

# ES5ABF~ES5JBF

Rev.B May.-2019

## 描述 / Descriptions

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

Surface Mount Ultrafast Recovery Rectifier, Reverse Voltage: 50 to 600V, Forward Current: 5.0A, SMBF package.

## 特征 / Features

玻璃钝化芯片，效率高，无铅符合欧盟 RoHS 指令 2011/65/EU，适用于表面贴装。无卤产品。

Glass Passivated Chip Junction, High efficiency, 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

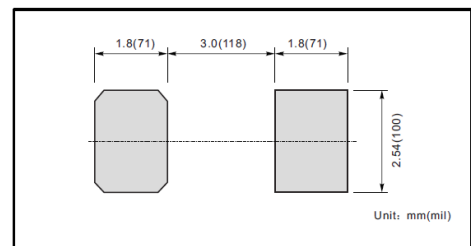


## 引脚排列 / Pinning



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	参数符号 Symbol	数值 Rating							单位 Unit
		ES5ABF	ES5BBF	ES5CBF	ES5DBF	ES5EBF	ES5GBF	ES5JBF	
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 $T_c = 115^\circ\text{C}$	$I_{F(AV)}$	5.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	150							A
Typical Thermal Resistance <sup>(1)</sup>	$R_{\theta JA}$	40							°C/W
	$R_{\theta JC}$	12							
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	参数符号 Symbol	测试条件 Test condition	数值 Rating						单位 Unit
			ES5ABF	ES5BBF	ES5CBF	ES5DBF	ES5EBF	ES5GBF	
Maximum Instantaneous Forward Voltage	$V_F$	$I_F=5.0A$	1.0			1.25		1.7	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_a=25^\circ\text{C}$	10.0						uA
		$T_a=125^\circ\text{C}$	100						
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

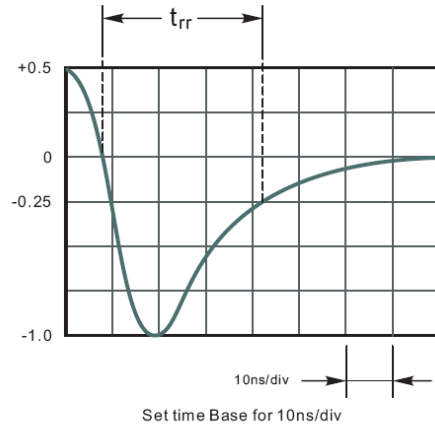
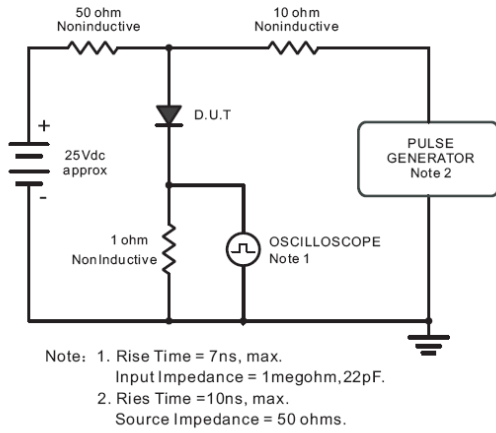


