

# US8AC~US8MC

Rev.A Jan.-2023

## 描述 / Descriptions

超快恢复二极管，反向电压：50V~1000V，正向电流：8.0A，SMC 封装。

Surface Mount Ultrafast Recovery Rectifier, Reverse Voltage: 50 to1000V, Forward Current: 8.0A, SMC package.

## 特征 / Features

玻璃钝化芯片，超快反向恢复时间，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, Superfast reverse recovery time, Lead free in comply with EU R0HS 2011/65/EU directives, For surface mounted applications, HF Product.

## 用途 / Applications

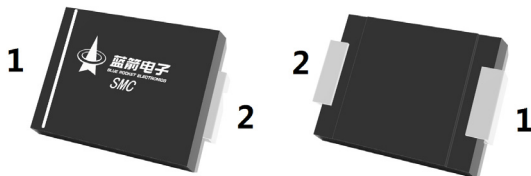
一般用途.

General purpose.

## 内部等效电路 / Equivalent Circuit

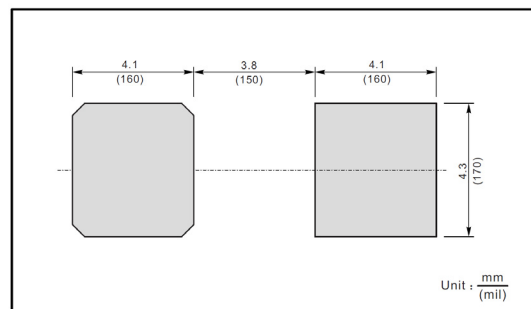


## 引脚排列 / Pinning



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
		US8AC	US8BC	US8DC	US8GC	US8JC	US8KC	US8MC	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	8							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	150							A
Typical Junction Capacitance at $V_R=4V, f=1MHz$	$C_j$	65				55			pF
Typical Thermal Resistance <sup>(1)</sup>	$R_{\theta JA}$	35							°C/W
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
			US8AC	US8BC	US8DC	US8GC	US8JC	US8KC	
Maximum Instantaneous Forward Voltage	$V_F$	$I_F=8.0A$	1.0			1.3	1.7		V
Maximum DC Reverse Current at Maximum DC Blocking Voltage	$I_R$	$T_a=25^\circ C$	10						uA
		$T_a=125^\circ C$	100						
Maximum Reverse Recovery Time	$T_{rr}$	$I_F=0.5A$ $I_R=1.0A$ $I_{rr}=0.25A$	50				80		ns

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram

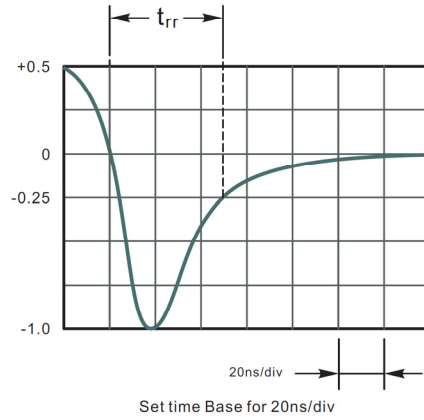
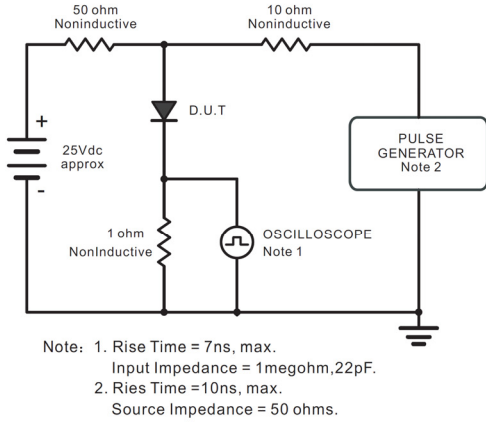


