WPFxxAxJ Series

Self Control Fuse

特征/Features

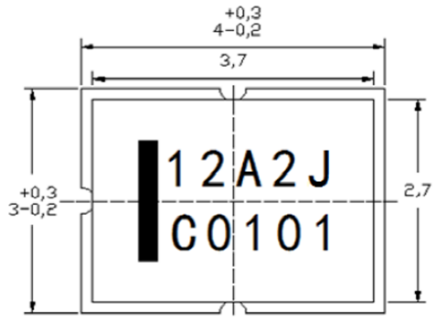
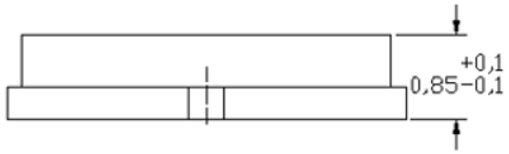
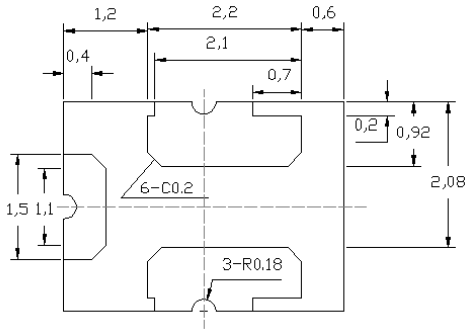
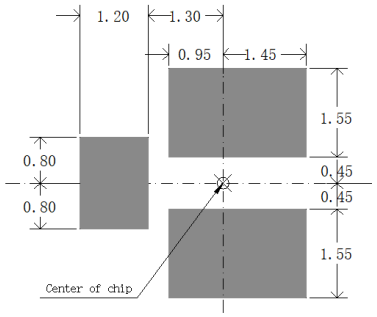


- 无卤 Halogen free
- SMD 电子器件/SMD Electronic devices
- 高结构强度/High structural intensity
- 过电流保护/Overcurrent protection
- 过充电保护/Overcharge protection
- 兼容回流焊接工艺/Compatible with reflow soldering processes
- UL: UL-248-1, UL-248-14…File Number: E311435
- TUV: EN60127-1, EN60127-4…File Number: J50552619

环境特性/Environmental Characteristics

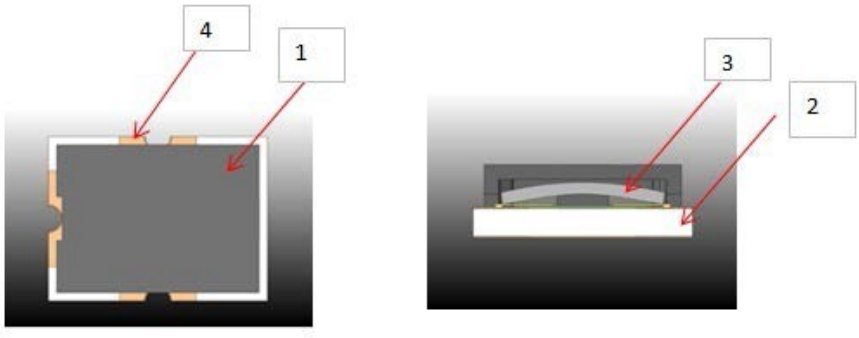
本产品各材料中所含卤素的情况如下所示。 Contents of halogens used in each material for the product are as follows.	
卤素物质 Halogen substance	含量 Content
氯 Chlorine（Cl）	≤ 900ppm (0.09%)
溴 Bromine（Br）	≤ 900ppm (0.09%)
氯（Cl）+溴（Br）总浓度 Total concentration of chlorine (Cl) + bromine (Br)	≤ 1500ppm (0.15%)
本规格书所述产品符合 RoHS 指令的要求。BOM 表中包含高温合金、焊料及部分电子浆料（含铅），但均符合 RoHS 指令的相关规定。 The product described in this specification complies with the RoHS Directive. BOM table contains the high-temperature alloy, solder, some electronic slurry, including lead, but are in line with the relevant provisions of the RoHS directive.	

● 产品尺寸/Product size（mm）

正面/ Front	侧面/ Side
	
背面/ Back	
	

● 产品结构/Product Structure

结构图/Structure diagram

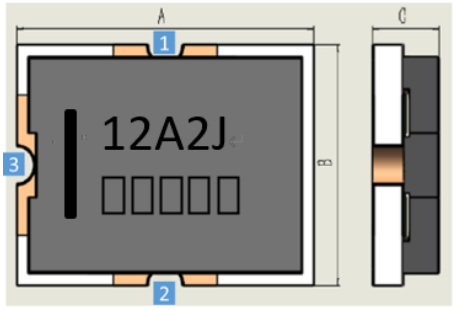


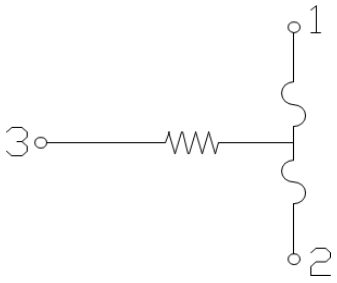
上表面/Top　　横断面/Cross section

注/Note：图中所示产品的顶盖不区分左右。/The top cover of the product shown in the figure does not distinguish between the right and the left.

