



## 贴片产品规格书

### SMD Fuses Specification

#### 1. 适用范围 (Available range) :

本保险丝适用于保护家用电器，充电器，电子仪器，电源供应器、显示器等。

For protecting instruments, chargers, power supply devices and telephone sets etc.

#### 2. 型号定义解释 (Model meaning):

12F: 1206 贴片快断系列产品 (12F: 1206 SMD Quick Blow Fuses)

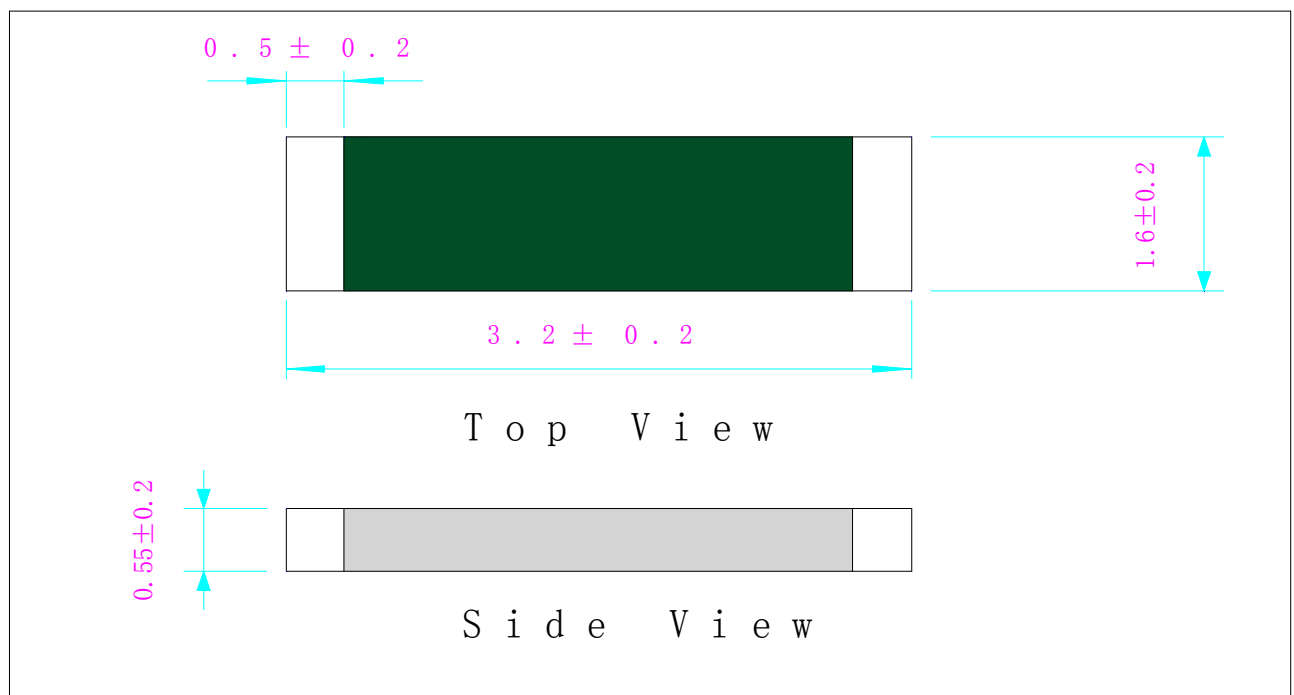
12T: 1206 贴片慢断系列产品 (12T: 1206 SMD Slow Blow Fuses)

#### 3. 相关标准 (Safety Standards) : UL248

#### 4. 尺寸与结构 (Size and Structure):

##### 4.1 外形、结构及尺寸 (The out view, construction and dimensions):

参考下图 Refer to the following figure.