Fig.2 Maximum Average Forward Current Rating

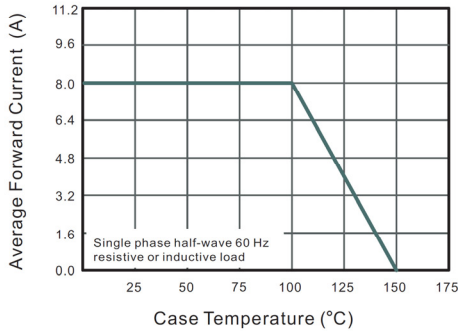


Fig.3 Typical Reverse Characteristics

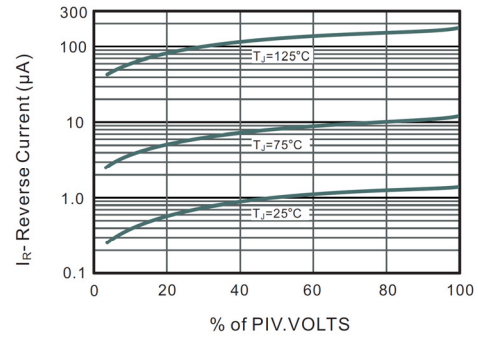


Fig.4 Typical Forward Characteristics

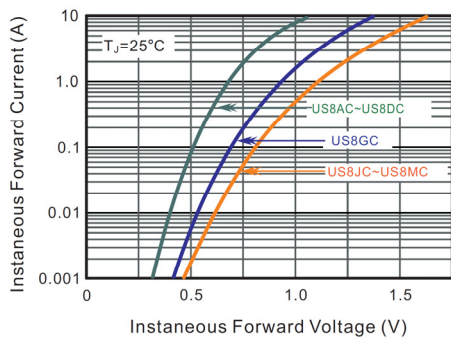


Fig.5 Typical Junction Capacitance

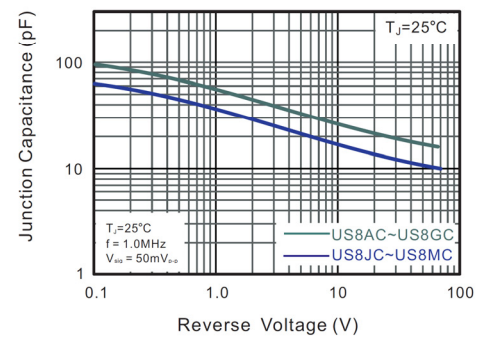
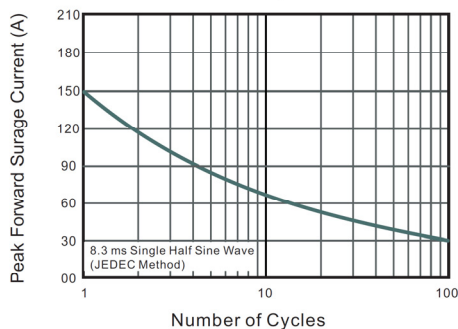
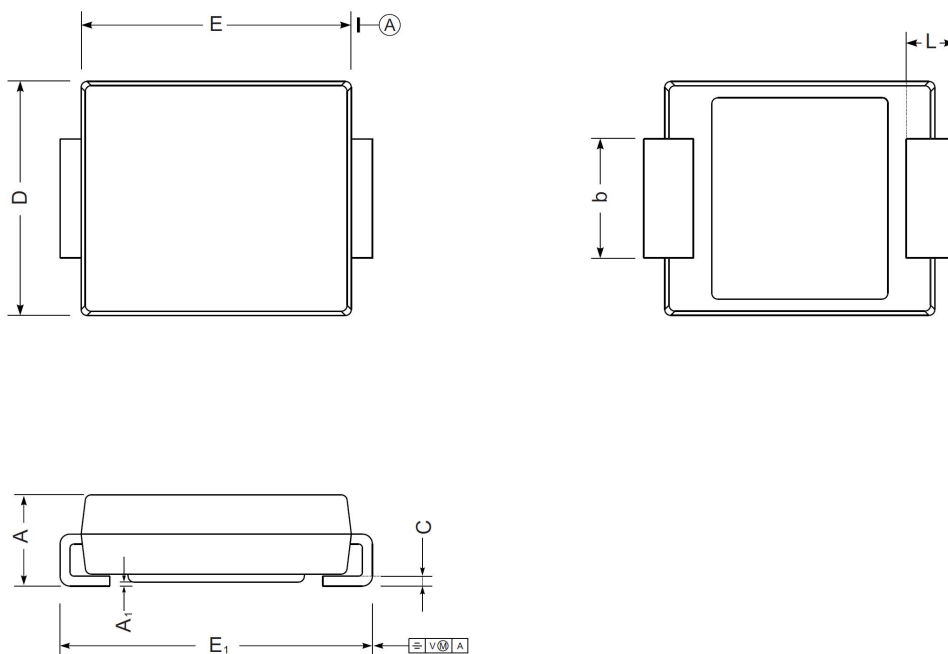