No.	名称/Name	材料/Material
1	上盖/Cap	LCP
2	陶瓷基板/Ceramic	Al_2O_3
3	合金/Alloy	Sn/Pb/Ag
4	端接电极/Termination electrode	Ag/Pd/Ni/Au

电路结构图/Circuit structure diagram

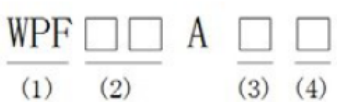


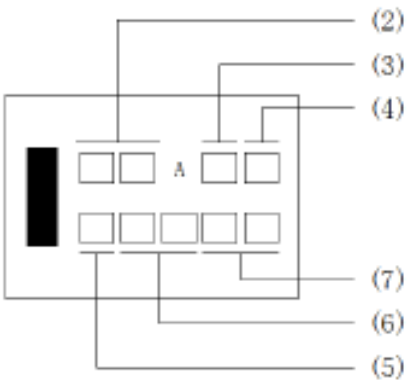


等效电路/Equivalent Circuit

● 标印说明/Marking requirements

标印说明/Marking requirements





（1）WPF：维安 SCF 产品系列代号/ SCF/Way-on SCF protector

（2）额定电流 Rated current

（3）电芯串数/ Commercial Code

（4）长宽尺寸代码/ Length width size code: J:4.0×3.0mm

（5）年份/ Year: K: 2025；L: 2026；M: 2027；N: 2028；O: 2029.....

（6）一年中的第几周：Week of year: 01、02.....52

（7）运行编号: Running number: 01、02.....;

● 电气特性/Specifications

料号 Part Number	额定电流 Rated current	额定电压 Rated voltage ★	工作电压 Operating Voltage	保险丝内阻 Fuse DCR	发热体阻值 Heater DCR	分断电流 Breaking capacity	电池组串数 (选型参考)
	A	VDC	V	mΩ	Ω	A	NCM/NCA
WPF12A1J	12	48	3.0-4.5	1.5-3.5	0.6-1.5	200	1
WPF12A2J	12	48	4.0-9.0	1.5-3.5	2.0-3.2	200	2
WPF12A3J	12	48	7.4-13.8	1.5-3.5	5.7-9.9	200	3
WPF12A4J	12	48	10.5-19.6	1.5-3.5	11.2-20.0	200	4
WPF12A5J	12	48	14.4-23.5	1.5-3.5	17.0-34.0	200	5
WPF12A7J-4	12	48	15.6-27.0	1.5-3.5	24.0-40.0	200	6
WPF12A7J-5	12	48	18.2-31.5	1.5-3.5	32.0-54.0	200	7
WPF12A7J-2	12	48	20.3-36.0	1.5-3.5	39.0-65.0	200	8
WPF12A8J-2	12	48	27.0-40.5	1.5-3.5	52.0-83.0	200	9
WPF12A7J-3	12	48	30.0-45.0	1.5-3.5	65.0-100.0	200	10
WPF15A1J	15	48	3.0-5.0	1.0-3.0	0.77-1.29	200	1
WPF15A2J	15	48	5.0-9.0	1.0-3.0	2.2-3.3	200	2
WPF15A3J	15	48	7.4-13.8	1.0-3.0	5.5-8.4	200	3
WPF15A4J	15	48	10.5-19.6	1.0-3.0	10.4-15.8	200	4
WPF15A5J	15	48	14.4-23.5	1.0-3.0	17.9-29.1	200	5
WPF15A6J	15	48	17.3-28.2	1.0-3.0	24.5-40.9	200	6
WPF15A7J	15	48	20.2-32.9	1.0-3.0	36.0-56.0	200	7
WPF15A8J	15	48	23.1-37.6	1.0-3.0	47.0-73.0	200	8
WPF15A8J-2	15	48	25.0-47.0	1.0-3.0	74.0-105.0	200	9~10
WPF22A1J	22	48	3.5-4.7	0.5-2.2	0.72-1.02	200	1
WPF22A2J	22	48	6.0-9.2	0.5-2.2	2.29-3.3	200	2
WPF22A3J	22	48	9.0-13.8	0.5-2.2	5.5-7.4	200	3
WPF22A4J	22	48	12.0-18.5	0.5-2.2	9.75-13.25	200	4
WPF22A5J	22	48	15.9-23.1	0.5-2.2	16.1-23.1	200	5
WPF22A5J-2	22	48	18.0-27.0	0.5-2.2	22.0-30.0	200	6
WPF22A5J-3	22	48	24.0-32.0	0.5-2.2	29.5-46.0	200	7
WPF22A5J-4	22	48	28.0-36.5	0.5-2.2	38.5-62.5	200	8
WPF22A5J-5	22	48	32.0-41.0	0.5-2.2	49.0-76.0	200	9
WPF22A8J-3	22	48	32.0-45.0	0.5-2.2	62.0-92.0	200	10

★额定电压是保险丝可以阻断的最大电压，而不是加热器组件的动作电压。

Rated voltage is the maximum voltage that the fuse can block, not the action voltage of the heater assembly.