## 4.2 型号及标示 (Catalogue No.,and indication)

| 目录编号<br>Catalog No. | 额定电流<br>Reted Current | 额定电压<br>Rated Voltage | 标示<br>Marking |
|---------------------|-----------------------|-----------------------|---------------|
| 12F0250             | 250mA                 | 63V                   | . 25          |
| 12F0375             | 375mA                 | 63V                   | E             |
| 12F00500            | 500mA                 | 63V                   | . 5           |
| 12F0750             | 750mA                 | 63V                   | . 75          |
| 12F1000             | 1A                    | 63V                   | 1             |
| 12F1250             | 1. 25A                | 63V                   | J             |
| 12F1500             | 1. 5A                 | 63V                   | 1. 5          |
| 12F2000             | 2A                    | 63V                   | 2             |
| 12F2500             | 2. 5A                 | 63V                   | 2. 5          |
| 12F3000             | 3A                    | 63V                   | 3             |
| 12F4000             | 4A                    | 32V                   | 4             |
| 12F4500             | 4. 5A                 | 32V                   | 4. 5          |
| 12F5000             | 5A                    | 32V                   | 5             |
| 12F6500             | 6. 5A                 | 32V                   | 6. 5          |
| 12F7000             | 7A                    | 32V                   | 7             |
| 12F8000             | 8A                    | 24V                   | 8             |
| 12F0010             | 10A                   | 24V                   | 10            |
| 12F0012             | 12A                   | 24V                   | 12            |
| 12F0015             | 15A                   | 24V                   | 15            |
| 12F0020             | 20A                   | 24V                   | 20            |



| 目录编号<br>Catalog No. | 额定电流<br>Reted Current | 额定电压<br>Rated Voltage | 标示<br>Marking |
|---------------------|-----------------------|-----------------------|---------------|
| 12T1000             | 1A                    | 63V                   | H             |
| 12T1500             | 1.5A                  | 63V                   | K             |
| 12T2000             | 2A                    | 63V                   | N             |
| 12T2500             | 2.5A                  | 63V                   | O             |
| 12T3000             | 3A                    | 63V                   | P             |
| 12T3500             | 3.5A                  | 63V                   | R             |
| 12T4000             | 4A                    | 63V                   | S             |
| 12T4500             | 4.5A                  | 32V                   | X             |
| 12T5000             | 5A                    | 32V                   | T             |

#### 4.3 本体 (Body)

本体无破裂、缺损等现象。

The fuse body shall have no defects such as crack, injury and contamination.

#### 5. 机械特性 (Mechanical characteristics)

保险丝应能承受下列试验：

Fuses should endure both of the following tests:

5.1 扭力试验：固定保险丝的一端，然后在另一端上顺时针和逆时针方向上顺序施加 10g.cm 力矩，管体不应破碎。

**Wresting test:** Fixed one end of the fuse, applied 10g.cm of torsion power in clockwise and counter-clockwise on the other end, as a result, the body shall be no damage.



5.2 拉力试验：固定保险丝的一端，然后在另一端上，沿水平轴方向施加 2.5N 的拉力 1min，管体不应破碎。

**Pulling test:** Fixed one end of the fuse, applied level pull force of 2.5N to the other end for 1 minute, there shall be no damage with the fuse body.

5.3 管子强度试验：两端固定好后，在本体的中心位置施加 5N 的压力，本体不应破碎。

**Stress test:** Fixed two ends of the fuse, applied the stress of 5N to the tube center, there shall be no damage with the tube .

## 6. 电气特性 (Electrical performance)

### 6.1 测试条件 (Testing Ambient)

测试条件都应在下列大气条件下进行:

All tests should be carried out under the following conditions:

-温度 (Surrounding temperature): 15°C ~ 35°C;

-相对湿度 (Relative humidity): 45% ~ 75%;

-大气压力 (Atmosphere pressure):  $8.6 \times 10^4 \text{ Pa} \sim 1.06 \times 10^5$

### 6.2 时间/电流特性 (Time-current Characteristic)

| 型号类别<br>(Item No.) \ 电流 (In ratio) | 100%      | 250%<br>(250mA ~ 3A)      | 300%                     | 350%<br>(4A ~ 20A) | 1000%                       |
|------------------------------------|-----------|---------------------------|--------------------------|--------------------|-----------------------------|
| 12F                                | $\geq 4h$ | $\leq 5s$                 |                          | $\leq 5s$          |                             |
| 12T                                | $\geq 4h$ | $\geq 0.5s$<br>$\leq 60s$ | $\geq 0.1s$<br>$\leq 3s$ |                    | $\geq 0.2ms$<br>$\leq 20ms$ |

### 6.3 温升测试 (Temperature test)

当通 1 倍额定电流测试 1 小时后，在保险丝达到热平衡 2 个小时内，测得的最大温升小于 135K。

When a current 1In is passed through the fuse-link for a period of 1h., after the heat get the balance in two hours, the rising temperature should be less than 135K.



