

# ES3AB~ES3JB

Rev.A Dec.-2017

## 描述 / Descriptions

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

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

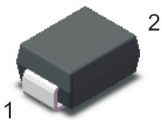
一般用途.

General purpose.

## 内部等效电路 / Equivalent Circuit

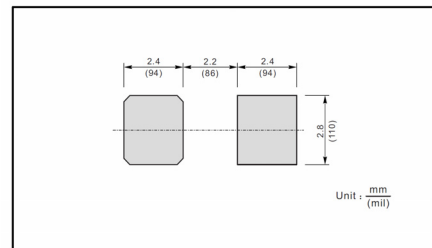


## 引脚排列 / Pinning



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
		ES3AB	ES3BB	ES3CB	ES3DB	ES3EB	ES3GB	ES3JB	
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 $T_c=100^\circ\text{C}$	$I_{F(AV)}$	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 $V_R=4\text{V}$ , $f=1\text{MHz}$	$C_j$	45							pF
Typical Thermal Resistance <sup>(1)</sup>	$R_{\theta JA}$	50							°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
			ES3AB	ES3BB	ES3CB	ES3DB	ES3EB	ES3GB	
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						$\mu\text{A}$
		$T_a=125^\circ\text{C}$	100						$\mu\text{A}$
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

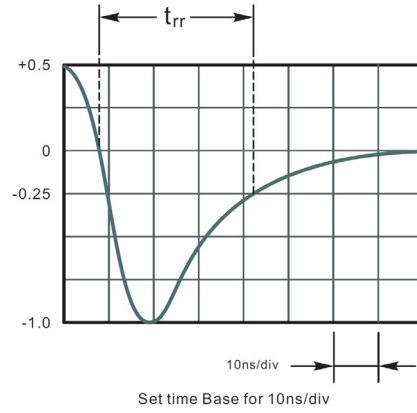
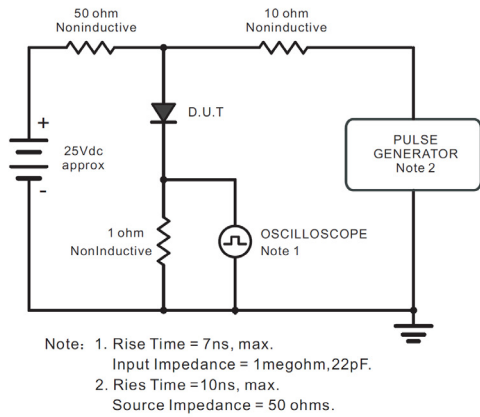


