

# US1A~US1M

Rev.C Jun.-2024

## 描述 / Descriptions

超快恢复二极管，反向电压：50V~1000V，正向电流：1.0A，SMA封装。

Surface Mount Ultrafast Recovery Rectifier, Reverse Voltage: 50 to 1000V, Forward Current: 1.0A, SMA package.

## 特征 / Features

玻璃钝化芯片，效率高，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, High efficiency, Lead free in comply with EU R0HS 2011/65/EU directives, For surface mounted applications, HF product.

## 用途 / Applications

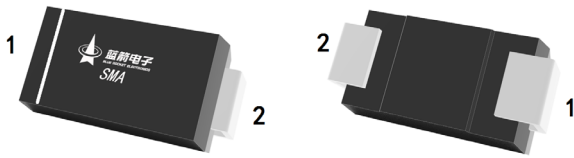
一般用途。

General purpose.

## 内部等效电路 / Equivalent Circuit

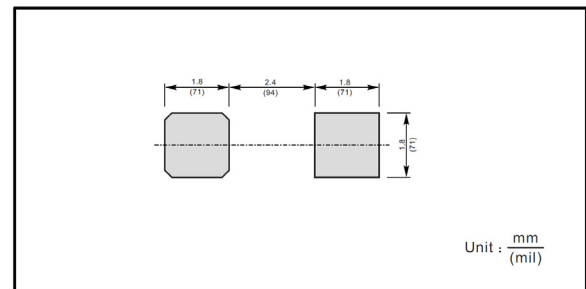


## 引脚排列 / Pinning



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)**

Note:

参数 Parameter	参数符号 Symbol	数值 Rating							单位 Unit
		US1A	US1B	US1D	US1G	US1J	US1K	US1M	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T <sub>c</sub> = 125°C	I <sub>F(AV)</sub>	1.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I <sub>FSM</sub>	30							A
Typical Thermal Resistance <sup>(1)</sup>	R <sub>θJA</sub>	75							°C/ W
Typical Junction Capacitance <sup>(2)</sup>	C <sub>j</sub>	15							pF
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-55~+150							°C

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

(2) Measured at 1 MHz and applied reverse voltage of 4 V D.C.

**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
			US1A	US1B	US1D	US1G	US1J	US1K	
Maximum Instantaneous Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =1.0A	1.0			1.3	1.65		V
Maximum DC Reverse Current at Maximum DC Blocking Voltage	I <sub>R</sub>	T <sub>a</sub> =25°C	5.0						uA
		T <sub>a</sub> =125°C	100						
Maximum Reverse Recovery Time	T <sub>rr</sub>	I <sub>F</sub> =0.5A I <sub>R</sub> =1.0A I <sub>rr</sub> =0.25A	50			75		ns	

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Forward Current Derating Curve

