



# 产 品 规 格 书

## PRODUCT SPECIFICATION

<b>客户名称:</b> <b>CUSTOMER:</b>	
<b>产品名称:</b> <b>PRODUCT NAME:</b>	电流保险丝
<b>产品描述:</b> <b>Product description:</b>	31TC 3.6*10mm 陶瓷 慢断 双帽保险丝
<b>型号/规格:</b> <b>Model/specification:</b>	31TC T**A250V
<b>料号:</b> <b>Material Number</b>	
<b>日期:</b> <b>Date:</b>	2020 年 09 月 09 日

供应商-泓达 Supplier-Hongda		确认合格章 Confirm qualified Signet	客 户 Customer	零件承认章 Approval Signet
编 制 PREPARED	李红			
审 核 CHECKED	钱磊			
批 准 APPROVED	孙嘉利			



## 变更履历

序号	日期	修订内容	版本	文件编号	制订	审核
1	2020/7/12	新发文件	A/1	HD/E031006	Jimmy Qian	孙嘉利



### 1. 适用范围 Scope of application

本产品适用于各种电子电器内的电路中起过电流保护作用。

This product is suitable for various kinds of electronic machines to work for over current protection.

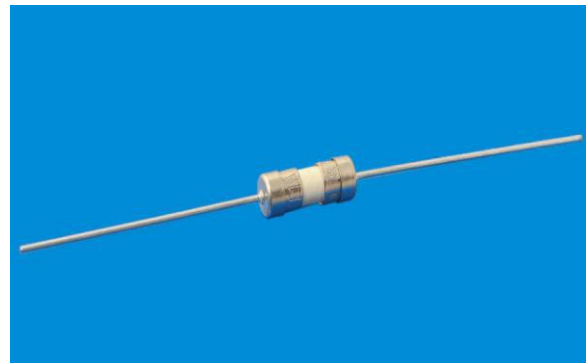
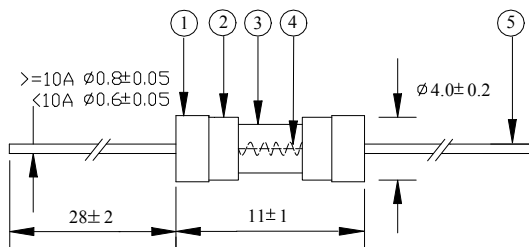
### 2. 相关标准及认证 Relevant Standards and Certification

2.1 执行标准 Standard: IEC60127-1 IEC60127-3 GB9364.1 GB9364.3

2.2 认证 Certification:

认证 Certification	认证范围 Scope of Certification	证书编号 Certification No.
UL/CUL(Recognized)	125V/250V350Vac/dc 32mA~2.5A	E318938
UL(Recognized)	125V/250V/350Vac 32mA~20A	E318938
CCC	500mA~10A	2019010207264519
VDE	500mA~10A	40028150
KC	500mA	SU05036-11001
	1A/1.6A/2A	SU05036-11002
	1.25A/2.5A	SU05036-16001
	3.15A/5A	SU05036-11003
	6.3A	SU05036-15003
	8A/10A	SU05036-15004
PSE	5A 以下	JET6809-31003-1003
	5A~15A	JET6809-31003-1004

### 3. 结构及尺寸 Structure and Size (unit: mm)





#### 4. 原材料明细 Material Details





编号 No.	零件名称 Part Name	材质 Material
①	端帽 End cap	黄铜表面镀镍 Nickel plated brass
②	内帽 Inner cap	黄铜表面镀镍 Nickel plated brass
③	陶瓷管 Ceramic tube	陶瓷 Ceramic
④	熔丝 Fuse element	合金线 Alloy
⑤	引线 Lead wire	镀锡铜线 Tinned copper wire

#### 5. 标示 Marking

保险丝应印有下列标示：The fuse shall have the following marking：

A 帽：泓达标志 + 型号 + 认证符号

HONGDA's logo+ model +Approved Symbol

例 Example:		31TC		500mA-10A
				4A
				12-20A

B 帽：延时型符号 + 额定电流 + 额定电压

Electrical characteristics +Ampere rating + Voltage rating

例 Example:	T	**A	250V
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#### 6. 外观 Appearance

6.1 外观不应有显著的污点、裂纹。

There shall not be any remarkable stain, rust or crack on the appearances.

6.2 标示应该很容易辨识。

Marking shall be easily legible.

