

US1AF~US1MF

Rev.G Nov.-2020

描述 / Descriptions

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

Surface Mount Ultrafast Recovery Rectifier, Reverse Voltage: 50 to 1000V, Forward Current: 1.0A, SMAF thin 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 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

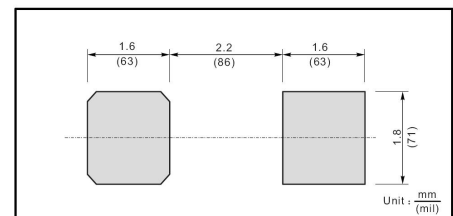


引脚排列 / Pinning



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	参数符号 Symbol	数值 Rating							单位 Unit
		US1AF	US1BF	US1DF	US1GF	US1JF	US1KF	US1MF	
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 at Ta = 65°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 ⁽¹⁾	C_j	15							pF
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA}$	80							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55~+150							°C

Note:

- 1) Measured at 1 MHz and applied reverse voltage of 4 V D.C.
- 2) 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
			US1AF	US1BF	US1DF	US1GF	US1JF	US1KF	US1MF	
Maximum Instantaneous Forward Voltage	V_F	$I_F=1.0A$	1.0			1.3	1.65			V
Maximum DC Reverse Current at Maximum DC Blocking Voltage	I_R	$T_a=25^\circ C$	5.0							uA
		$T_a=125^\circ C$	100							
Maximum Reverse Recovery Time ⁽¹⁾	T_{rr}	$I_F=0.5A$ $I_R=1.0A$ $I_{rr}=0.25A$	50				75			ns

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Forward Current Derating Curve