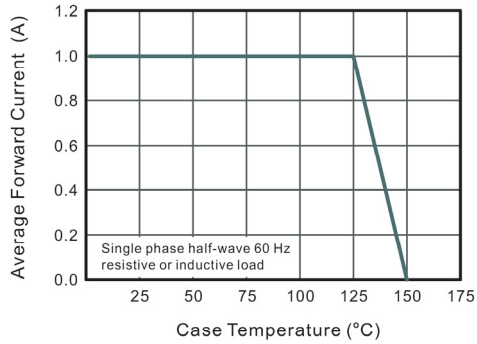


Fig.2 Typical Reverse Characteristics

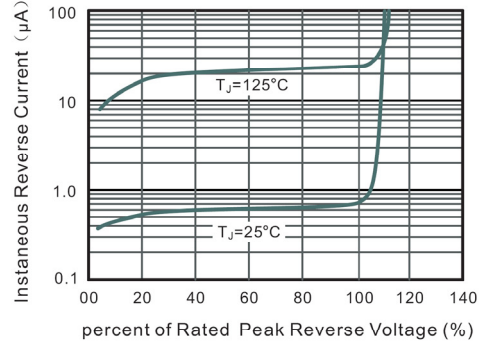


Fig.3 Typical Forward Characteristics

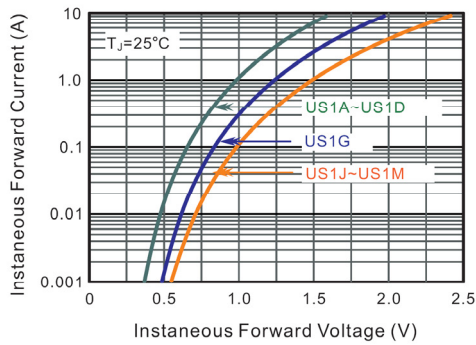


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

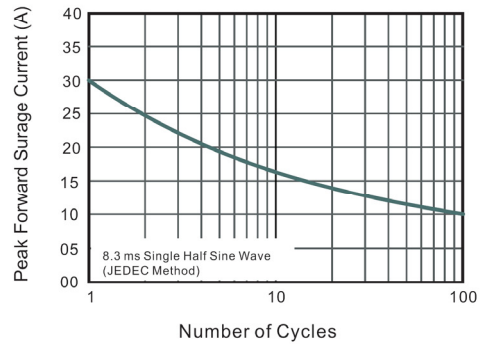


Fig.5- Typical Transient Thermal Impedance

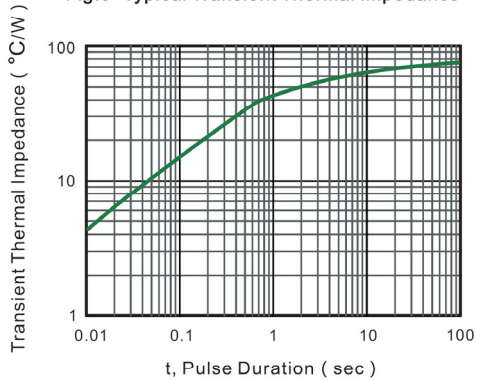
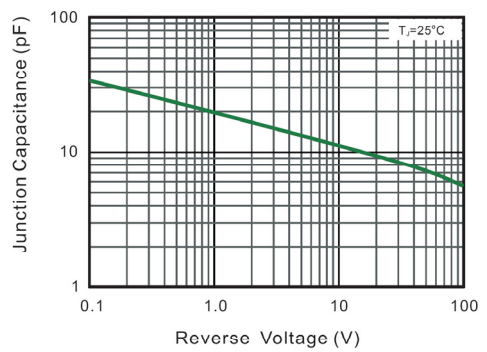