#### 7. 机械特性 Mechanical characteristics

7.1 拉力强度试验 Tensile test

将保险丝固定好后，对保险丝两端引线施加 5N 的轴向拉力，持续 1 分钟。试验过后，保险丝没有任何破损现象。

Exert the axial pulling force of 5N to the both ends of lead wire for 1 minute. After the test the fuse shall be no damage and loosening.

7.2 扭力试验 Torsion test

将保险丝一端铜帽固定，然后在另一端铜帽顺时针和逆时针方向各施加 5N 扭力，试验过后，



保险丝没有任何破损现象。

Fixing one cap of the fuse , the torsion 5N respectively applied to the other end cap clockwise and counterclockwise .After the test the fuse shall be no damage and loosening.

## 8. 电气特性 Electrical characteristics

### 8.1 实验条件 Test condition

所有测试环境温度为  $25\pm 5^{\circ}\text{C}$ 。

All electrical characteristics tests are conducted at an ambient temperature of  $25\pm 5^{\circ}\text{C}$ .

### 8.2 分断能力 Interrupting rating test

保险丝能承受的分断能力：35A 或 10 倍的额定电流当中较大的。分断能力测试后测得保险丝的绝缘阻抗值大于  $0.1\text{M}\Omega$ 。

The fuse interrupting capacity: 35A or 10 times the rated current whichever is greater. After interrupting, the insulation resistance between the fuse terminations shall be not less than  $0.1\text{M}\Omega$ .

### 8.3 温度上升试验：通 1.5 倍额定电流 15 分钟，然后每隔 15 分钟增加 0.1 倍额定电流。测得保险丝断开时任何部位的温升不得超过 $135^{\circ}\text{C}$ ，周围环境温度为 $25\pm 5^{\circ}\text{C}$ 。

Temperature Rising Test: The rated current of 1.5 times is applied for 15 minutes. After the first 15 minutes, the current is increased by 0.1 times the rated current every 15 minutes until the fuse operates. The temperature rising on the fuse surface is not higher than  $135^{\circ}\text{C}$ .

### 8.4 时间-电流特性 Time-Current Characteristics

额定电流的% % of ampere rating	熔断时间 Opening time
210%	2 min Max.
275%	400 ms~10 s
400%	150 ms~3 s
1000%	20 ms~150 ms

### 8.5 耐久性测试 Endurance test

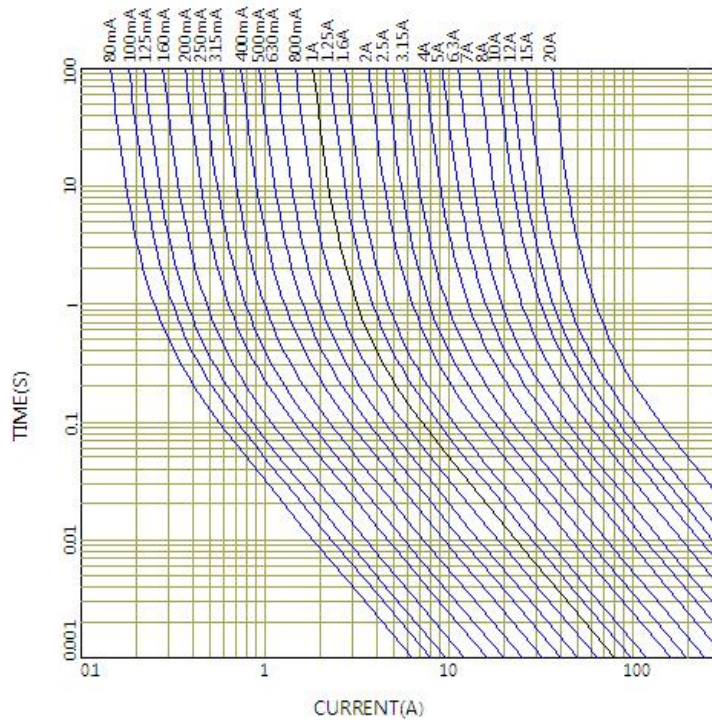
对保险丝通过相关标准规格单规定的额定电流 1 小时,然后截断电流 15 分钟,将该循环重复 100 次。试验过后保险丝没有任何破损现象。

A ampere rating specified in the relevant standard sheet is passed through the fuse for a period of 1h.The current is then switched off for a period of 15 minutes. This cycle is repeated 100 times. After the test the fuse shall be no damage and loosening.



