

Version No.:2020324

Spec. No.: SFA-SRF

东莞市安伏特电子有限公司  
Dongguan Ampfort Electronics Co., Ltd.

# 规格承认书

## Specification for approval

产品名称: SRF 系列 2410/6125/1808 快断型 表面贴装保险丝 350Vac

Product Type: SRF Series 2410/6125/1808 *Fast-acting Surface Mount Fuse 350Vac*

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## 1. 产品特性及应用范围 / Description, Features and Applications

本产品适用于各类电子设备电路初、次级电路板的过流保护, 广泛应用于固态照明、电池充电、消费电子、电子镇流器、LED AC/DC 电源供应、网络通信、医疗仪器及工业控制器等领域。

### Descriptions:

Ampfort 6125 series slow-blow square Fast-acting fuses are ceramic tube/end cap constructions, RoHS compliant, Halogen Free and lead(Pb) exempts of the requirements of RoHS Directive(2002/95/EC), with U.S. (UL/CSA) safety agency approvals. Provide board level primary and secondary circuit protection in a wide variety of applications. With excellent inrush current withstanding capability, excellent reliability for thermal and mechanic shock, also have a high reliability and stable solder ability, end caps are available in gold/silver/nickel plated.

### Features:

- Fast-acting(Fast-Blow)
- Wide range of current rating available
- Low temperature de-rating
- Tape and Reel for automatic placement
- Small size(6.1mm\*2.5mm)
- Wide operating temperature range
- RoHS compliant
- Conflict free metals

### Applications:

- LED lighting
- LCD backlight inverter
- PC server
- Wireless base station
- Digital camera
- Notebook PC
- Portable Devices
- Cooling fan system
- White goods
- Industrial equipment
- Battery devices
- Power supply
- Storage system
- Game console
- Medical equipment
- LCD/PDP devices
- Networking devices
- Telecom system
- Office equipment
- Automotive devices

## 2. 安规认证标准及编号 / Standards and Agency Approvals

2.1 执行标准: 遵循 UL 248-14。

Standards: In accordance with UL 248-14.

2.2 认证范围 Certification:

安规标准 Agency	认证范围 Ampere Range	证书编号 Agency File Number
UL, cUL	50Ma ~ 7A	E340427(JDYX2)/ E340427(JDYX8)

## 2.3 目录编号 Catalogue No., ● 已认证 Approved / ○ 认证中 Pending

目录编号 Catalog No.	额定电流 Ampere Rating	额定电压 Voltage Rating	分断能力 Breaking Capacity	冷阻值 Nominal Cold Resistance (Ohms)	熔化热能 I <sup>2</sup> T Melting Integral(A <sup>2</sup> .S)
SRF0250	250mA	350V	35A@350VAC 50A@300VAC 50A@250VAC 200A@125VAC	0.860	0.145
SRF0300	300mA	350V		0.620	0.162
SRF0315	315mA	350V		0.550	0.189
SRF0375	375mA	350V		0.470	0.200
SRF0400	400mA	350V		0.380	0.238
SRF0500	500mA	350V		0.320	0.275
SRF0600	600mA	350V		0.285	0.470
SRF0630	630mA	350V		0.256	0.566
SRF0700	700mA	350V		0.208	0.805
SRF0750	750mA	350V		0.175	1.240
SRF0800	800mA	350V		0.155	1.880
SRF1100	1A	350V		0.148	3.500
SRF1125	1.25A	350V		0.102	4.760
SRF1150	1.5A	350V		0.085	6.305
SRF1160	1.6A	350V		0.075	6.505
SRF1200	2A	350V		0.044	8.950
SRF1250	2.5A	350V		0.043	16.025
SRF1300	3A	350V		0.033	21.560
SRF1315	3.15A	350V		0.029	22.750
SRF1350	3.5A	350V		0.027	27.050
SRF1400	4A	350V	0.025	31.808	
SRF1500	5A	350V	0.019	40.250	
SRF1600	6A	350V	0.018	67.245	
SRF1630	6.3A	350V	0.017	73.550	
SRF1700	7A	350V	0.015	76.280	

- \*: These catalog no. cold resistance and I<sup>2</sup>t value are pending due to fuse elements shall be customized;
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C;
- Typical Pre-arching I<sup>2</sup>t are calculated at 10\*In Current or 8ms;

➤ Min Interrupting Rating: 1.35\*In.