熔断特性/Clear-time characteristics		
项目 Test Item	**条件** Condition of Test	**要求** Requirement at 25℃
电流承载能力 Carrying Capacity (UL248-14)	100%额定电流，4 小时 100% of rated current, 4hr	不熔断 No Melting
熔断特性 Fusing Time (UL248-14)	200%额定电流 200% rated Current	1 分钟及以内保险丝熔断 ≤1min
	施加工作电压 In operation voltage range	
脉冲能力测试 Pulse	P1-P2 施加 5 倍额定电流电流 5ms，断电 995ms，循环 100,000 次 5×In（In = rated current）A @ 25℃ @on 5ms/off 995 ms，100,000 cycles	不熔断 No Melting

1. 工作温度范围：-20~85℃（1 分钟及以内保险丝熔断）。
   Operating temperature range: -20~85℃ (Fusing time≤1min).
2. 电气特性会因为基板热容量等条件的变化而发生特性变动，因此您应该在 PCB 板上进行验证。
   Electrical Characteristics are influenced by thermal capacity of PCB, parts, pattern width, and so on. Therefore you should check it on your PCB.

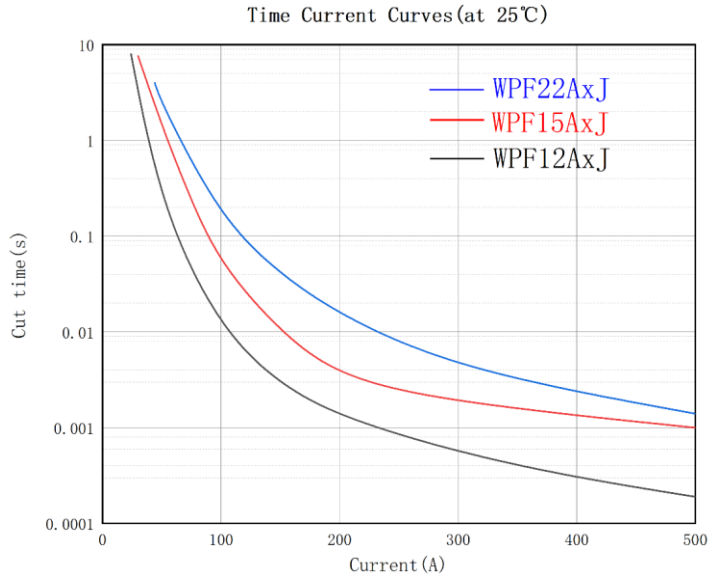
● 测量一般条件/ Standard test condition

除特定条件外，测试环境按以下标准执行；
In the absence of additional test environmental standards, the test environmental standards are as follows;
环境温度/ Ambient temperature: 5 to 35℃;
相对湿度/ Relative humidity: 45 to 85%RH;
气压/ Air pressure: 86 to 106KPa.

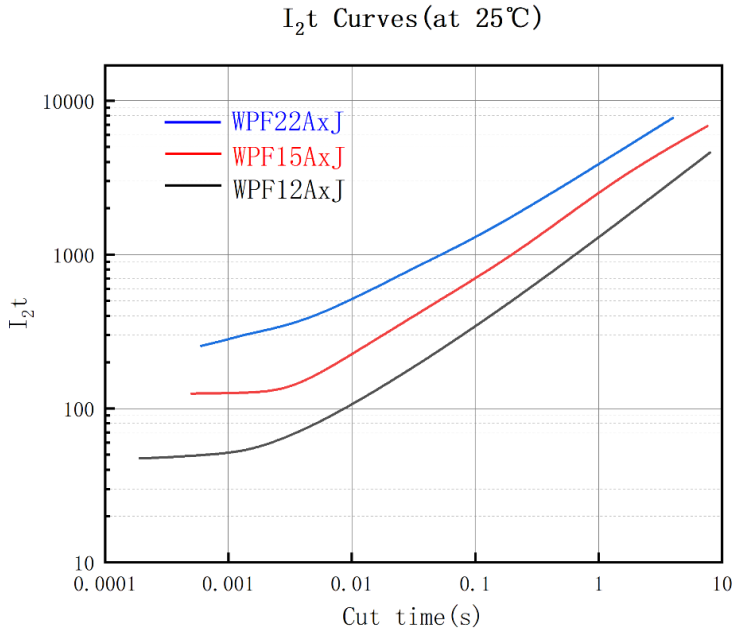
若对测量结果有疑虑，按在以下条件进行测量；
If you have any questions about the test results, please follow the following environmental standards;
环境温度/ Ambient temperature: 20±2℃;
相对湿度/ Relative humidity: 60 to 70%RH;
气压/ Air pressure: 86 to 106KPa.