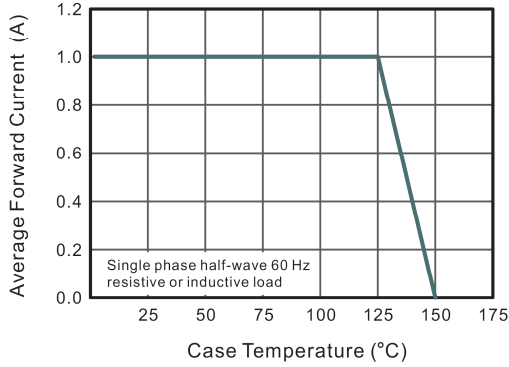


Fig.2 Typical Reverse Characteristics

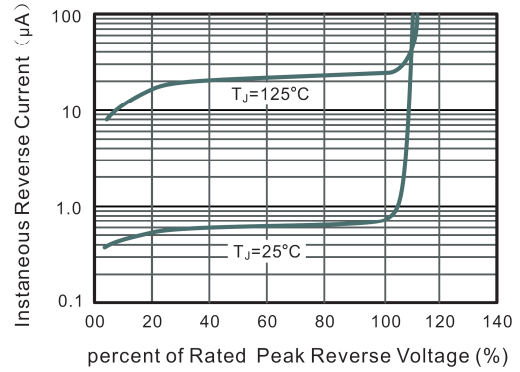


Fig.3 Typical Forward Characteristics

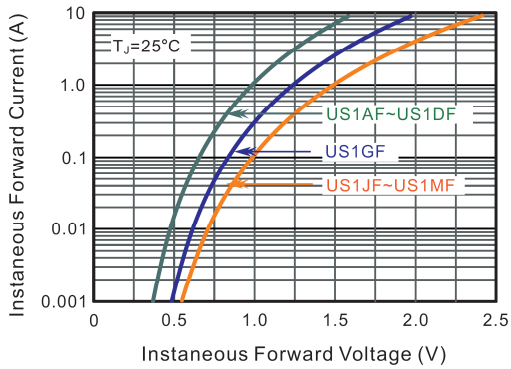


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

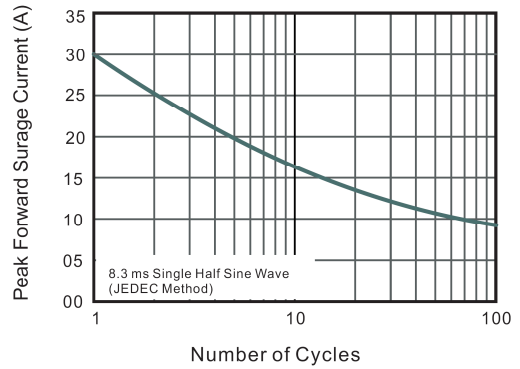
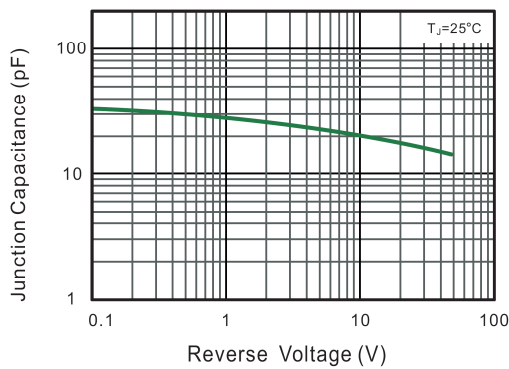
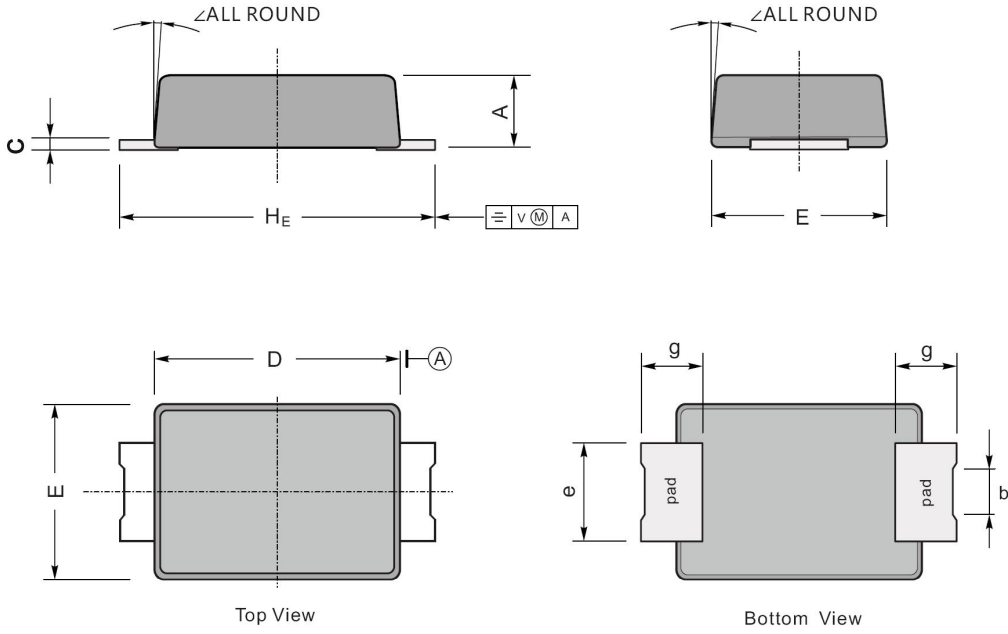


Fig.5 Typical Junction Capacitance



外形尺寸图 / Package Dimensions

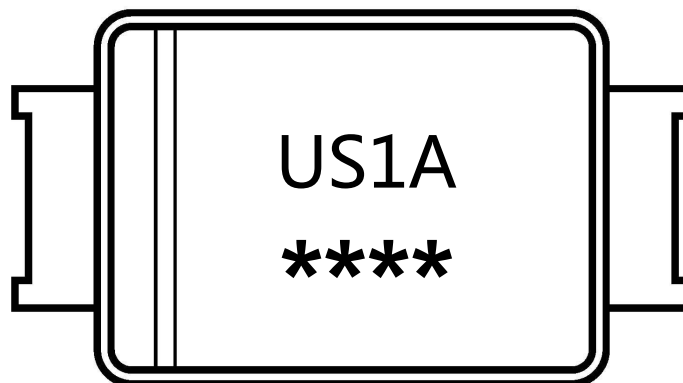


UNIT		A	C	D	E	e	g	H _E	b	\angle
mm	max	1.2	0.20	3.7	2.7	1.6	1.2	4.9	1.05	7°
	min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	0.65	
mil	max	47	7.9	146	106	63	47	193	41	
	min	35	4.7	130	94	51	31	173	26	

Marking

Type number	Marking code
US1AF	US1A
US1BF	US1B
US1DF	US1D
US1GF	US1G
US1JF	US1J
US1KF	US1K
US1MF	US1M

印章说明 / Marking Instructions



说明：

US1A：为型号代码

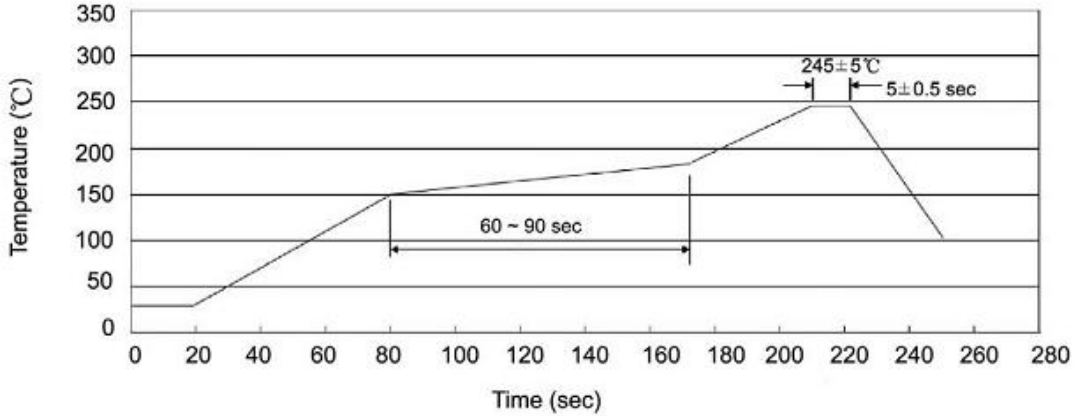
****：为生产批号追溯码，第1个*为年月代码，后面3个*为当月小批号代码

Note:

US1A：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" ×12	185X180X105	390X385X205

使用说明 / Notices