### 3. 产品标示 / Product Marking

保险丝上需有下列标示 / The fuses shall have the following markings

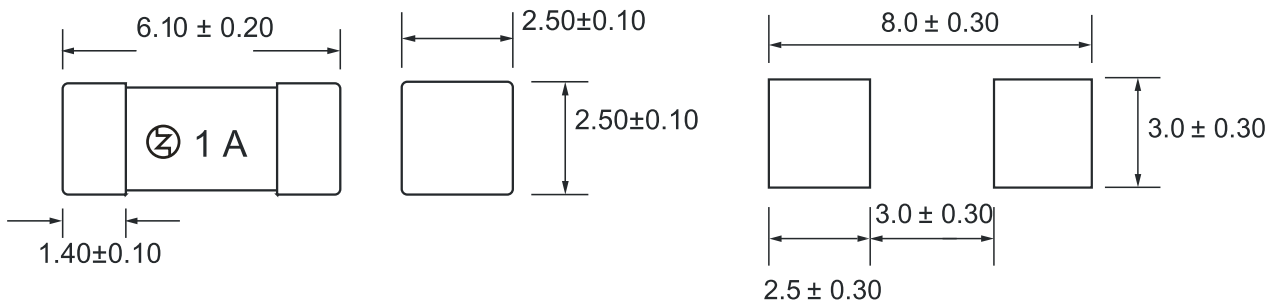
示例 Example:



注: 对于标示的大小和位置没有规定 / Note: Size and position of the markings shall not be provided.

### 4. 结构及尺寸 / Dimensions and Structure

单位: 毫米 / Unit: mm



### 5. 材料明细 / Material Details

编号 NO.	零件名称 Part Name	材质 Material
①	端帽 End caps	黄铜镀金或镀银 Au or Ag Plated Brass Cap
②	主体 Body	陶瓷管 Non-Transparent Square Ceramic Tube
③	熔丝 Fuse element	合金 Cu-Ag Alloy wire

**6. 产品特性 / Product Characteristics**

编号 NO.	项目 Item	内容 Content	参考标准 Reference standards
1	产品标识 Product Marking	Brand, Ampere Rating	Marking standards
2	工作温度 Operating Temperature	-55°C to 125°C	IEC60068-2-1/2
3	可焊性 Solderability	T=240°C±5°C, t=3sec±0.5sec, Coverage≥95%	MIL-STD-202, Method 208
4	耐焊接热 Resistance to Soldering Heat	10 sec at 260°C	MIL-STD-202, Method 210, Test condition B
5	绝缘阻抗 Insulation Resistance (after Opening)	10,000 ohms minimum	MIL-STD-202, Method 302, Test Condition A
6	热冲击 Thermal Shock	5 cycles, -65°C / +125°C, 15 minutes at each extreme	MIL-STD-202, Method 107, Test Condition B
7	机械冲击 Mechanical Shock	100G's peak for 6 milliseconds, 3cycles	MIL-STD-202, Method 213, Test I
8	振动试验 Vibration	0.03"amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs	MIL-STD-202, Method 201
9	耐湿性 Moisture Resistance	10 cycles	MIL-STD-202, Method 106
10	盐雾试验 Salt Spray	5% salt solution, 48hrs	MIL-STD-202, Method 101, Test Condition B

**7. 电气特性 / Electrical Characteristics****7.1 实验条件: Test Condition**

所有测试环境温度均为 25±5°C。

All electrical test is to be conducted with the ambient air at a temperature of 25±5°C.

