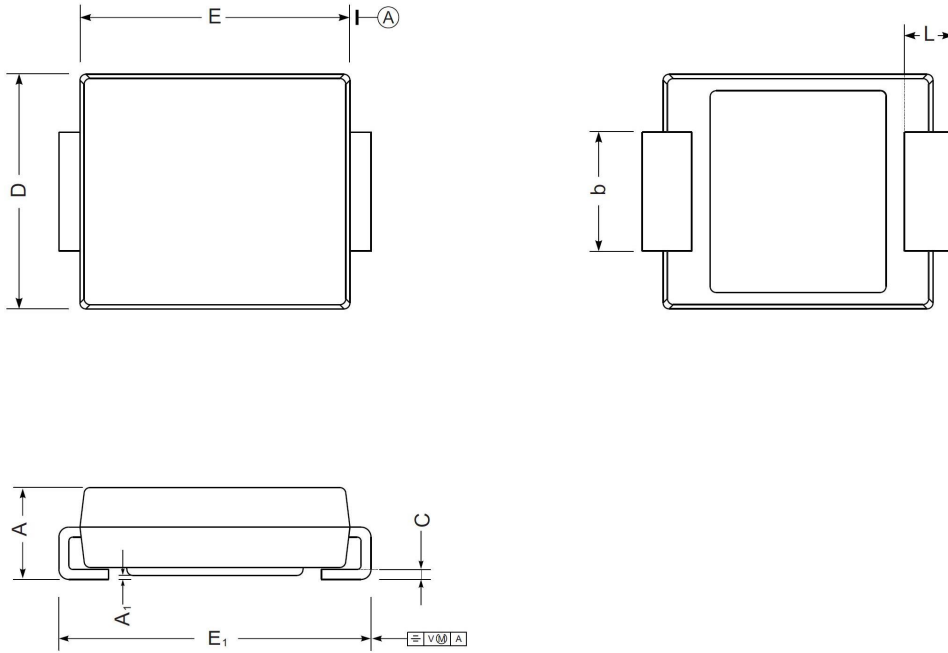


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



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
ES3AC	ES3A
ES3BC	ES3B
ES3CC	ES3C
ES3DC	ES3D
ES3EC	ES3E
ES3GC	ES3G
ES3JC	ES3J

印章说明 / Marking Instructions



说明：

ES3A： 为型号代码

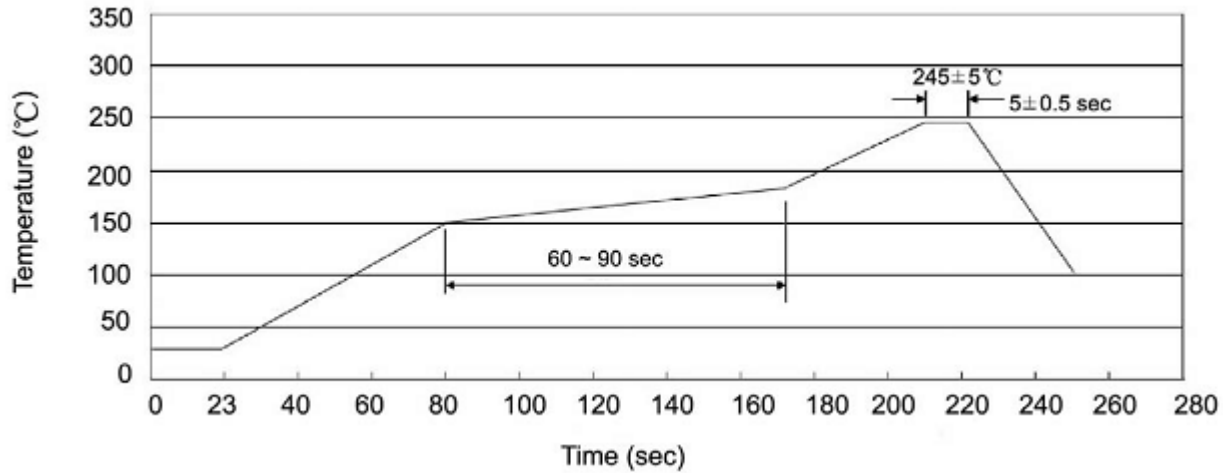
****： 为生产批号追溯码，第1个*为年月代码，后面3个*为当月小批号代码

Note:

ES3A： 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°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 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	2	6000	6	36000	13" ×16	337X337X49	380X335X366

使用说明 / Notices