CHEVRON ELECTRONIC
诚潤電子

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承 认 书

Specification For Approval

产品信息 Product information

产 品 名 称Product name: 自控制保险丝（三端保险丝） Self Control Fuse

产 品 规 格Product model: C9550XXAXX V

拟 制 Prepared By	确 认 Reviewed By	批 准 Approved By
雷淑贤	邓 波	方 剑

客户承认 Customer Approval

客户名称 Customer name:

客户料号 Customer P/N:

经 办 Prepared By	审 核 Reviewed By	批 准 Approved By
确认结果 Verify the results：		
☐合格 Qualified	☐不合格 Unqualified	不合格原因 Root cause:

生效日期 Effective Date: 年 YY 月 MM 日 DD

1.如果本承认书获得贵司认可，请您签名后拷贝一份回传给我们。
If this acknowledgement letter is approved by your company, please sign it and send us a copy
2.当您下订单给诚润电子时，烦请在订单中列出上面产品信息表格中的产品名称和产品规格。
When you place an order with Chengrun Electronics, please kindly list the product names and specifications in the product information table above in the order form

变更履历

内　容	日　期	确 认
新增产品，	2026.1.1	方 剑
增加证书号码	2026.5.25	方 剑

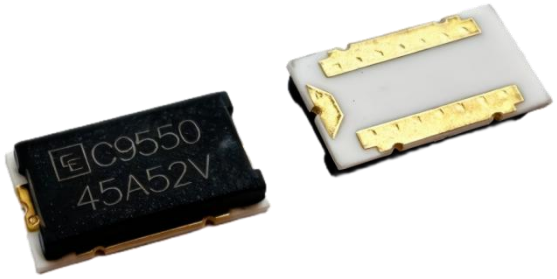
编　制	确　认	批　准
李尚品	邓　波	方　剑

1.适用范围 / Scope of Application

C9550 系列自控制保险丝，适用于锂电池过电流与过充电双重保护。

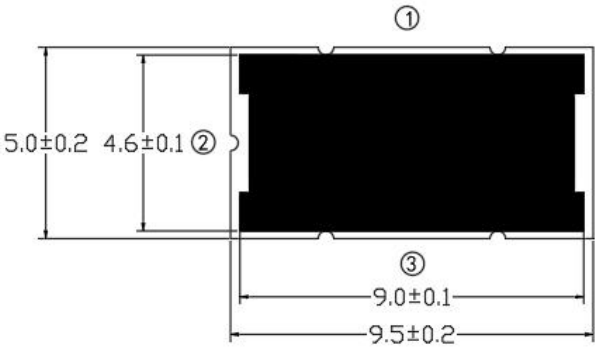
C9550 Series Self Control Fuse, Protect Li-ion battery from the overcurrent and the overcharge

2.产品标示/ Marking

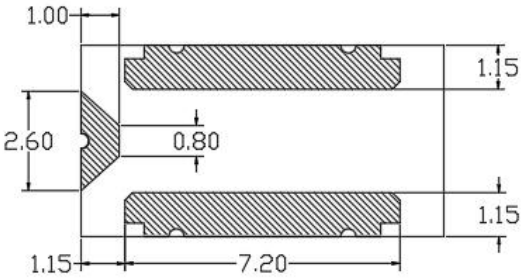


字符 Symbol	释义 Explain
	公司商标 Trademark
C	Chevron
9550	Device Size(9.5mm*5mm)
45A	Rated Current
52V	Operation Voltage

顶视图 Top View



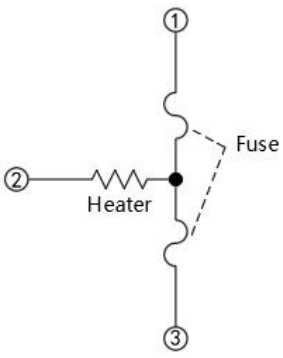
底视图 Bottom View



侧视图 Side View



等效电路图 Equivalent Circuit



3.产品特点/ Features

- 锂电池过电流与过充电双重保护

  Protect Li-ion battery from the overcurrent and the overcharge

- 无卤素 Halogen free
- 表面贴装保险丝 Surface mounted fuse
- 符合 RoHS 要求 RoHS compliance
- 快速动作 Fast response time