● 典型性能数据/ Typical Performance Data

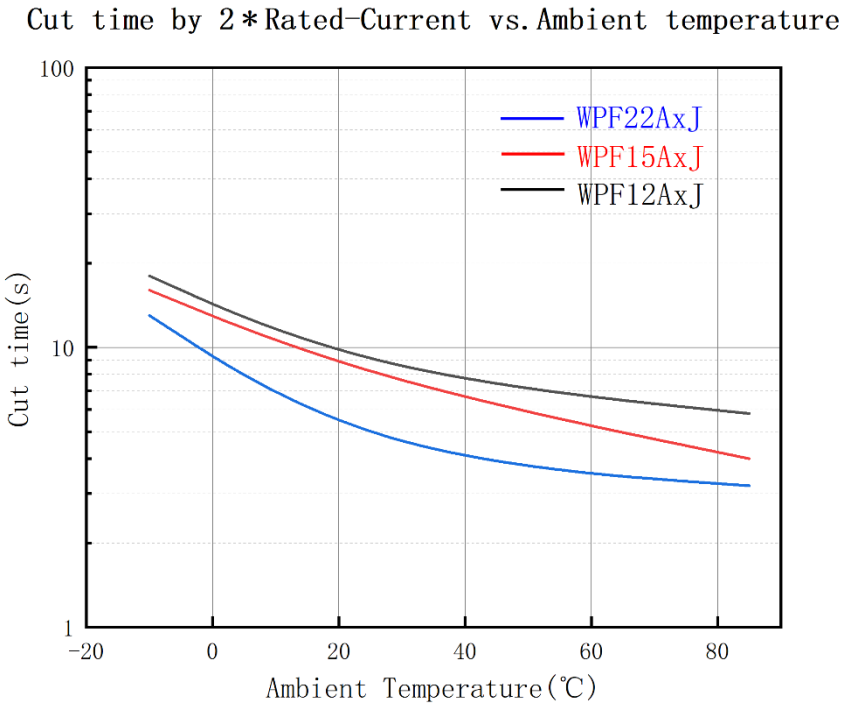
I-T curve



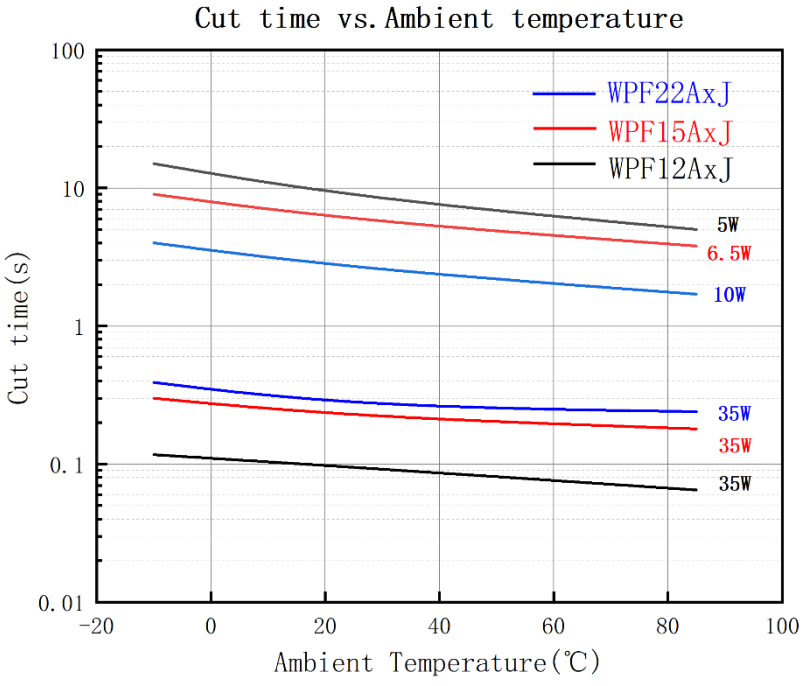
I^2t-t curve



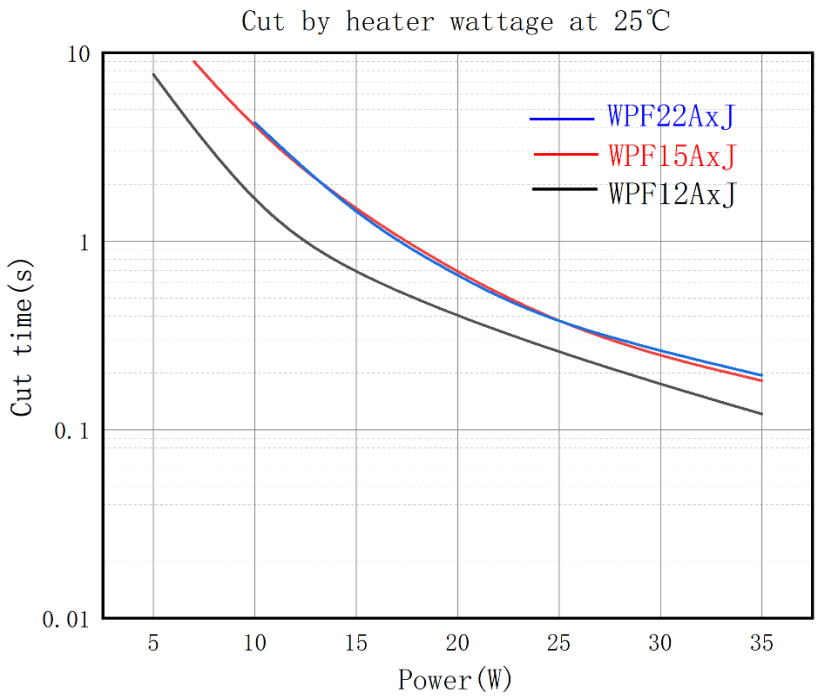
T-t curve at different temperature



P-T curve



T-t curve at different heater wattages



● 可靠性/ Reliability

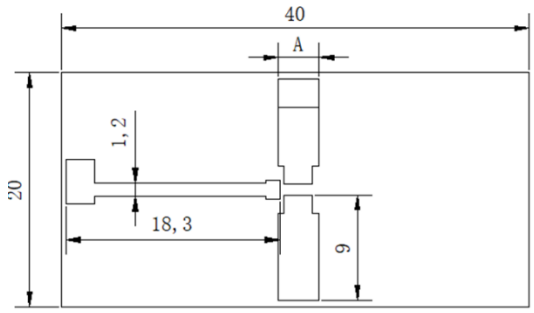
类型 Test Item	项目 Project	条件 Condition	要求 Requirements
电性能 Electrical performance	过电压 Over voltage	对发热体施加工作电压 Operating voltage shall be applied to heater	熔断时间不超过 1 分钟 Fusing Time≤1min
	绝缘 Insulation	@100VDC，在过电压工作电压测试后 @100VDC after OV operating voltage test	>0.2MΩ
	耐电压 Withstand voltage	@100VAC，50-60Hz，60 秒，过电压工作电压测试后 @100VAC @50-60Hz@60s after OV operating voltage test	无击穿 No breakdown
	过电流 Over current	额定电流的 200% 200% of Rated current	熔断时间不超过 1 分钟 Fusing Time≤1min
	承载能力 Carrying Capacity	100% 额定电流，4 小时 100% of rated current, 4hr	不熔断 No Melting
耐久性能 Reliability performance	高温存储 High temperature	温度 100±5℃的环境中存储 250 小时。常温常湿条件 下放置 24 小时后再测试。 100℃±5℃@250hr	元器件外观无变形或损坏，电气性能可满足要求。 Without deformation of case or excessive looseness of caps. Electrical characteristics shall be satisfied.
	高温高湿存储 High humidity	温度为 60±2℃，湿度为 90~95%RH 的环境中存储 250 小时。常温常湿条件下放置 24 小时后再测试。 60℃±2℃@90%~95%@250hr	
	低温存储 Keeping cold	温度-20±3℃的环境中存储 500 小时。常温常湿条件下放置 24 小时后再测试。 -20℃±3℃@500hr	
	脉冲能力测试	5 倍额定通电 5ms，995ms 切断，重复循环 100,000 次。	No melting;

	Pulse	5×In（In = rated current）A @ 25℃ @ on 5ms/off 995 ms, 100,000 cycles	
安装特性 Mounting Characteristics	可焊性 Solder ability	焊锡：Sn96.5/Ag3/Cu0.5[%] 助焊剂：25wt%松香酒精溶液 浸渍深度：2～2.5mm 温度：245±5℃ 浸渍时间：3±0.5sec 浸渍及拉高速度：25±2.5mm/sec Solder: Pb-free (Sn96.5/Ag3/Cu0.5[%]) Flux: 25wt%Rosin Ethanol solution Dipping depth: 2～2.5mm Temperature: 245±5℃ Dipping time: 3±0.5s Dipping and drawing speed: 25±2.5mm/s	新的均匀锡涂层将覆盖浸渍面积 95%以上。 A new uniform coating of solder shall cover a minimum of 95% of the surface being immersed.