Fig.6 Typical Junction Capacitance

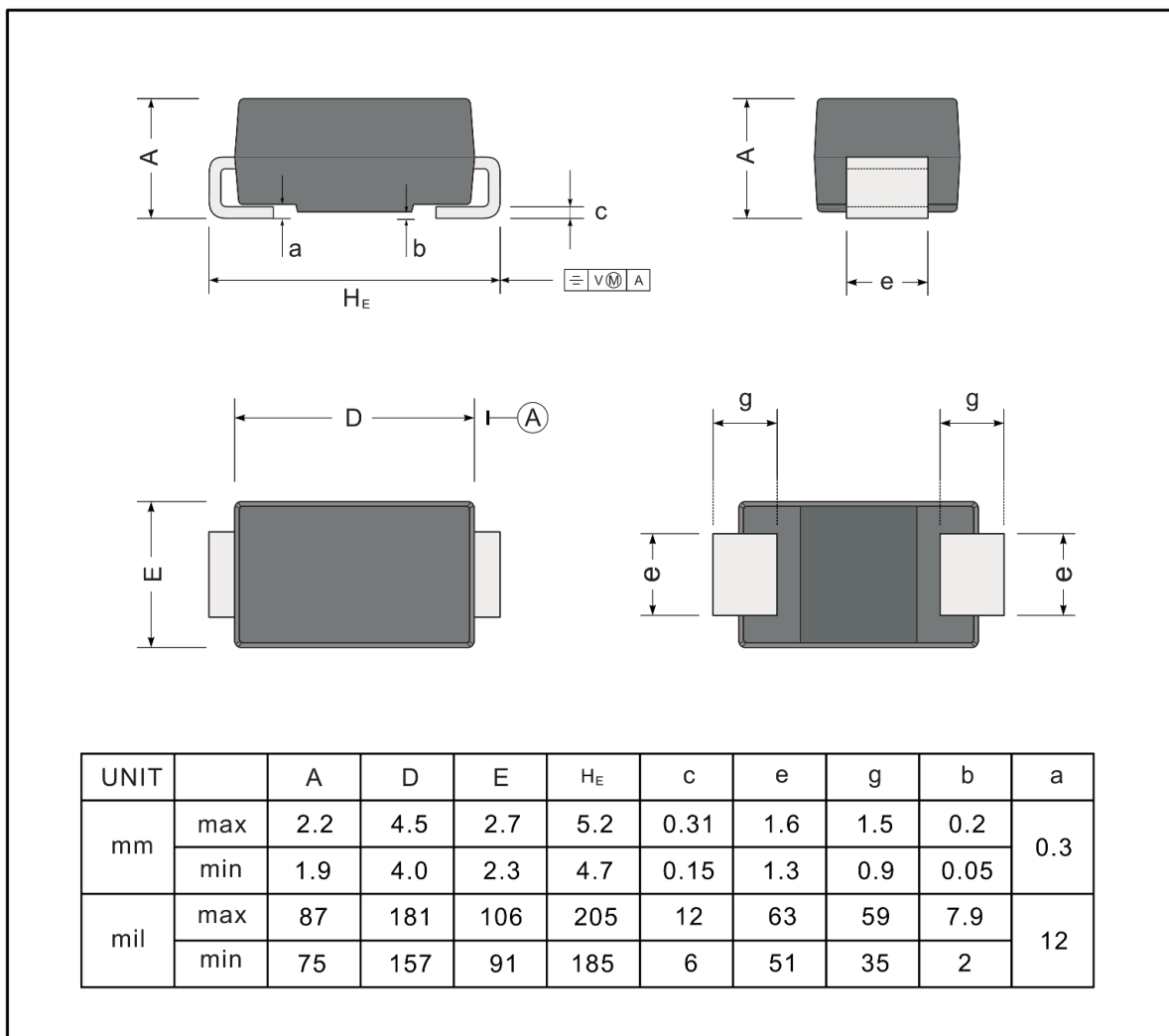


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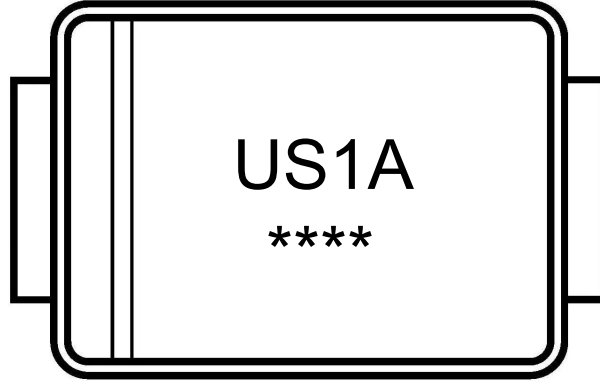
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## 外形尺寸图 / Package Dimensions

SMA



印章说明 / Marking Instructions



说明：

US1A： 为型号代码

\*\*\*\*： 为生产批号代码，随生产批号变化

Note:

US1A： Product Type Code

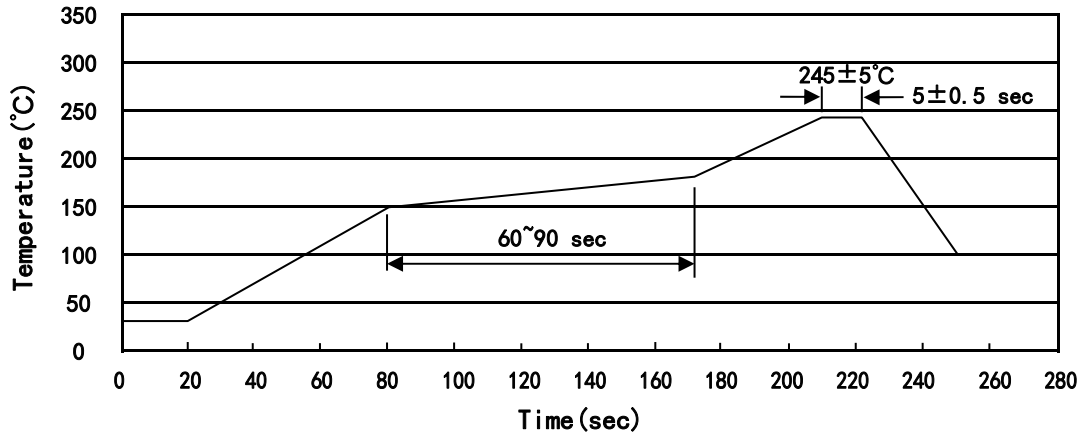
\*\*\*\*： Lot No. Code, code change with Lot No

### Marking

Type number	Marking code
US1A	US1A
US1B	US1B
US1D	US1D
US1G	US1G
US1J	US1J
US1K	US1K
US1M	US1M



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
SMA	5,000	2	10,000	7	70,000	13" ×12	336×336×40	380×335×366

使用说明 / Notices