4.电气规格 / Electrical Specifications

Part Number	I_{rated}	Cells in series		V_{max}	I_{break}	V_{op}	R_{heater}	R_{fuse}	I^2T**	c UL us E358589
	(A)	NCM / NCA	LFP	(Vdc)	(A)	(V)	(Ω)	(mΩ)	(A^2S)	
C955030A07V	30	2		62	120	6.4-9.0	0.68-1.64	1.0-2.5	801	●
C955030A11V	30	3		62	120	9.6-13.5	1.52-3.69	1.0-2.5	801	●
C955030A15V	30	4		62	120	12.8-18	2.70-6.55	1.0-2.5	801	●
C955030A19V	30	5		62	120	16.0-22.5	4.22-10.2	1.0-2.5	801	●
C955030A22V	30	6	8	62	120	19.2-29.6	7.3-14.7	1.0-2.5	801	●
C955030A26V	30	7		62	120	22.4-31.5	8.27-20.1	1.0-2.5	801	●
C955030A30V	30	8		62	120	25.6-36.0	10.8-26.2	1.0-2.5	801	●
C955030A33V	30	9		62	120	28.8-40.5	13.7-33.2	1.0-2.5	801	●
C955030A37V	30	10		62	120	32.0-45.0	16.9-41.0	1.0-2.5	801	●
C955030A41V	30	11	14	80	120	35.0-51.8	22.4-49.0	1.0-2.5	801	●
C955030A44V	30	12	15	80	120	37.5-55.5	25.7-56.3	1.0-2.5	801	●
C955030A48V	30	13	16	80	120	40.0-59.2	29.2-64.0	1.0-2.5	801	●
C955030A52V	30	14	17	80	120	42.5-63.0	33.1-72.3	1.0-2.5	801	●
C955030A56V	30	15		80	120	48.0-67.5	38.0-92.2	1.0-2.5	801	●
C955030A59V	30	16	20	80	120	50.0-74.0	45.6-100.0	1.0-2.5	801	●
C955030A63V	30	17		80	120	54.4-76.5	48.8-118.4	1.0-2.5	801	●
C955030A67V	30	18		100	120	57.6-81.0	54.7-132.7	1.0-2.5	801	●
C955030A70V	30	19	23	100	120	57.5-85.5	60.9-132.3	1.0-2.5	801	●
C955030A74V	30	20	24	100	120	60.0-90.0	67.5-144.0	1.0-2.5	801	●
C955045A07V	45	2		62	120	6.4-9.0	0.81-1.37	0.5-1.5	1778	●
C955045A11V	45	3		62	120	9.6-13.5	1.82-3.07	0.5-1.5	1778	●

C955045A15V	45	4		62	120	12.8-18	3.24-5.46	0.5-1.5	1778	●
C955045A19V	45	5		62	120	16.0-22.5	5.06-8.53	0.5-1.5	1778	●
C955045A22V	45	6	8	62	120	19.2-29.6	8.76-12.3	0.5-1.5	1778	●
C955045A26V	45	7		62	120	22.4-31.5	9.92-16.7	0.5-1.5	1778	●
C955045A30V	45	8		62	120	25.6-36.0	13.0-21.8	0.5-1.5	1778	●
C955045A33V	45	9		62	120	28.8-40.5	16.4-29.6	0.5-1.5	1778	●
C955045A37V	45	10		62	120	32.0-45.0	20.3-36.6	0.5-1.5	1778	●
C955045A41V	45	11	14	80	120	35.0-51.8	26.8-43.8	0.5-1.5	1778	●
C955045A44V	45	12	15	80	120	37.5-55.5	30.8-50.2	0.5-1.5	1778	●
C955045A48V	45	13	16	80	120	40.0-59.2	29.2-53.3	0.5-1.5	1778	●
C955045A52V	45	14	17	80	120	42.5-63.0	33.1-60.2	0.5-1.5	1778	●
C955045A56V	45	15		80	120	48.0-67.5	45.6-76.8	0.5-1.5	1778	●
C955045A59V	45	16	20	80	120	50.0-74.0	54.8-83.3	0.5-1.5	1778	●
C955045A63V	45	17		80	120	54.4-76.5	58.5-98.6	0.5-1.5	1778	●
C955045A67V	45	18		100	120	57.6-81.0	72.9-110.6	0.5-1.5	1778	●
C955045A70V	45	19	23	100	120	57.5-85.5	81.2-110.2	0.5-1.5	1778	●
C955045A74V	45	20	24	100	120	60.0-90.0	90.0-120.0	0.5-1.5	1778	●
C955060A07V	60	2		62	120	6.4-9.0	0.81-1.24	0.5-1.5	2844	●
C955060A11V	60	3		62	120	9.6-13.5	1.82-2.79	0.5-1.5	2844	●
C955060A15V	60	4		62	120	12.8-18	3.24-4.96	0.5-1.5	2844	●
C955060A19V	60	5		62	120	16.0-22.5	5.06-7.76	0.5-1.5	2844	●
C955060A22V	60	6	8	62	120	19.2-29.6	8.76-11.2	0.5-1.5	2844	●
C955060A26V	60	7		62	120	22.4-31.5	9.92-15.2	0.5-1.5	2844	●
C955060A30V	60	8		62	120	25.6-36.0	13.0-19.9	0.5-1.5	2844	●
C955060A33V	60	9		62	120	28.8-40.5	16.4-25.1	0.5-1.5	2844	●
C955060A37V	60	10		62	120	32.0-45.0	20.3-31.0	0.5-1.5	2844	●
C955060A41V	60	11	14	80	120	35.0-51.8	26.8-37.1	0.5-1.5	2844	●
C955060A44V	60	12	15	80	120	37.5-55.5	30.8-42.6	0.5-1.5	2844	●
C955060A48V	60	13	16	80	120	40.0-59.2	35.0-48.5	0.5-1.5	2844	●
C955060A52V	60	14	17	80	120	42.5-63.0	39.7-54.7	0.5-1.5	2844	●
C955060A56V	60	15		80	120	48.0-67.5	45.6-69.8	0.5-1.5	2844	●
C955060A59V	60	16	20	80	120	50.0-74.0	54.8-75.8	0.5-1.5	2844	●
C955060A63V	60	17		80	120	54.4-76.5	58.5-89.7	0.5-1.5	2844	●
C955060A67V	60	18		100	120	57.6-81.0	65.6-100.5	0.5-1.5	2844	●
C955060A70V	60	19	23	100	120	57.5-85.5	67.1-100.2	0.5-1.5	2844	●
C955060A74V	60	20	24	100	120	60.0-90.0	95.3-109.1	0.5-1.5	2844	●