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



外形尺寸图 / Package Dimensions

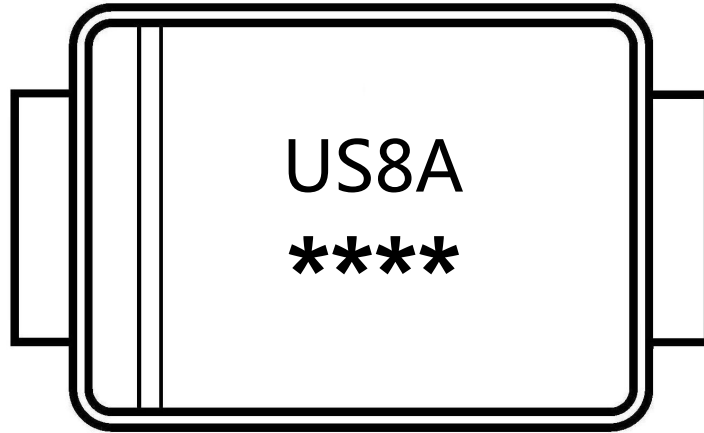
SMC



SMC mechanical data

UNIT		A	E	D	E <sub>1</sub>	A <sub>1</sub>	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

印章说明 / Marking Instructions



说明：

US8A：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:

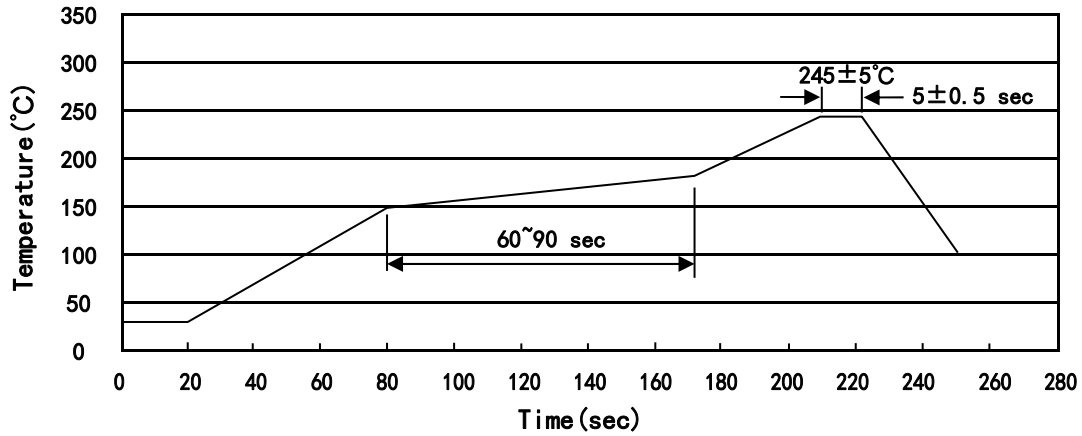
US8A：Product Type Code

\*\*\*\*：Lot No. Code ,The 1st \* means:YM Code ,The last 3 \* means:little Lot No Code

### Marking

Type number	Marking code
US8AC	US8A
US8BC	US8B
US8DC	US8D
US8GC	US8G
US8JC	US8J
US8KC	US8K
US8MC	US8M

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
SMC	3000	2	6000	6	36000	13" × 16	337X337X49	380X335X366

使用说明 / Notices