**7.2 分断能力 Interrupting Rating:**

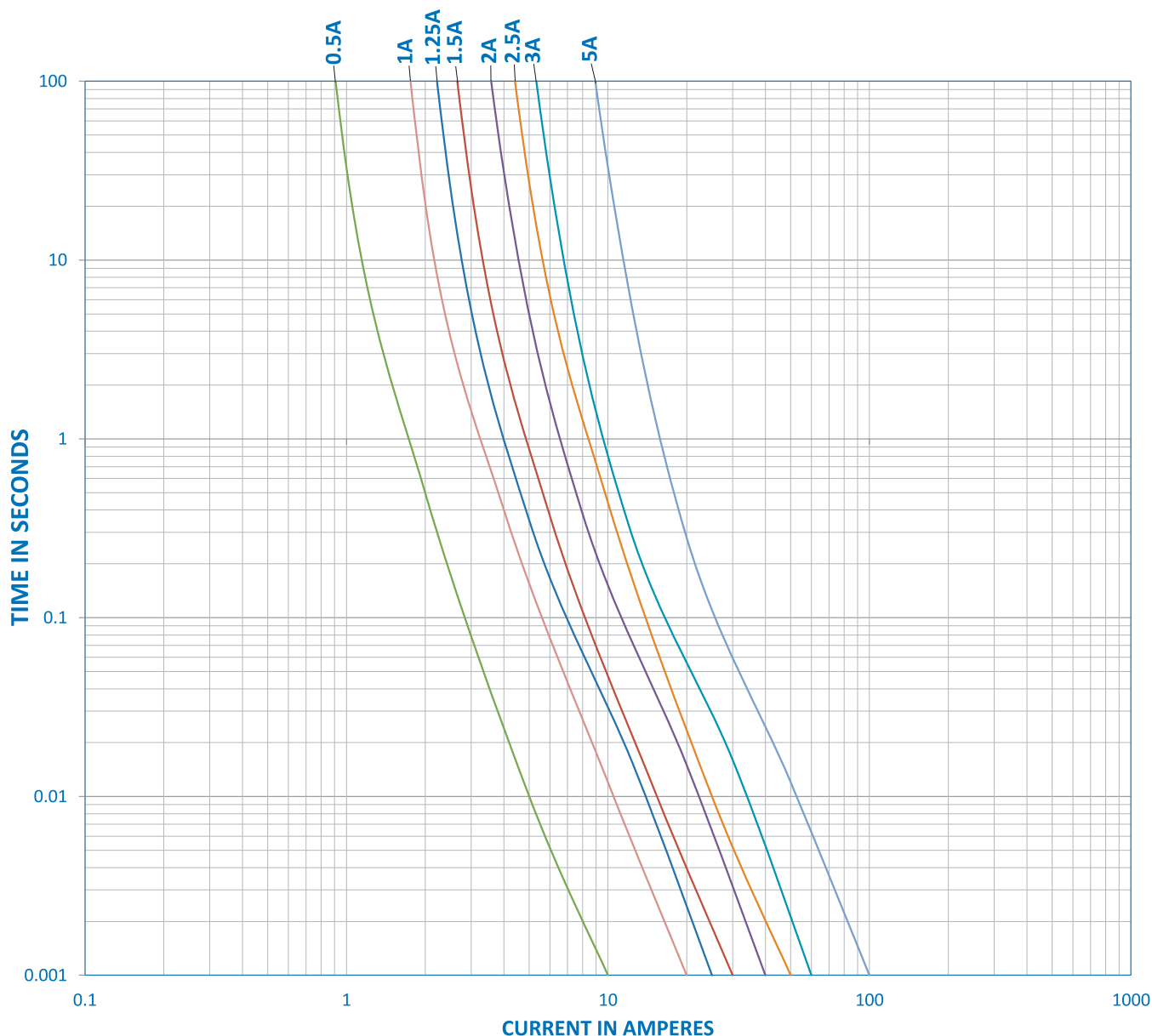
保险丝承受分断能力: 50A@250Vac, 200A@125Vac.

Breaking Capacity: 50A@250Vac, 200A@125Vac.

