

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 RoHS 2011/65/EU directives, For surface mounted applications. Halogen free product.

用途 / Applications

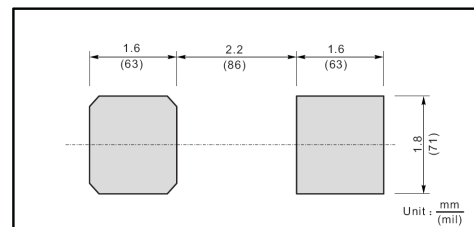
一般用途。

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}	$-55 \sim +150$							$^\circ\text{C}$

Note:

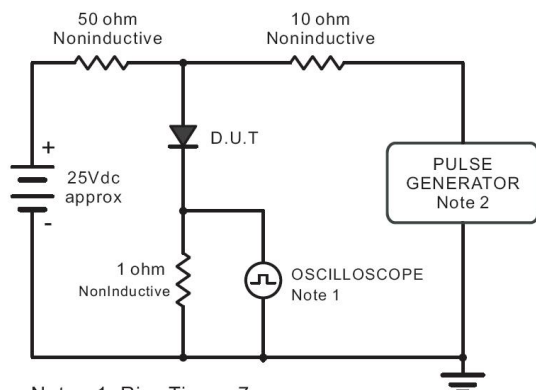
1) P.C.B. mounted with 0.2X0.2"(5X5 mm) copper pad areas.

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

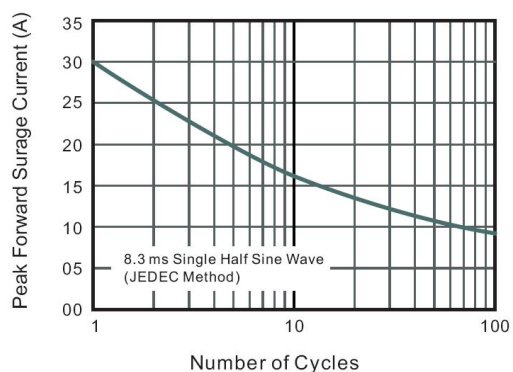
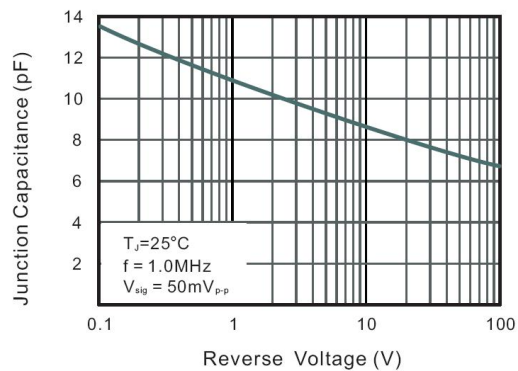
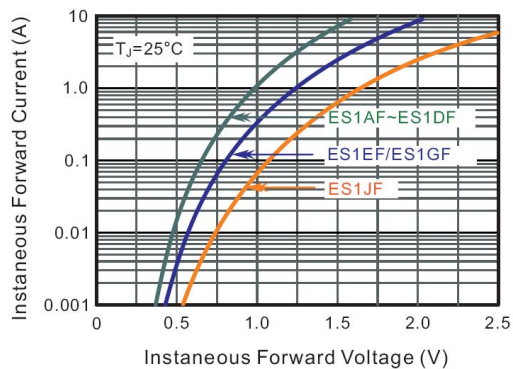
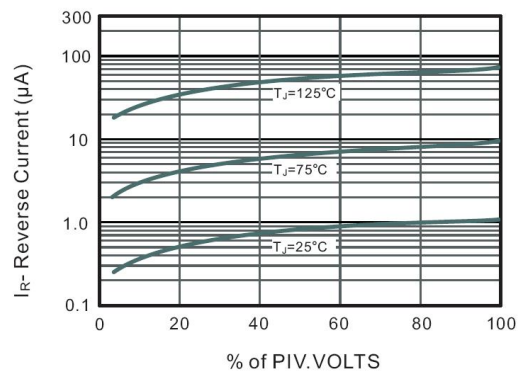
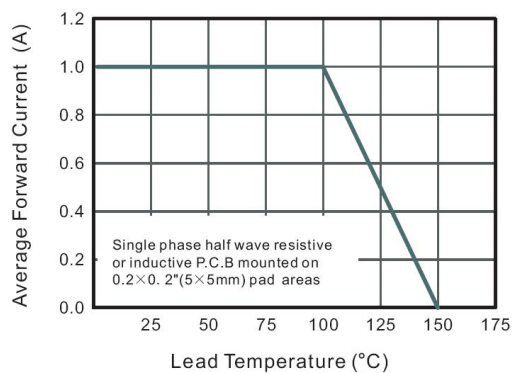
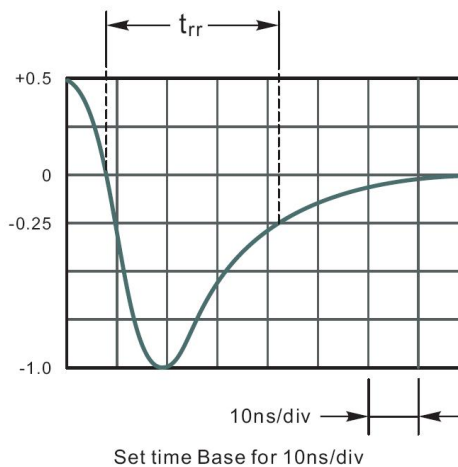
参数 Parameter	符号 Symbol	测试条件 Test Conditions	数值 Rating							单位 Unit
			ES1AF	ES1BF	ES1CF	ES1DF	ES1EF	ES1GF	ES1JF	
Maximum Forward Voltage	V _F	I _F =1.0A	1.0				1.25		1.65	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	T _a =25℃	5.0							μA
		T _a =125℃	100							μA
Maximum Reverse Recovery Time	t _{rr}	I _F =0.5A I _R =1.0A I _{rr} =0.25A	35							ns