	耐焊接热 Resistance to soldering heat	①　回流焊曲线 最高温度：255℃±5℃ 5sec 230℃±5℃ 30sec 温度为样品电极温度（焊接温度）。 样品将通过上述条件回流焊炉两次。 样品将存储于常温常湿条件下 24 小时后再进行测量。 Reflow soldering method Peak temp: 255℃±5℃ 5s 230℃±5℃ 30s At electrode temperature of the specimen. (Solder temperature) The specimen shall be passed through the reflow furnace with the condition shown in the above profile for 2 times. The specimen shall be stored at standard atmospheric conditions for 24h after which the measurement shall be made. ②　烙铁焊接 开始温度：300±5℃ 烙铁条件：3±1 sec 适用于焊电极 样品将存储于常温常湿条件下 24 小时后再进行测量。 Soldiering iron method Bit temperature: 300±5℃ Application of soldering iron: 3±1s Apply the soldering iron to the electrode. The specimen shall be stored at standard atmospheric condition for 24h, after which the measurements shall be made.	外观无变形或上盖松动，电气性能可满足要求。 Without deformation of case or excessive looseness of caps. Electrical characteristics shall be satisfied.

电气特性会因为基板热容量等条件的变化而发生特性变动，因此，您应该在 PCB 板上进行验证。

Electrical Characteristics is influenced by thermal capacity of PCB, parts, pattern width, and so on. Therefore you should check it on your PCB.

● 推荐设计焊盘尺寸和测试板布局/ Recommended Solder Pad Dimensio



单位：毫米

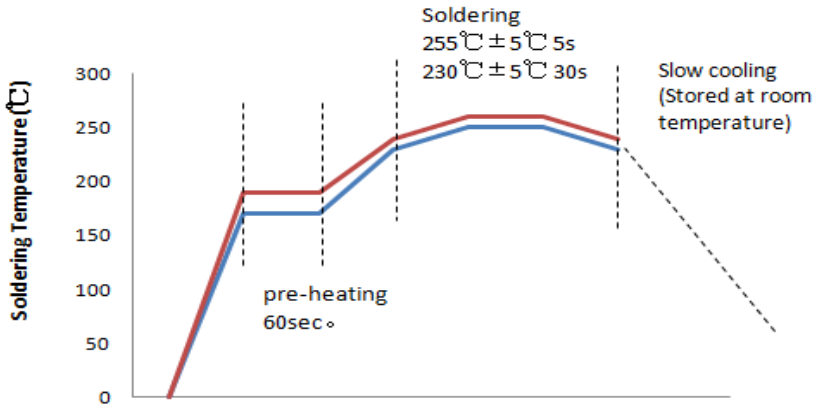
Unit：mm

类型 Type	材料 Materials	铜宽 Copper width A	板厚 Base thickness	覆铜厚度 Copper thickness	导线 Lead wires
12A	FR-4	2mm	0.6 mm	2.0OZ	AWG18
15A	FR-4	3.5mm	0.6 mm	2.0OZ	AWG18
22A	FR-4	6mm	0.6 mm	2.0OZ	AWG14

推荐锡膏钢网厚度：0.08~0.12mm。

Recommended thickness of solder paste steel mesh: 0.08~0.12mm.