Fig.2 Maximum Average Forward Current Rating

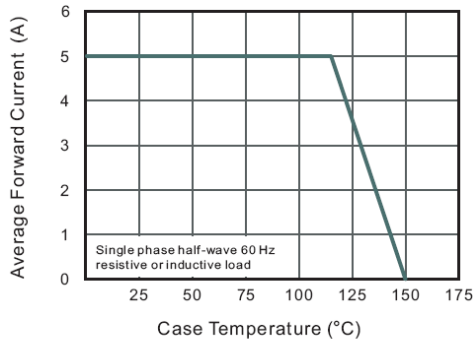


Fig.3 Typical Reverse Characteristics

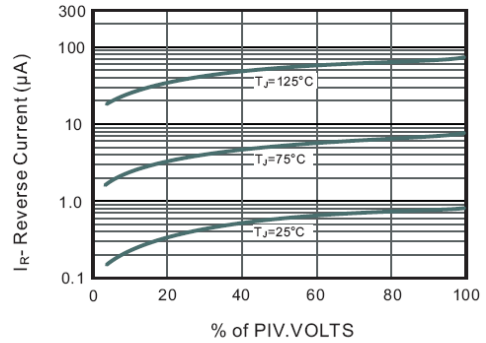


Fig.4 Typical Forward Characteristics

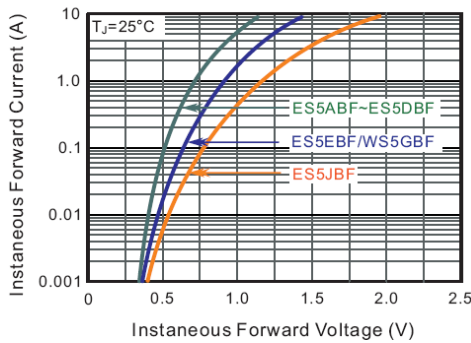


Fig.5 Typical Junction Capacitance

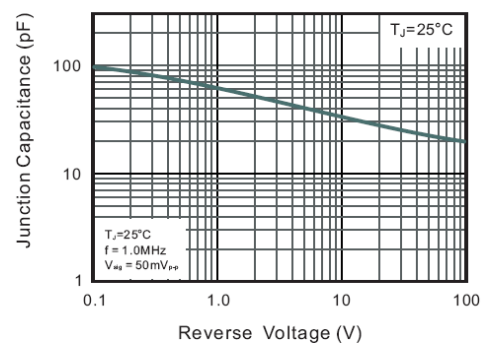
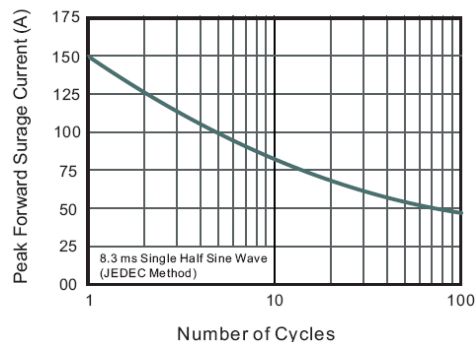
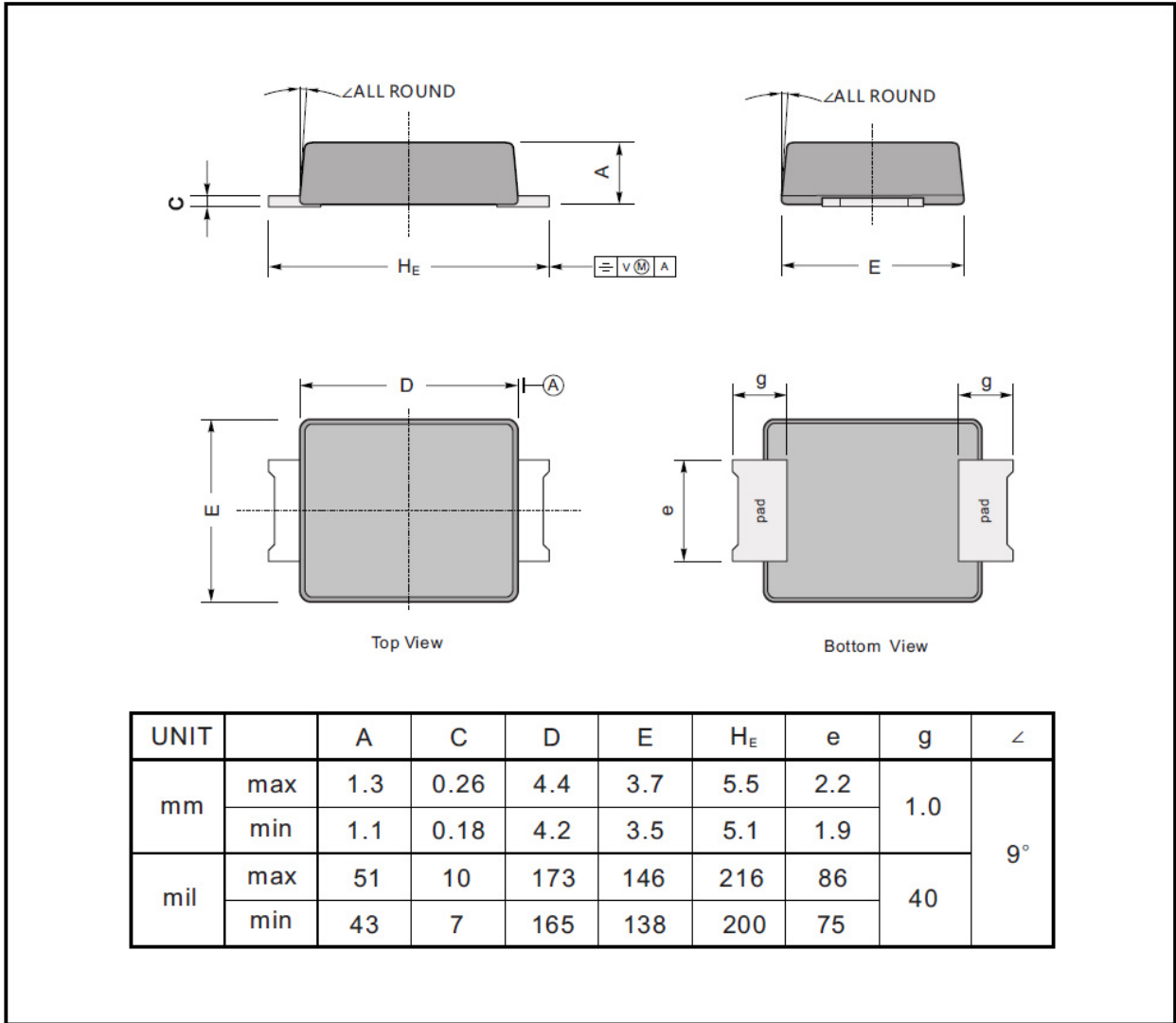