8.6 时间电流曲线图&参考 I<sup>2</sup>T Time- current curve&I<sup>2</sup>T

I-T CURVE



Rated Current (mA)_	80	100	125	160	200	250	315	400	500	630	800
I <sup>2</sup> T(A <sup>2</sup> .S)	0.017	0.028	0.041	0.065	0.094	0.122	0.333	0.760	1.25	1.31	1.45

Rated Current (A)_	1	1.25	1.6	2	2.5	3.15	4	5	6.3	8	10	12	15	20
I <sup>2</sup> T(A <sup>2</sup> .S)	3.91	8.12	9.68	21.1	35.9	49.7	80.7	105	166	213	330	440	670	930

9. 安装方式及条件 / Installation way and parameters

9.1 焊接参数 Soldering parameters

9.1.1 波峰焊 260℃,最大10秒,

Wave soldering 260 °C,10 sec. Maximum

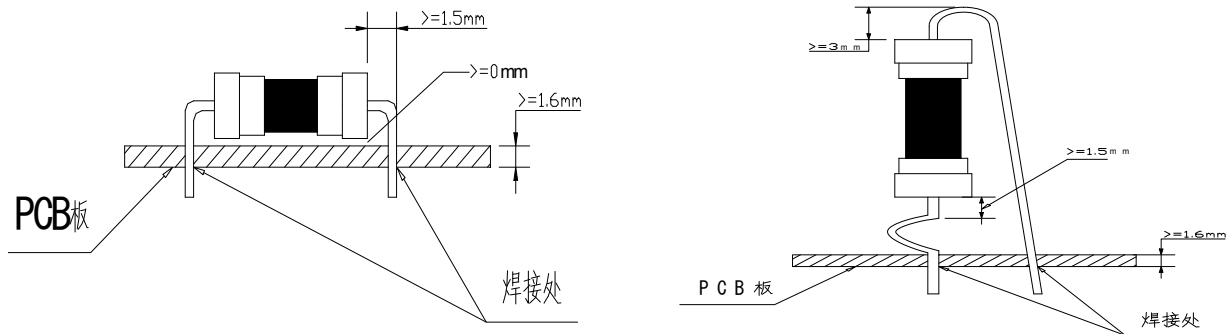
9.1.2 手工焊 350℃,最大5秒,

Manual soldering 350℃, 5 sec. Maximum



9.2 建议如下图安装方式安装, 并满足所需求的尺寸。

Propose that the following picture installation way is installed, and satisfied the required size.



## 10. 环境特性 Environmental characteristics

### 10.1 使用温度范围 Operating Temperature

-55℃~125℃。

### 10.2 保存条件 Storage Conditions

相对湿度 ≤ 75%，可存放 3 年。

Relative humidity ≤ 75%, store 3 years .

## 11. 包装 Packing

### 11.1 500PCS/小袋、10 小袋/内盒、10 内盒/外箱(实际装箱依客户订单)。

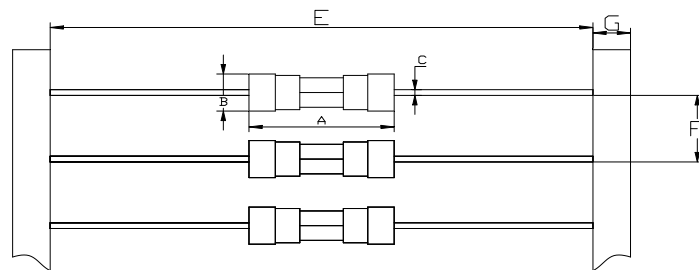
500 fuses per plastic bag, 10 plastic bags per inner box, 10 inner boxes per external carton.  
(The actual case in accordance with the customer order)

### 11.2 编带包装尺寸图/Taping Configuration

1000PCS/内盒、10 内盒/外箱(实际装箱依客户订单)。

1000 fuses per inner box, 10 inner boxes per external carton.

(The actual case in accordance with the customer order)。



A=11±1  
B=∅4.0±0.2  
C=∅0.6±0.2  
E=60±1  
F=5.0±0.2  
G=6.0±0.5  
单位: mm



10.3 产品符合 RoHS 环保指令。

The product is compliant with RoHS Directive.

## 12. 其他 Others

11-1 如果在使用中有超出本规格书的要求，必须经由双方协商确认。

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

11-2 如果本规格书有不适当的情况，必须通过双方协商并由本公司修改。

In the event that an impropriety is found in this specification , HONGDA ELECTRONIC CO., LTD. shall amend it by mutual agreement between the parties.

附：承认书后附安规证书及环保报告

Appendix: The specification attached safety certificate and RoHS directive test report.



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