● 推荐回流焊曲线/ Solder Reflow Recommendations



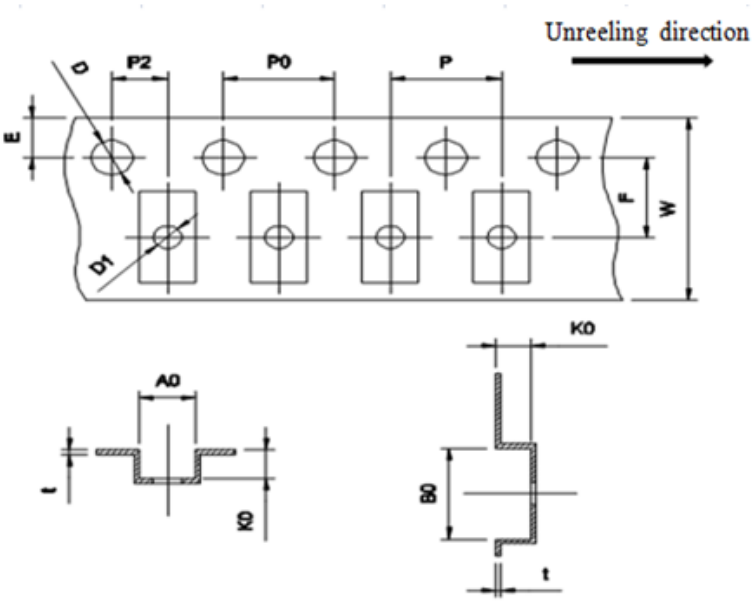
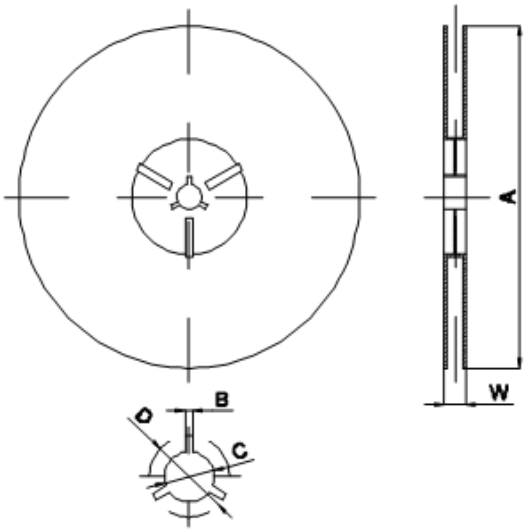
回流焊要求：

峰值温度：255℃±5℃ 5s，230℃±5 摄氏度 30s。试样最多可以通过 2 次回流焊。

Reflow soldering method:

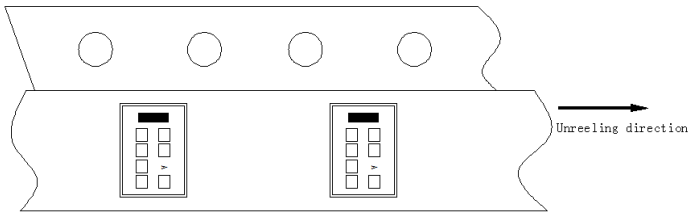
Peak temp: 255℃±5℃ 5s, 230℃±5℃ 30s.The specimen shall be passed through the reflow furnace for 2 times.

● 包装形式/Packaging Data

包装形式/Package		
卷带包装/ Tape packing		
载带和卷盘尺寸/Dimension of Tape and Reels		
符号 Code	单位 mm	
E	1.75±0.10	
F	5.50±0.10	
P2	2.00±0.05	
D	1.50+0.1/-0	
D1	No hole	
P0	4.00±0.10	
10P0	40.0±0.20	
W	12.00±0.30	
P	8.00±0.10	
A0	3.30±0.10	
B0	4.30±0.10	
K0	1.15±0.10	
t	0.30±0.05	
A	330±1.0	
B	2+0.5/-0	
C	13±0.2	
D	21±0.2	
W	15.4±0.5	
包装数量/Packing Quantity		
5000个/卷。 5000 pcs/reel.		

卷带方向/Direction of Taping

方向应该从卷带上盖侧面看/ The direction shall be seen from the top cover tape side.



标签/Label (example)

标签包含以下内容/ The label contains the following content:

（1）商标制造商和工厂地址/ manufacturer's trademark and factory address,

（2）产品类型/ product type,

（3）产品批号/ product batch number,

（4）数量/ quantity,

（5）装运检验人员质量代码/ shipment inspection personnel quality code,

（6）装运日期/ date of shipment,

（7）认证标志/ the certification mark.