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



外形尺寸图 / Package Dimensions

SMBF

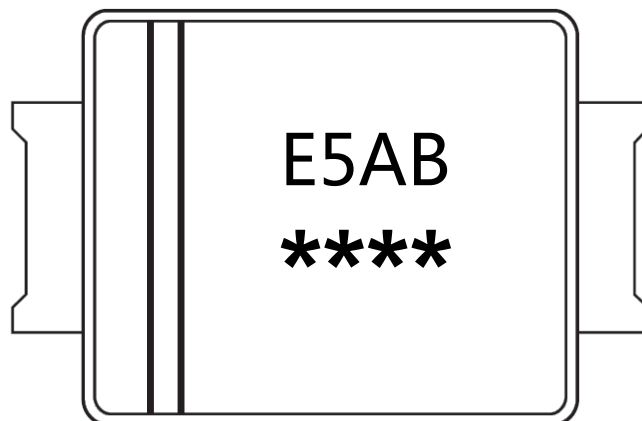




# Marking

Type number	Marking code
ES5ABF	E5AB
ES5BBF	E5BB
ES5CBF	E5CB
ES5DBF	E5DB
ES5EBF	E5EB
ES5GBF	E5GB
ES5JBF	E5JB

印章说明 / Marking Instructions



说明：

E5AB：为型号代码

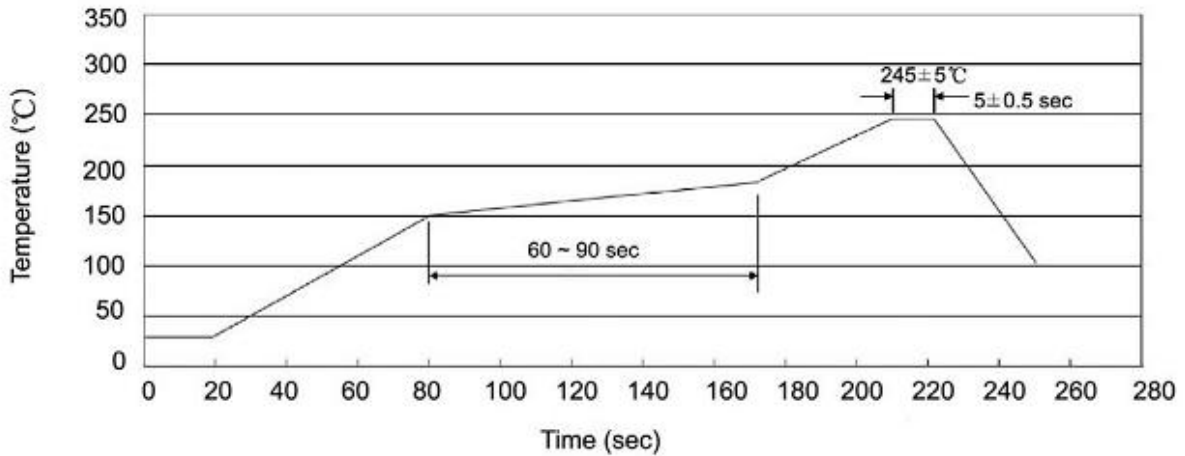
\*\*\*\*：为生产批号追溯码，第1个\*为年月代码，后面3个\*为当月小批号代码

Note:

E5AB：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 <sup>3</sup> )		
	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
SMBF	5000	2	10000	5	50000	13" × 15	336X332X40	380X335X366

**使用说明 / Notices**