### 6.4 分断能力 (Breaking capacity)

在额定电压条件下，通过 50A 电流测试后，标识清晰可见，没有引燃或爆炸

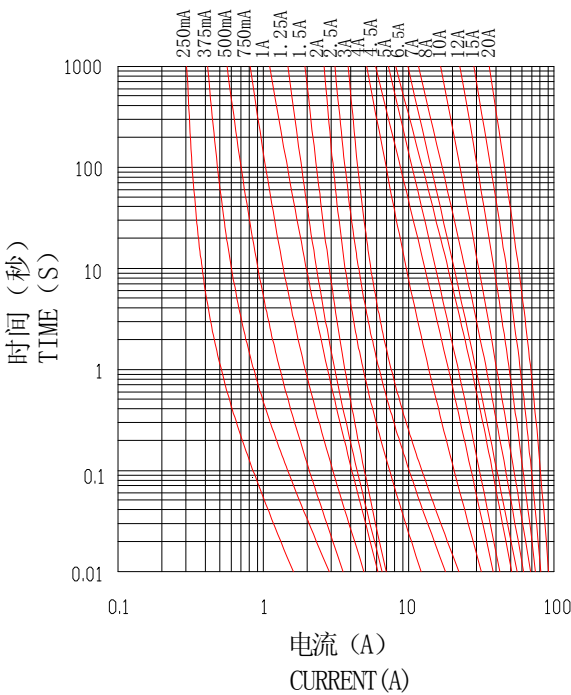
Do the experience of breaking capacity, under the situation of DC63V/32V/24V 50A, After the test, the marking shall still be legible, and the fuse-link shall operate satisfactorily without ignition and Bursting. for example, shall not show and appreciable deterioration.

注意：颜色改变不认为是不合格。

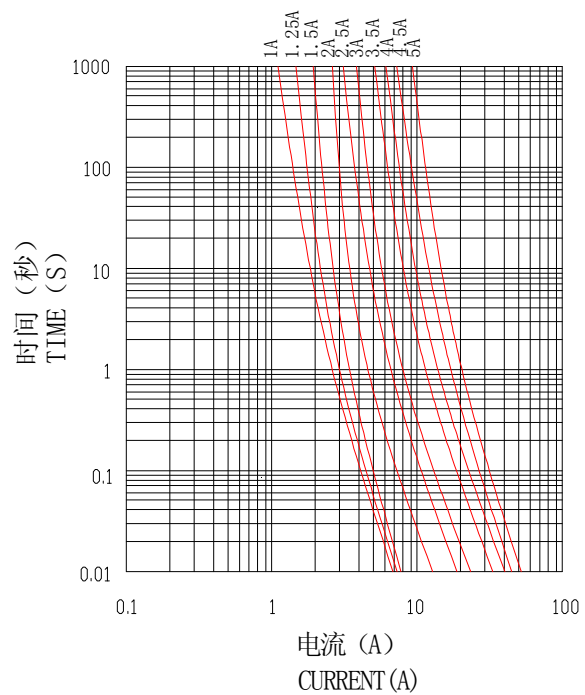
**NOTE:** changes in color are not considered as a failure.

### 6.5 时间电流特性曲线图 (Time-current curves)

12F I-T Characteristics Curves



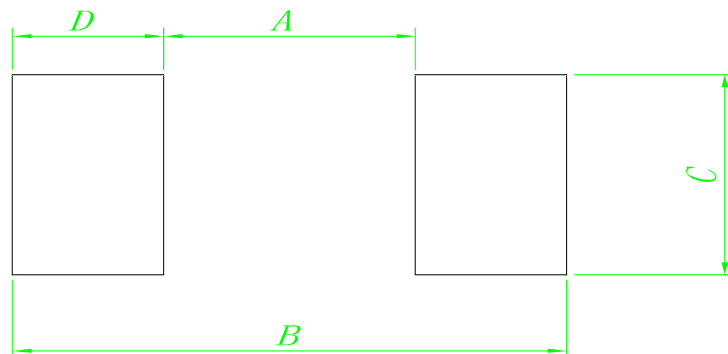
12T I-T Characteristics Curves



## 7. 安装方式及条件 Installation Way and Parameters

### 7.1 建议如下图焊盘安装

Propose that the following picture installation way is installed



| Dimensions | A       | B       | C       | D       |
|------------|---------|---------|---------|---------|
| SPEC       | 2.0±0.3 | 4.4±0.5 | 2.4±0.3 | 1.2±0.3 |