● 存储条件/Storage

- 产品必须储存在纸箱或塑料袋中，环境温度为-10℃至 40℃，相对湿度小于 60%，无剧烈温度变化，无阳光直射，无过度振动和冲击。
  The product must be stored in carton or plastic bag, in the conditions of ambient temperature of -10℃ to 40℃, RH of less than 60%, no rapid temperature change, no direct sunshine, excessive vibration and shock.
- 上述条件下的最长储存期为交货日期后 1 年。
  The preservation period when it is kept on the above condition is 1 year.
- 应避免储存在可能产生腐蚀性气体的地方，如盐雾、氯、硫化氢、铵、硫化物氧化、氯化氢等。
  Storage should avoid locations where corrosive gases (e.g., salt mist, chlorine, etc.) may be generated.

● 使用注意事项/Cautions

(1) 请务必在客户实际使用的基板上进行组装确认。电性能参数（如保持电流、过电流动作特性、过电压动作特性）可能因基板热容量等条件变化而变动。例如，多层基板、双面铜箔、基材厚度增加等因素，可能导致通电极限电流（即通电承载电流）增大，切断时间延长。

Perform assembly qualification on the actual customer board. Electrical performance parameters such as holding current, overcurrent trip characteristics, and overvoltage trip characteristics may vary depending on board thermal capacity and other conditions. Factors like multilayer boards, double-sided copper foil, or increased substrate thickness can lead to higher current-carrying capacity and extended trip time.

(2) 建议在贵司实际 PCB 上进行产品特性检验。因规格书数据基于 UL 标准 PCB（0.6t 玻纤环氧铜箔基材）测得，而产品特性会随 PCB 热容量变化。

It is recommended to verify product characteristics on your actual PCB. The datasheet data were measured on a UL standard PCB (0.6t glass epoxy copper-clad substrate), and product performance may vary with PCB thermal capacity.

(3) 请在实际使用条件下验证本产品对周围部件及焊料的影响。因为维安三端保险丝（SCF）在通电或熔断动作时会产生焦耳热，可能对邻近元件或焊点造成不利影响。

Validate the product under actual operating conditions regarding its impact on surrounding components and solder. The WAYON SCF (three-terminal fuse) generates Joule heat during energization or tripping, which may adversely affect adjacent parts or solder joints.

(4) 请勿对本产品进行清洗。实装前后若采用超声波或清洁剂清洁，会导致保险丝表面助焊剂流失，致使产品性能无法满足规格要求；直接接触清洁剂亦可能引发同样问题。如经清洗，产品将不予品质保证。

Do not clean this product. Cleaning with ultrasonic waves or solvents before or after mounting can remove flux from the fuse surface, causing performance to fall outside specifications; direct contact with cleaning agents may also cause similar issues. Products that have been cleaned will not be covered by quality assurance.

(5) 本产品不能利用胶水或树脂包覆，胶水或树脂可能会流入产品内部，导致不满足性能要求。请勿利用胶水或树脂覆盖使用。也请注意，进行了胶水或树脂封装的产品，我们将不提供品质保证。

This product can not be used in resin packaging, packaging process of resin into the product, resulting in poor product performance. Products that have been resin-molded will not be guaranteed.

(6) 已贴装使用取下来后的产品，请勿二次焊接使用。

Please do not re-use the product removed by soldering.

(7) 请务必确认三端保险丝与电路板的连接方式：其中引脚 1-3 和 2-3 作为具有高阻抗的发热端使用。
Please confirm the connection between the three terminal and the circuit board , where in 1-3, 2-3 is used as a heating end with high resistance.

(8) 请务必确认焊料量与回流焊接条件，确保焊脚高度不超出陶瓷基板表面，并在安装后对焊脚高度及成型状态进行确认。这是由于焊料量过多会引发焊料爬升至陶瓷基板表面，进而增大产品的热容量与散热量，不仅可能导致电气性能异常，极少数情况下甚至会造成保险丝熔化。
Adjust solder volume and reflow conditions to ensure fillet height does not exceed the ceramic substrate surface, and verify the fillet height and formation after mounting. Excess solder may wick onto the ceramic substrate, increasing thermal capacity and heat dissipation, potentially affecting electrical performance and, in rare cases, causing fuse melting.

(9) 请避免在高温状态下对该产品罩盖施加外力。因回流焊等高温工序后，黏合剂会受热软化，此时施加外力可能导致罩盖脱落或移位。
Avoid applying external force to the cover while it is in a high-temperature state. The adhesive used between the cover and ceramic substrate softens briefly after reflow or similar high-temperature processes, and force applied during this time may cause the cover to detach or shift.

(10) 请勿对本产品施加过度应力或冲击。因陶瓷基板在受力后可能产生裂缝，导致电气特性异常，进而使产品无法正常工作。建议在贵司生产完成后确认发热体电阻值是否正常。
Avoid applying excessive stress or impact to the product. The ceramic substrate may crack under mechanical force, leading to electrical failure and malfunction. It is recommended to verify the resistance value of the heating element after assembly.

(11) 本产品型号或方向如需通过罩盖标印识别，请预先确认标记内容及其含义，也可通过观察第三脚位置判定方向。因罩盖表面的激光标记受材料成型状态、制造设备及批号差异等因素影响，其形态与位置可能存在细微变动。
If identifying the product model or orientation via the cover marking, confirm the marking legend in advance, or determine the orientation by observing the third lead. The laser marking on the cover may vary slightly in appearance and position due to differences in material surface condition, manufacturing equipment, and batch.