7.3 熔断时限 / Operating Characteristics

额定电流的% % of Ampere Rating(In)	熔断时间 Blowing Time
100% * In	大于 4 小时(4 hours Min)
200% * In	小于 120 秒 (120 sec Max)

7.4 平均时间电流曲线图 / Average Time Current Curves

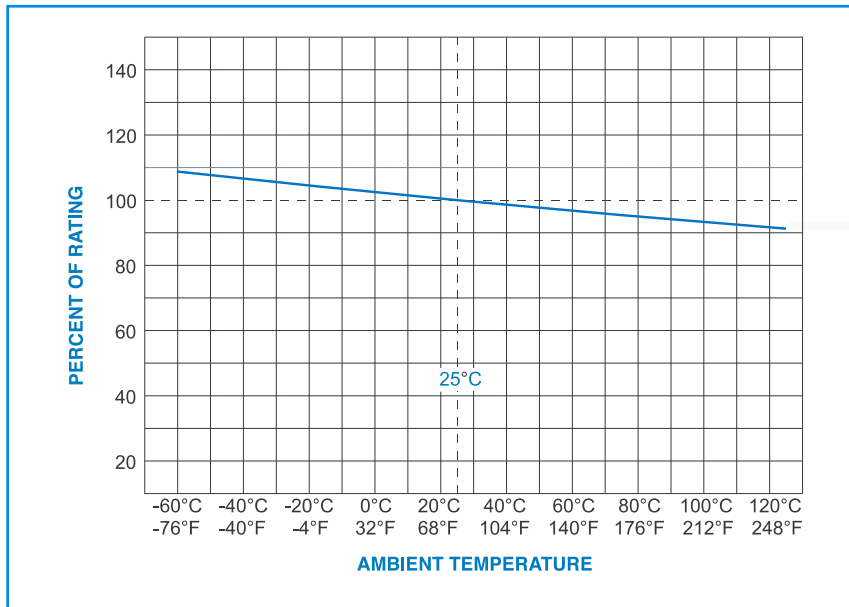


8. 环境特性 / Environmental Characteristic

若操作环境温度超出 25±5℃ 范围，在选用保险丝规格时，需考虑操作环境温度对保险丝的影响，请参照如下：温度-电流曲线图。

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from 20~30°C, engineer should consider the environmental temperature's affection to fuses.

Please refer: Temperature Rerating Curve:



### 9. 建议焊接参数 / Recommended Soldering Parameters

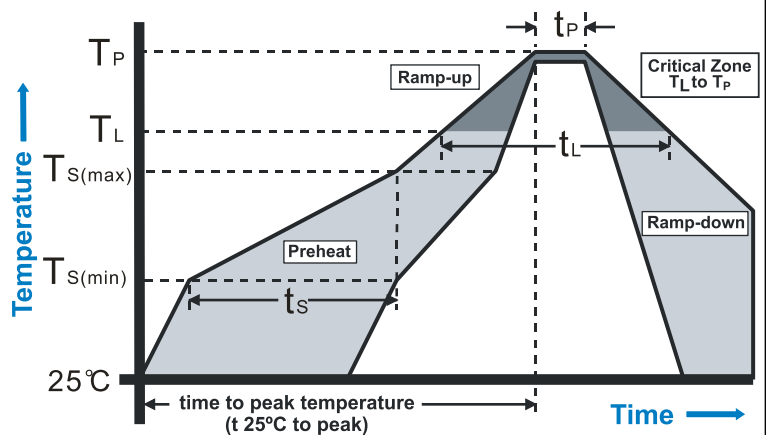
#### A. 波峰/回流焊参数 / Wave / Reflow Soldering Parameters:

锡膏工艺 / Solder paste process.

锡炉温度 / Solder Pot Temperature: 260°C Max

焊接时间 / Solder Dwell Time: 5 seconds max

Reflow Condition		Pb-Free assembly
Average ramp-up rate (Ts(max) to Tp)		5°C /second max.
Preheat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (Min to Max) (ts)	60-120 seconds
Reflow	Temperature (TL)	220°C
	Time Max (tL)	60 seconds
Peak Temperature(Tp)		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (Tp)		8 minutes max