**: I^2t基于通电10倍额定电流时的测量.Typical Pre-arcing I^2t are measured at 10In Current。

- 名词解释Vocabulary

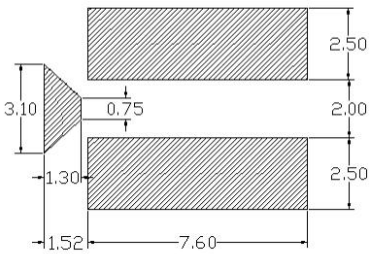
  I_{rated} = 在25℃热平衡条件下测得的载流能力;

  Current carrying capacity that is measured at 25℃ thermal equilibrium condition.

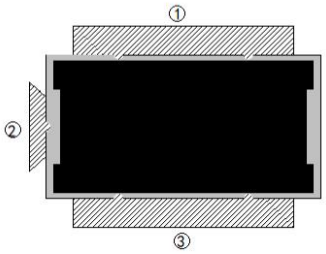
I_{break} = 保险丝可以安全分断的电流;The current that the fuse element is able to interrupt.
V_{max} = 保险丝可安全分断的最大电压;The maximum voltage that can be cut off by fuse.
V_{op} = 工作电压范围;Range of operation voltage.
R_{heater} = 加热元件电阻值;The resistance of the heating element.
R_{fuse} = 熔断元件电阻值;The resistance of the fuse element.
Cells in series = 在C9550装置保护的电路中串联连接的电池个数。
Number of battery cells connected in series in the circuit for K4030 device to protect.

5.安装建议 Installation Recommendations

电路板焊盘布局建议
Board and Solder Layout Recommend (mm)