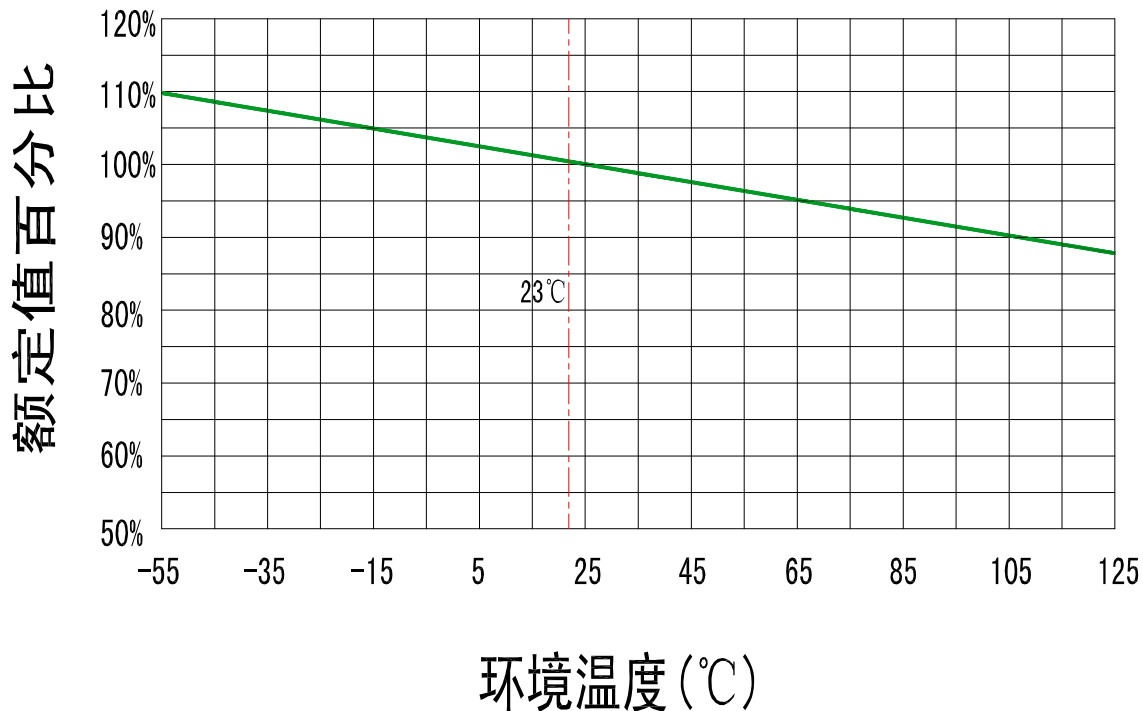
## 7.2 环保焊接条件 Soldering conditions (RoHS)

波峰焊/Wave solder: 260°C, ≤5S

手工焊/Hand solder: 360°C, ≤1S

## 8. 环境特性 Environmental characteristic

### 7.1 温度-电流负荷比曲线 Temperature-Current Curve



### 8.2 贮存条件 Storage conditions

贮存温度/Storage temperature: 5°C ~ 35°C

贮存湿度/Storage humidity: 25% ~ 75%

贮存周期/Storage time: 6 months

## 9. 产品标志 (Marking)

### 9.1 保险丝上的标志应易于看清。

The marking on fuse shall be indelibly marked on the end cap and easily visible.

### 9.2 每个保险丝标记应包含下列内容:

The symbol for every fuse shall be as prescribed below:

额定电流(Rated current): P (3A)、S (4A)

**(Note: Fuse body is too small, marking on the smallest package label)**



10. 包装 (Packaging)

每卷 3K 保险丝，装入一个包装盒，每 60K 装一箱，包装数量仅供参考，以实际数量为准。

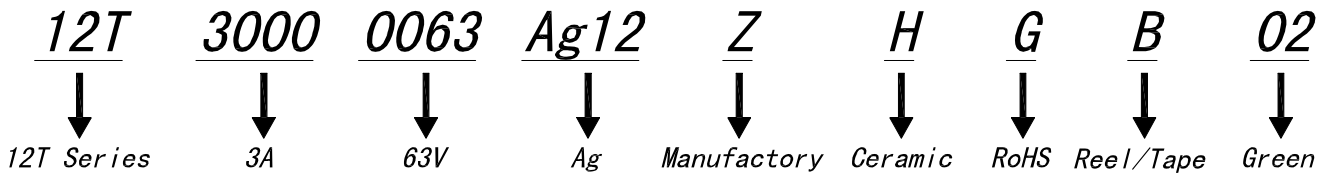
3K Pieces taped and reeled in one box,60K/External Carton.