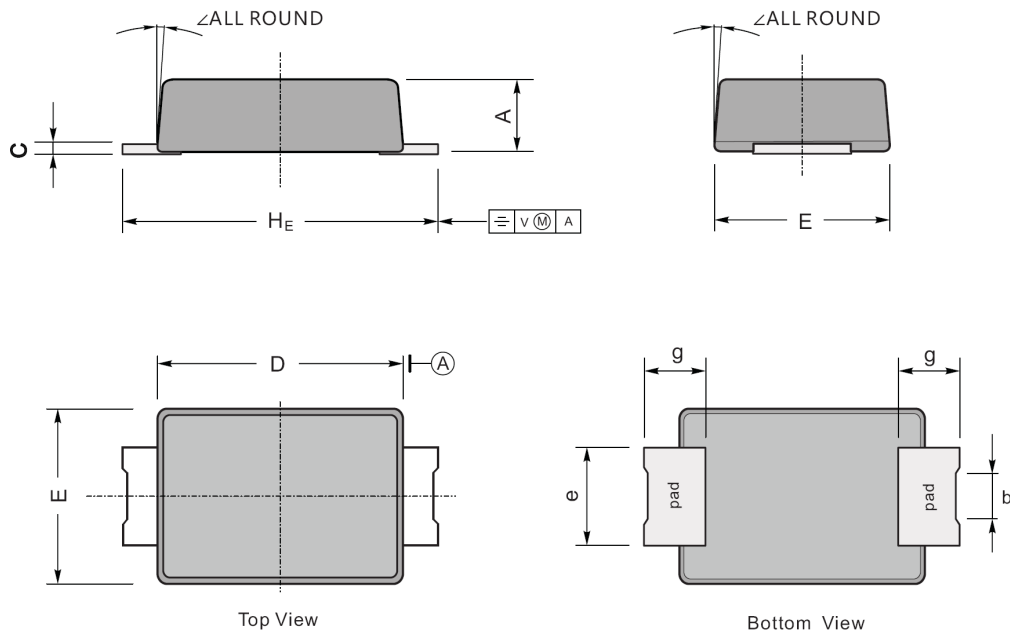
电参数曲线图 / Electrical Characteristic Curve



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

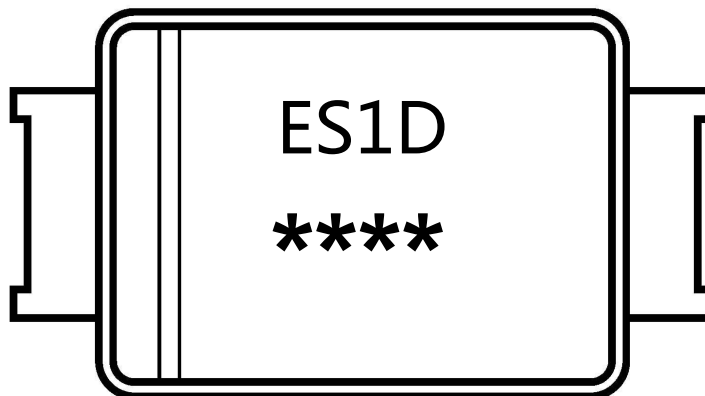


UNIT		A	C	D	E	e	g	H _E	b	∠
mm	max	1.2	0.20	3.7	2.7	1.6	1.2	4.9	1.05	7°
	min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	0.65	
mil	max	47	7.9	146	106	63	47	193	41	
	min	35	4.7	130	94	51	31	173	26	

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

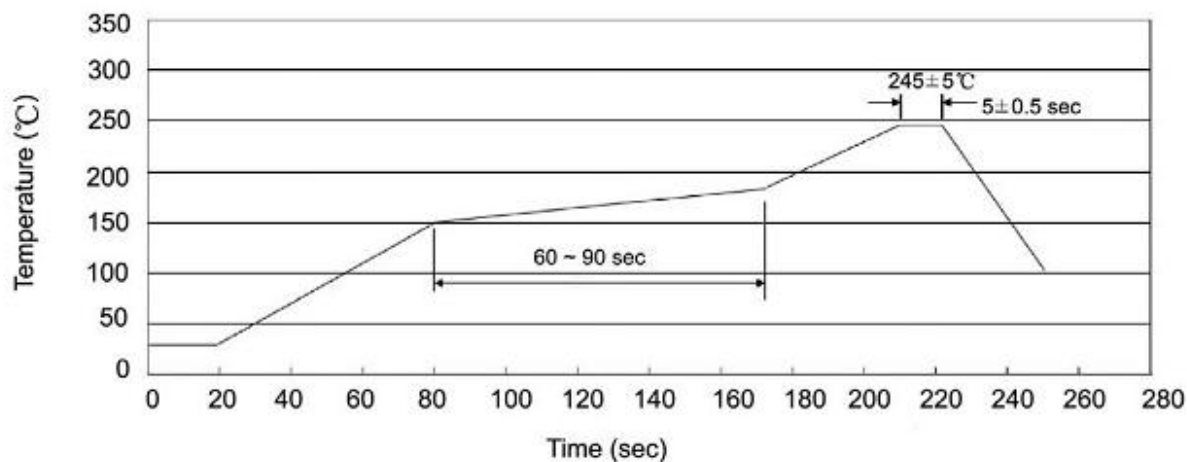
Note:

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