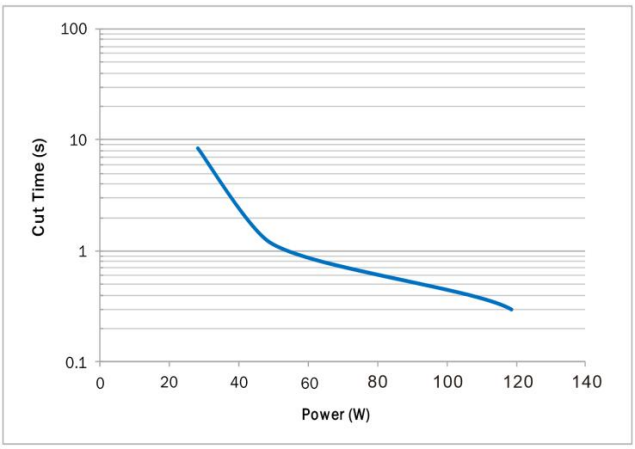
安装示意图
Installation diagram



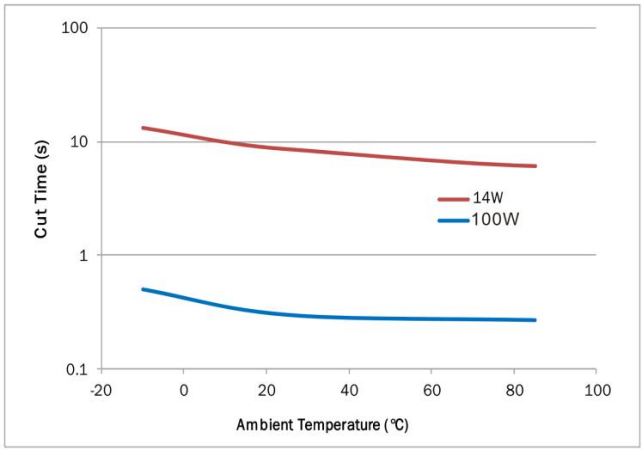
型号 Type	材料 Material	铜箔宽度 Copper width	基板厚度 Base Thickness	铜箔厚度 Copper hickness	导线规格 Covered Wire
30A	FR-4	15mm	1.6mm	2 OZ	AWG10
45A	FR-4	15mm	1.6mm	3 OZ	AWG8
60A	FR-4	25mm	1.6mm	3 OZ	AWG8

加热器操作断开时间/Cut Time by Heater Operation 30A

Various heater wattage at 25°C ambient temperature.



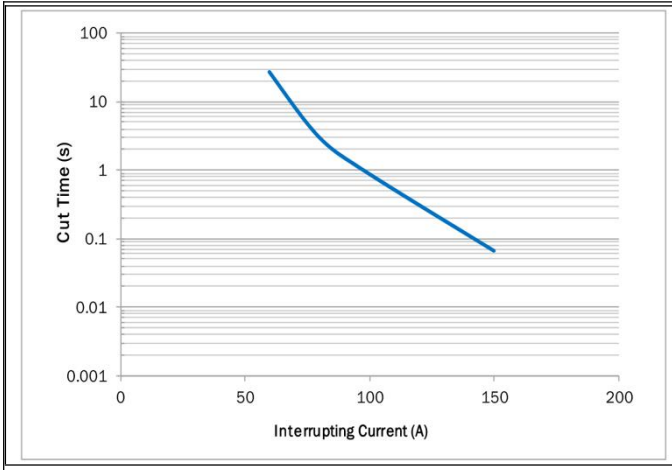
Constant heater wattage at various ambient temperature.

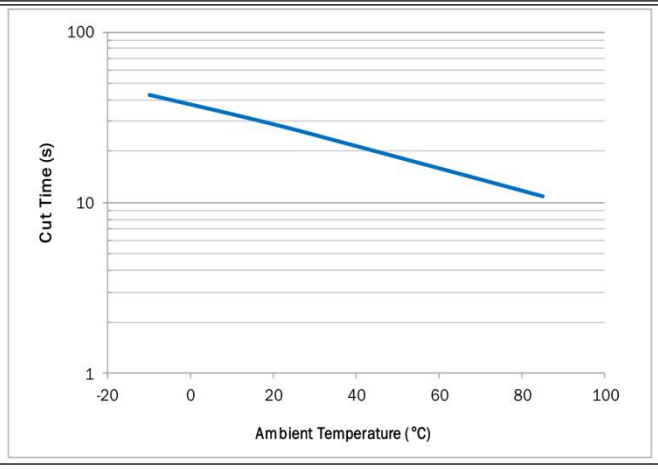


电流操作断开时间 Cut Time by Current Operation 30A

Various interrupting current at 25C ambient temperature.

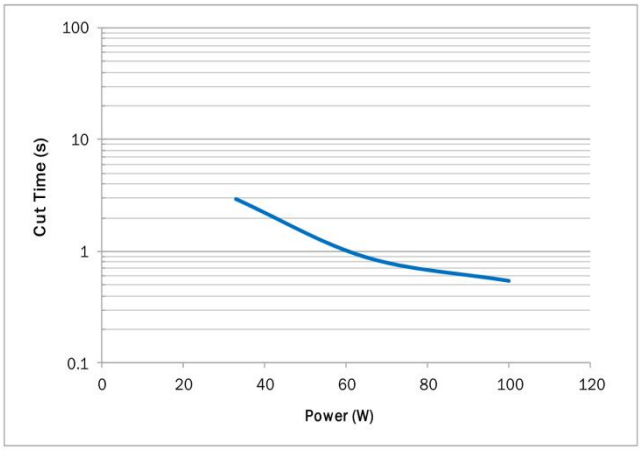
Constant 2x rated current at various ambient temperature