(12) 陶瓷基板边缘、电极或罩盖部位可能出现毛边等外形异常，但若在尺寸规格范围内则不视为品质异常。该现象为制造过程中产生，且不影响产品电气特性。
Minor irregularities such as burrs on the ceramic substrate edges, electrodes, or cover are not considered defects if they remain within specification limits. These occur during manufacturing and do not affect electrical performance.

(13) 罩盖表面的轻微划伤或状态差异不影响产品电气特性。这是由于罩盖为树脂成型品，其表面状态会因材料及工艺的细微差别而存在差异，且在组装过程中可能与产品发生接触。

Slight scratches or surface variations on the cover do not impact electrical performance. These are due to inherent differences in resin material and molding process, as well as incidental contact during assembly.
(14) 本产品是在常规电子设备中设计和使用的，因此不建议在军事、医疗等可能对人员和财产造成直接损害的领域使用。 This product is designed and used in conventional electronic devices, so we do not recommend using this product in military, medical, or other applications where failure could cause direct harm to people or property.
(15) 如果对本规格书内容有任何疑问或修改意见，请提前通知我们，以便双方达成一致。 If there is any doubt or change in the contents of this book, please inform us in advance so that both parties can reach an agreement.

● 手工焊接产品使用注意事项/ Cautions for Hand Soldering

(1) 建议采用 SMT 回流焊工艺进行贴装，不推荐使用烙铁或热烘枪等手工焊接方式。手工焊接可能导致焊料过量、助焊剂流失或熔丝热熔断，从而影响产品性能。 SMT reflow soldering is recommended for mounting this product. Hand soldering using irons or hot air guns is not recommended, as it may cause excessive solder, flux loss, or fuse melting, potentially compromising product performance.
(2) 若确需手工焊接，应严格控制工艺条件。例如，尽量缩短焊接时间（如 10 秒内），并适当降低温度（如 380℃/10 秒或 450℃/5 秒），以减少高温对产品内部熔丝及助焊剂的影响。 If hand soldering is unavoidable, strict process control is required. Minimize soldering time (e.g., within 10 seconds) and use appropriate temperatures (e.g., 380℃ for 10 seconds or 450℃ for 5 seconds) to reduce thermal impact on the internal fuse and flux.
(3) 手工焊接时，需注意焊料量与导线选择对热容量的影响。焊脚或测试导线焊点锡量过多，或导线过粗，均可能改变基板热容量，导致通电极限电流增大、切断时间延长，与规格书不符。 During hand soldering, pay attention to solder volume and lead wire selection. Excessive solder on leads or test points, or using overly thick wires, can alter the board's thermal capacity, potentially increasing current-carrying capacity and extending trip time, deviating from specification.
(4) 若使用热烘枪，可参考模拟回流焊的作业方式。即在焊盘位置涂抹适量锡膏并放置产品后，于 PCB 背面同等位置加热（如 450℃），以尽量接近 SMT 工艺效果。

If using a hot air gun, a simulated reflow method is recommended. Apply an appropriate amount of solder paste to the pads, place the product, and heat from the corresponding area on the PCB backside to better replicate the SMT process.
(5) 测试过程中，应选用合适粗细的导线，并控制焊点锡量。焊锡过量同样可能改变热容量，进而影响过电流动作特性。 During testing, select suitable lead wire gauges and control solder volume at connection points. Excess solder can similarly affect thermal capacity and overcurrent trip characteristics.

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Product Specification Statement

1.The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

2.The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.

3.WAYON strives to provide accurate and up-to-date information to the best of our ability. However, due to technical, human, or other reasons, WAYON cannot guarantee that the information provided in the product specification is entirely accurate and error-free. WAYON shall not be held responsible for any losses or damages resulting from the use or reliance on any information in these product specifications. WAYON reserves the right to revise or update the product specification and the products at any time without prior notice, and the user's continued use of the product specification is considered an acceptance of these revisions and updates. Prior to purchasing and using the product, users should verify the above information with WAYON to ensure that the product specification is the most current, effective, and complete. If users are particularly concerned about product parameters, please consult WAYON in detail or request relevant product test reports. Any data not explicitly mentioned in the product specification shall be subject to separate agreement.

4.Users are advised to pay attention to the parameter limit values specified in the product specification and maintain a certain margin in design or application to ensure that the product does not exceed the parameter limit values defined in the product specification. This precaution should be taken to avoid exceeding one or more of the limit values, which may result in permanent irreversible damage to the product, ultimately affecting the quality and reliability of the system or equipment.

5.The design of the product is intended to meet civilian needs and is not guaranteed for use in harsh environments or precision equipment. It is not recommended for use in systems or equipment such as medical devices, aircraft, nuclear power, and similar systems, where failures in these systems or equipment could reasonably be expected to result in personal injury. WAYON shall assume no responsibility for any consequences resulting from such usage.

6.Users should also comply with relevant laws, regulations, policies, and standards when using the product specification. Users are responsible for the risks and liabilities arising from the use of the product specification and must ensure that it is not used for illegal purposes. Additionally, users should respect the intellectual property rights related to the product specification and refrain from infringing upon any third-party legal rights. WAYON shall assume no responsibility for any disputes or controversies arising from the above-mentioned issues in any form.