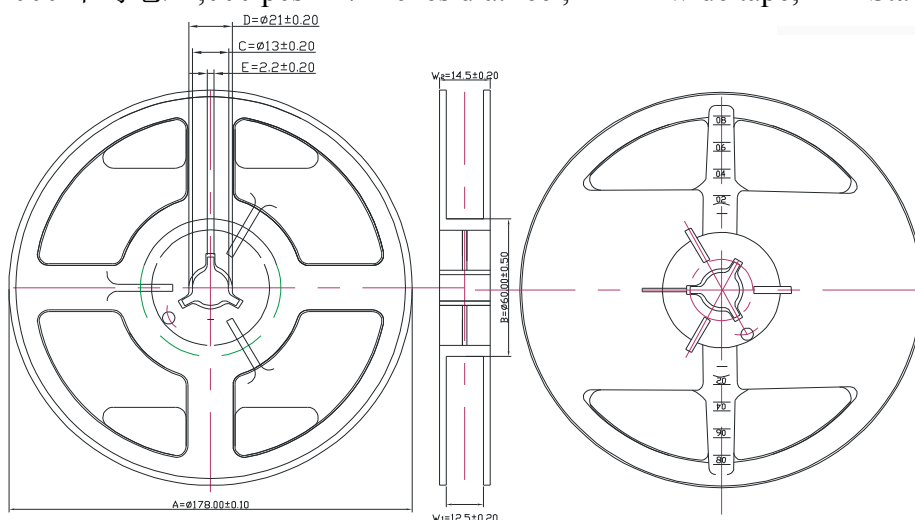
B. 手工焊参数 / Hand-Solder Parameters:

烙铁温度 / Solder Iron Temperature:  $300 \pm 5^\circ\text{C}$

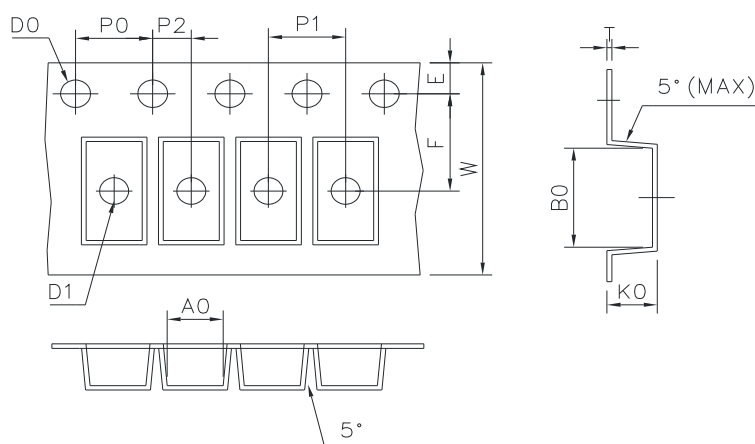
焊接时间 / Heating Time: 1~2 s Max

10. 包装 / Packaging

1000 个每卷/ 1,000 pcs in 7 inches dia. reel, 12mm wide tape, EIA Standard 481



Item	A	B	C	D	E	W1	W2
Spec.(mm)	$178 \pm 0.10$	$60 \pm 0.50$	$13 \pm 0.20$	$21 \pm 0.20$	$2.2 \pm 0.20$	$12.5 \pm 0.20$	$14.5 \pm 0.20$



Item	A <sub>0</sub>	B <sub>0</sub>	D <sub>0</sub>	D <sub>1</sub>	E	F
Spec.(mm)	$2.70 \pm 0.10$	$6.40 \pm 0.10$	$1.50 \pm 0.10$	$1.50 \pm 0.25$	$1.75 \pm 0.10$	$5.50 \pm 0.10$

Item	K <sub>0</sub>	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	W	t
Spec.(mm)	$2.70 \pm 0.10$	$4.00 \pm 0.10$	$4.00 \pm 0.10$	$2.00 \pm 0.10$	$12.00 \pm 0.15$	$0.25 \pm 0.05$



## 11. 其他 / Others

11.1 如果在使用中有超出本规格书的要求，须经双方协商确认。

In the event that an impropriety is found beyond this specification, it shall be fixed by mutual agreement between the parties.

### 附件 I: 安规证书 / Appendix I: Safety approval certificates