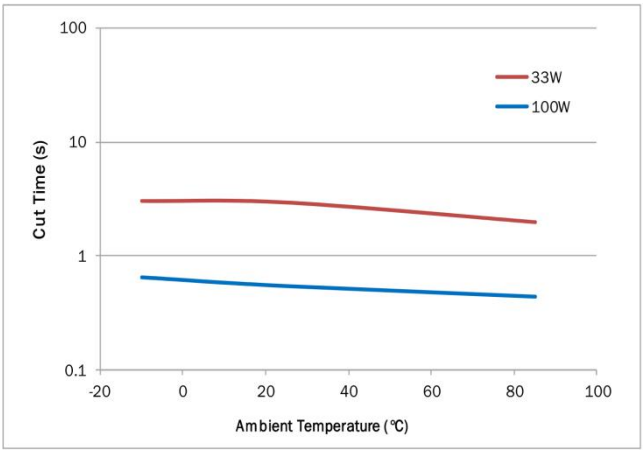


加热器操作断开时间/Cut Time by Heater Operation 45A

Various heater wattage at 25°C ambient temperature.

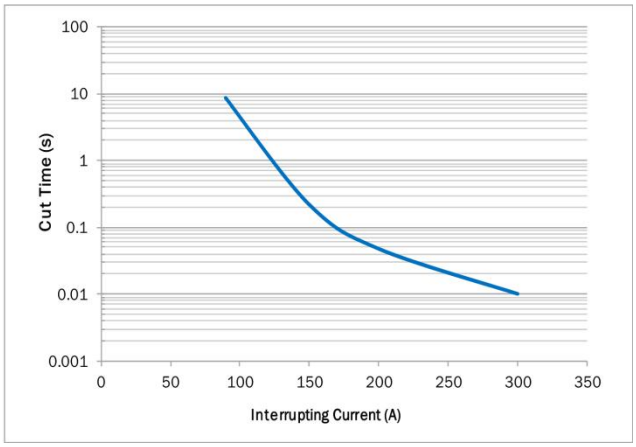


Constant heater wattage at various ambient temperature.

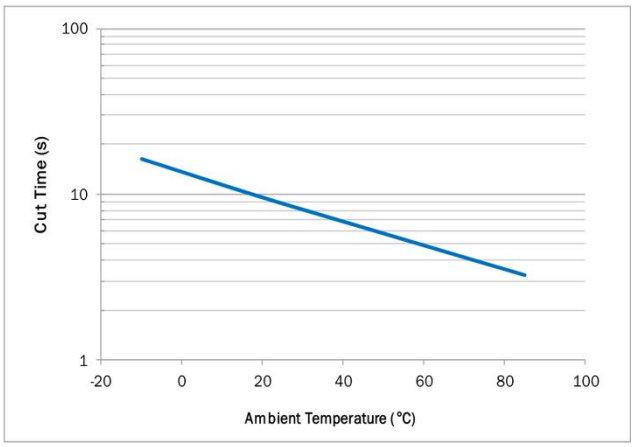


电流操作断开时间 Cut Time by Current Operation 45A

Various interrupting current at 25C ambient temperature.



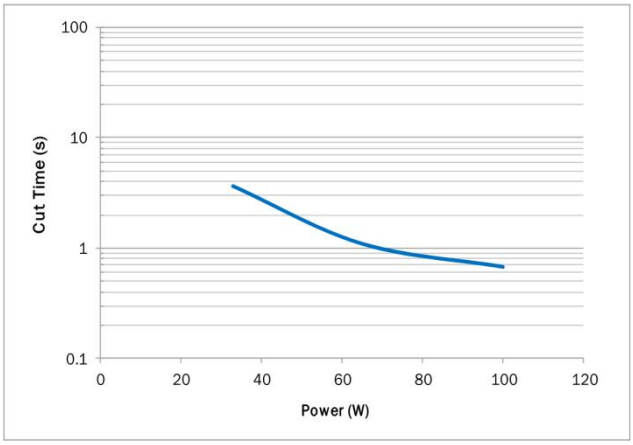
Constant 2x rated current at various ambient temperature