Fig.2 Maximum Average Forward Current Rating

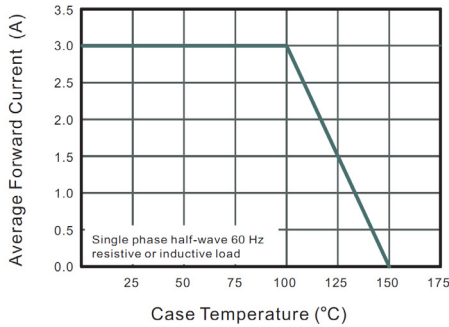


Fig.3 Typical Reverse Characteristics

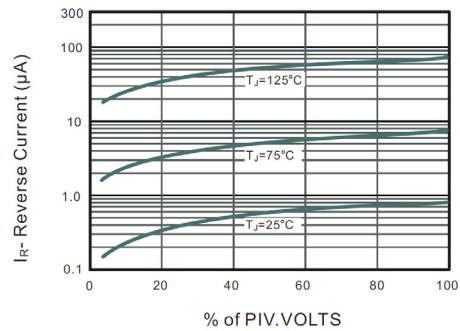


Fig.4 Typical Forward Characteristics

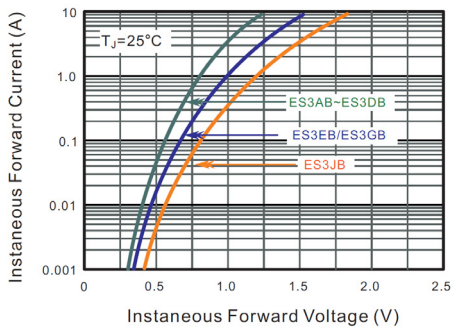


Fig.5 Typical Junction Capacitance

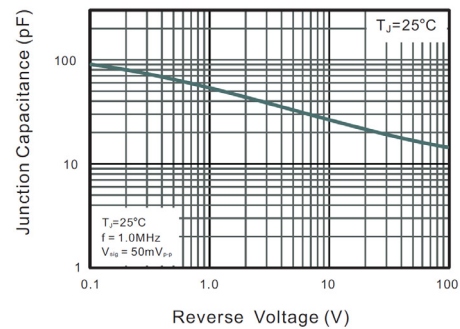
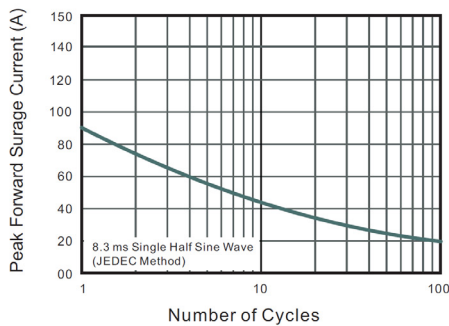
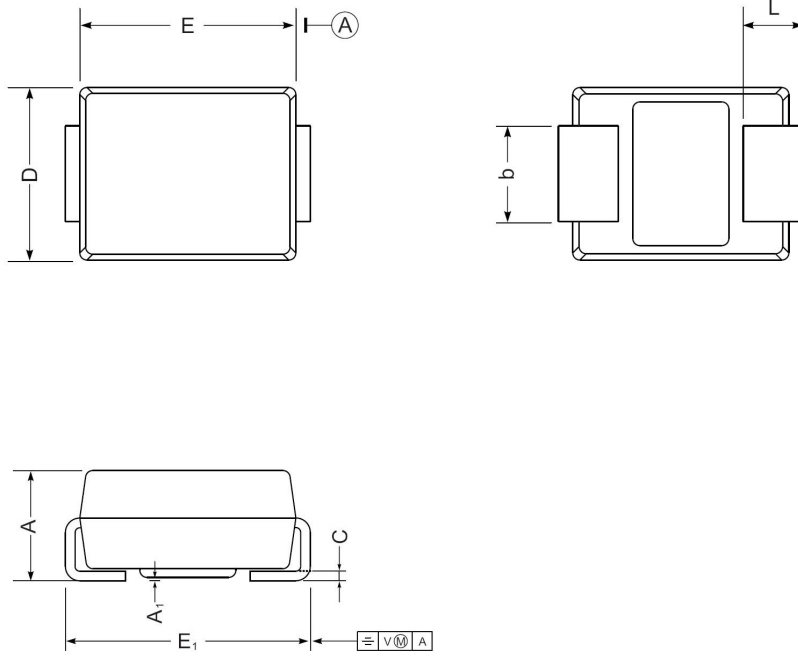


Fig.6 Maximum Non-Repetitive Forward Surge Current



外形尺寸图 / Package Dimensions

SMB



SMB mechanical data

UNIT		A	E	D	$E_1$	$A_1$	L	C	b
mm	max	2.44	4.70	3.94	5.59	0.20	1.5	0.305	2.2
	min	2.13	4.06	3.3	5.08	0.05	0.8	0.152	1.9
mil	max	96	185	155	220	7.9	59	12	87
	min	84	160	130	200	2.0	32	6	75

# Marking

Type number	Marking code
ES3AB	ES3A
ES3BB	ES3B
ES3CB	ES3C
ES3DB	ES3D
ES3EB	ES3E
ES3GB	ES3G
ES3JB	ES3J

印章说明 / Marking Instructions



说明：

ES3A： 为型号代码

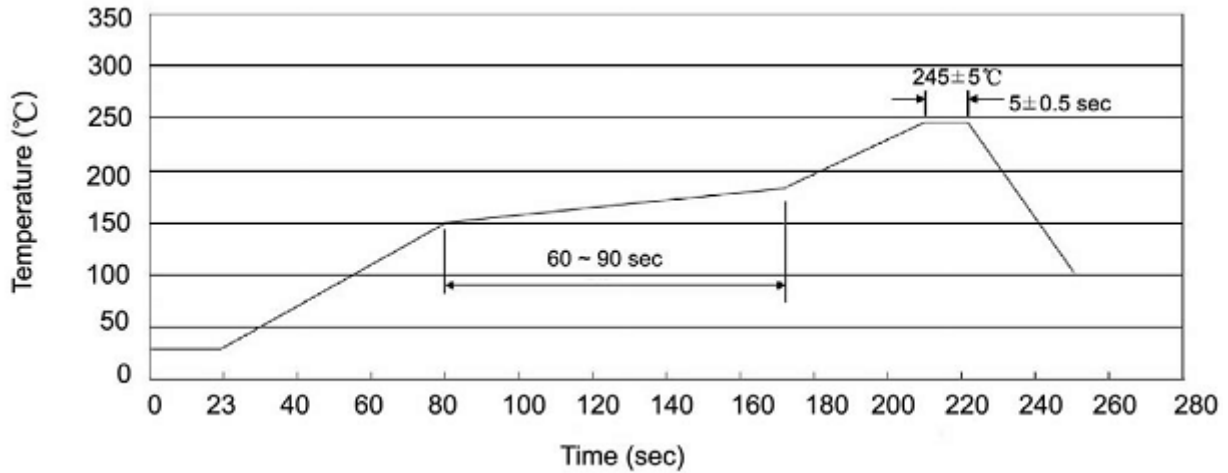
\*\*\*\*： 为生产批号追溯码，第1个\*为年月代码，后面3个\*为当月小批号代码

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℃，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 <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
SMB	3000	5	15000	5	75000	7" ×11	185X180X105	390X385X205

**使用说明 / Notices**