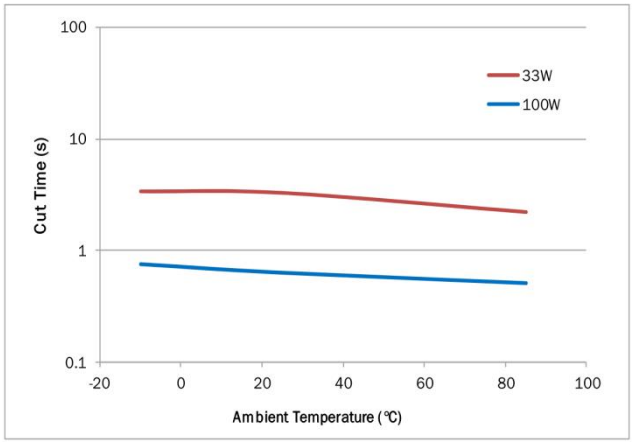


加热器操作断开时间/Cut Time by Heater Operation 60A

Various heater wattage at 25°C ambient temperature.

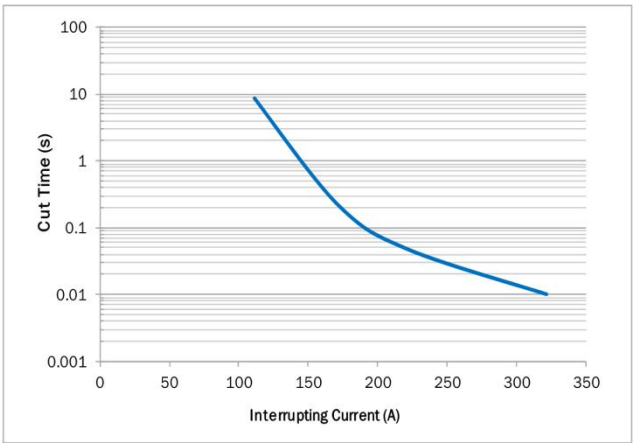
Constant heater wattage at various ambient temperature.



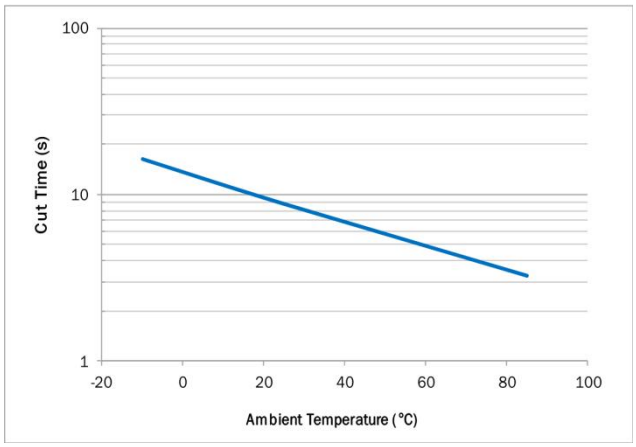


电流操作断开时间 Cut Time by Current Operation 60A

Various interrupting current at 25C ambient temperature

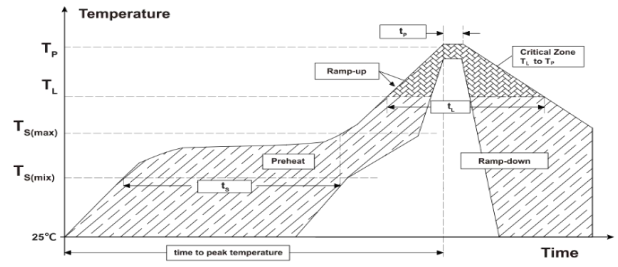


Constant 2x rated current at various ambient temperature



6.焊接参数 Soldering Parameters

Average Ramp-Up Rate (Ts_{max} to TP)		3℃/second max.
Preheat	**Temperature Min (Ts_{min})**	150℃
	Temperature Max (Ts_{max})	200℃
	Time (Ts_{min} to Ts_{max})	60-120 seconds
Time maintained above:	**Temperature (T_L)**	217℃
	Time (t_L)	60-105 seconds
Peak Temperature (T_P)		255℃
Time within 5℃ of actual Peak Temperature (t_P)		5 seconds max.
Ramp-Down Rate		6℃/second max.
Time 25ºC to Peak Temperature		8 minutes max.



—All temperature refer to topside of the package, measured on the package body surface

—If reflow temperature exceeds the recommended profile, devices may not meet the performance requirements

7.熔断时间特性 Clear-Time Characteristics

通电容量测试 Current Capacity	100% x I_{rated}	Min. 4 hours
过载电流测试 Cut Time	200% x I_{rated}	Fusing Time≤1min
过载电压测试 Over Voltage Operation	In operation voltage range	Fusing Time≤1min

Clearing Time at 25℃

8.信赖性测试规范 RELIABILITY TEST STANDARD

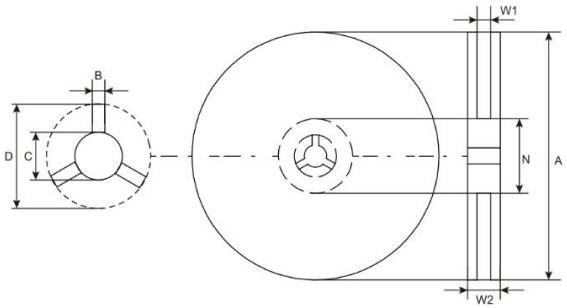
测试项目 Test Item	项目 Project	条件 Condition	技术要求 Requirements
电气性能 Electrical performance	电流过载 Over current	200% of Rated current	Fusing Time≤1min
	电压过载 Over voltage	Operating voltage shall be applied to heater	Fusing Time≤1min
	通电容量 Carrying Capacity	100% of rated current, 4hr	No Melting
	绝缘阻抗 Insulation	@100Vdc after OV operating voltage test	>0.2MΩ
可靠性能 Reliability performance	高温 High temperature	100℃±5℃@250hr	Without deformation of case or excessive looseness of caps. Electrical characteristics shall be satisfied.
	高湿 High humidity	60℃±2℃@90%~95%@250hr	
	低温 Keeping cold	-20℃±3℃ @ 500hr	
安装特性 Mounting Characteristics	可焊性 Solder ability	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	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	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 2times. The specimen shall be stored at standard atmospheric conditions for 24h after which the measurement shall be made.	Without deformation of case or excessive looseness of caps. Electrical characteristics shall be satisfied.

电气特性会因为 PCB 基板热容量等条件的变化而发生特性变动。所以需要在客户实际线路板上进行确认。
Electrical characteristics are influenced by thermal capacity of PCB, parts, pattern width, etc.Therefore you should check them on your PCB

9.环境规格 Environmental Specifications

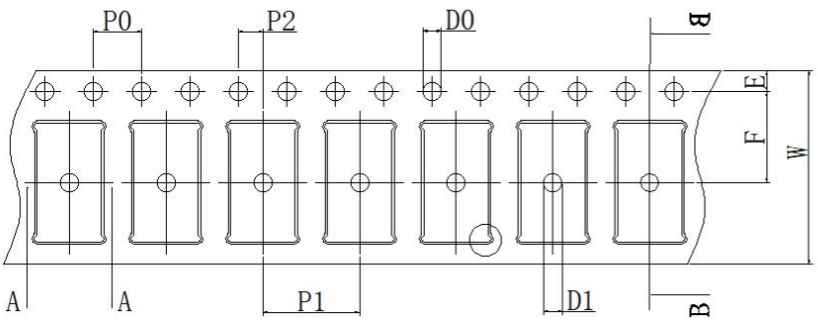
#	项目Item	内容Contain
1	存储条件 Storage Conditions	温度40℃以下、相对湿度≦60%的密闭条件下可存放12个月 The temperature is below 40℃、relative humidity ≦60% can store 12 months
2	工作温度 Operating Temperature	-10℃ to +65 ℃

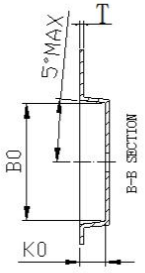
10.包装规格 / PACKING SPECIFICATION



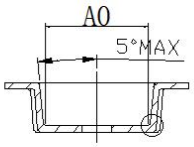
系列 Series	数量Quantity
C9550	3000pcs/Reel

Item	A	B	C	D	N	W1	W2
Spec.(mm)	Φ330±0.1	2.5±0.05	13.6±0.05	22.60±0.05	φ99±0.05	17.00±0.1	20.8±0.1





B–B

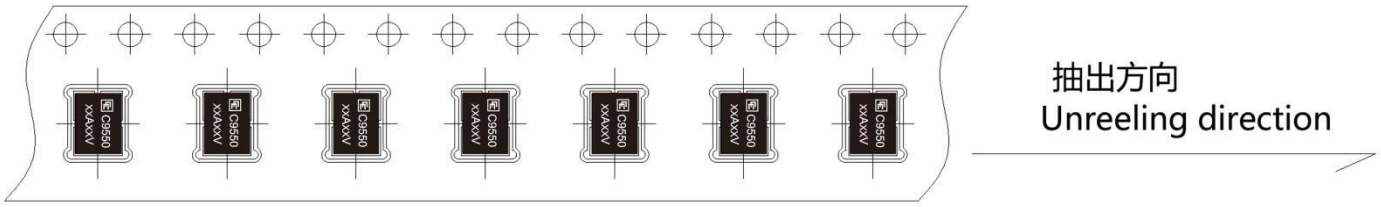


A–A

Item	A0	B0	K0	P0	P1	P2	T
Spec.(mm)	5.40±0.1	9.85±0.1	Φ2.48±0.1	4.00±0.10	8.00±0.10	2.00±0.10	0.30±0.05
Item	E	F	D0	D1	W		
Spec.(mm)	1.75.00±0.10	7.50±0.10	1.50±0.10	1.50±0.10	16.00±0.30		

11.编带方向 Direction of Taping

The direction shall be seen from the top cover tape side.



12.环保性能 Environmental Characteristics

（1）产品中使用的各种材料的卤素含量如下表所示。
Contents of halogens used in each material for the product are as follows.

卤素 Halogen substance	含有量 Content
氯 Chlorine（CL）	≤ 900ppm (0.09%)
溴 Bromine（Br）	≤ 900ppm (0.09%)
总和（氯(CL)＋溴(Br)） Total concentration of chlorine (CL) + bromine (Br)	≤ 1500ppm (0.15%)

（2）本规范中描述的产品符合ROHS指令。BOM表中的合金、焊料、一些电子浆料含有铅，但都符合ROHS指令的高铅豁免相关规定。
The product described in this specification complies with the ROHS Directive. BOM table contains the alloy, solder, some electronic slurry, including lead, but these are exempted from ROHS requirements.

5. 使用注意事项Cautions for using

(1) 通电容量和熔断时间受基板热容量等条件的变化而变动。因此，请在实际使用的基板上焊接产品再确认特性。基板层数越多、铺铜越宽越厚、基材越厚等热容量增加的因素，会导致通电容量变大，熔断时间变长。
It is necessary to foresee there are possibilities that "Current-Carrying Capacity" and "Heater Operation Characteristic" may be varied along with the condition change in the substrate thermal capacity, etc. Therefore you should check it on your PCB. Generally, when thermal capacity of PCB increases, Current-carrying capacity will increase accordingly and Clearing-time will be longer.

(2) 本规格书中记载的规格是在UL标准基板(1.2mm厚度的单面覆铜玻璃环氧基板)上安装并确认的。
由于所使用的基板的热容量不同，特性也会发生变化，使用时请在贵公司产品所使用的基板上确认。
The data on this specification is measured with UL standard PCB (1.2mm Glass Epoxy single-sided copper laminated). The characteristics are influenced by thermal capacity of PCB, so it is recommended checking it on actual PCB.

(3) 本产品在安装前和安装后，如果进行清洗（如超声波及浸渍清洗等），合金上的助焊剂会流动，可能不满足规格要求。另外，本产品与清洗液接触也会产生同样的症状。请避免清洗本产品。请注意，清洗后的产品不属于品质保证对象。

Ultrasonic-cleaning or immersion-cleaning and so on must not be done to SC-Protector before and after mounted. When cleaning is done, flux on element would flow, and it would not be satisfied its specification. Moreover, a similar influence happens when the product comes in contact with cleaning-solution. These products after cleaning will not be guaranteed.

(4) 如果对本产品进行树脂密封，树脂会进入产品内部，可能不满足规格要求，请避免树脂密封。树脂密封后的产品不属于品质保证对象。

Please avoid contacting SC-Protector and resin-mold. The resin might infiltrate into the product, and it doesn't meet the specification when the resin-mold is done to this product. These products after resin-mold will not be guaranteed.

（5）请不要再次使用因焊接修正而取下的产品。

Please do not re-use of the product removed by the solder correction.

（6）关于本产品在基板上的安装，请确认端子是否正确连接在焊盘上，端子在②~①之间以及②~③之间的直流电阻为加热器的电阻值。

Make sure that the terminals of this product are connected property on the land of circuit board, and the value

falls in the rated heater resistance between Terminal ②~① and ②~③.

（7）本产品是为了一般电子设备标准用途而设计制造的。因此，不要在可能危及生命或财产的用途（如军事、医疗用途等）中使用。

This product is designed and produced for only general-use of electronics devices. Therefore, we do not suppose that it is used for the applications [Military, Medical and so on] which may cause direct damages on life,bodies or properties of third party.

（8）本规格书需要变更或产生疑义时，应事先联系，在双方协商后进行修改。

It is amended in conference with the supplier and the customer when the necessity of the change or doubt occurs in this specification