|   |  |   |
|---|--|---|
|  |  |  |
| 3K/Taped and Reeled   | 3K/Box   | 60K/ External Carton  |

11. 认证和环保 / Certification and RoHS

参考附加档案 / See the attached files

12. 料号解释 / Part No. description (e.g. 12T3A)



13. 文件管控 / Document control

| Edition | Date       | Description        |
|---------|------------|--------------------|
| 1       | 2014-01-02 | 新版发行 / New version |
| 2       |            |                    |
| 3       |            |                    |

# 旭程电子（深圳）有限公司

## 样品测试报告

|      |  |           |           |          |            |   |   |
|------|--|-----------|-----------|----------|------------|---|---|
| 项目   | 小型熔断体： <input type="checkbox"/> 玻璃管 <input type="checkbox"/> 陶瓷 <input checked="" type="checkbox"/> 1206贴片 |           |           |          |            |   |   |
| 型号   | 12T  |           |           |          |            |   |   |
| 额定值  | 3 A  |           |           | 63 V     |            |   | 额定分   |
| 适用标准 | UL248  |           | 环境温度      |          | 25℃        |   | 相对  |
|      | 测试内容   |           |           |          |            |   |   |
|      | 负载测试   | 温升测试      | 熔断测试      |          |            |   | 尺寸  |
| 标准   | 100%   | %         | 250%      | 300%     | 1000%      | % | 冷电阻   |
|      | 1 hour.min   | 135 K.max | 500ms-60s | 100ms-3s | 0.2ms-20ms |   |   |
| 测试电流 | 3 A  | 3A        | 7.5A      | 9A       | 30A        | A | 强度  |
| 1    | >4h  | 62K       | 2.5s      | 523ms    | 3ms        |   |   |
| 2    | >4h  | 68K       | 1.7s      | 691ms    | 6ms        |   |   |
| 3    | >4h  | 57K       | 3.3s      | 573ms    | 4ms        |   | 耐久性试验   |
| 4    |  |           |           |          |            |   |   |
| 5    |  |           |           |          |            |   |   |
| 6    |  |           |           |          |            |   | 标识  |
| 7    |  |           |           |          |            |   |   |
| 8    |  |           |           |          |            |   |   |
| 9    |  |           |           |          |            |   | 判定  |
| 备注   | 直丝   |           |           |          |            |   |   |
|      |  |           |           |          |            |   | <span style="color: blue; font-weight: bold;">产品可靠性测试</span><br><span style="color: blue; font-weight: bold; font-size: 1.2em;">合格</span> |

ZJ10-030/A1



# 旭程电子（深圳）有限公司

## 样品测试报告

|      |  |           |           |          |            |     |               |
|------|--|-----------|-----------|----------|------------|-----|---------------|
| 项目   | 小型熔断体： <input type="checkbox"/> 玻璃管 <input type="checkbox"/> 陶瓷 <input checked="" type="checkbox"/> 1206贴片 |           |           |          |            |     |               |
| 型号   | 12T  |           |           |          |            |     |               |
| 额定值  | 4 A  |           | 63 V      |          |            | 额定分 |               |
| 适用标准 | UL248  |           | 环境温度      |          | 24℃        | 相对  |               |
|      | 测试内容   |           |           |          |            |     |               |
|      | 负载测试   | 温升测试      | 熔断测试      |          |            |     | 尺寸            |
| 标准   | 100%   | %         | 250%      | 300%     | 1000%      | %   |               |
|      | 1 hour.min   | 135 K.max | 500ms-60s | 100ms-3s | 0.2ms-20ms |     | 冷电阻           |
| 测试电流 | 4 A  | 4 A       | 10A       | 12A      | 40A        | A   |               |
| 1    | >4h  | 75K       | 3.3s      | 922ms    | 4ms        |     |               |
| 2    | >4h  | 71K       | 4.0s      | 883ms    | 3ms        |     | 强度            |
| 3    | >4h  | 69K       | 2.3s      | 1000ms   | 2ms        |     |               |
| 4    |  |           |           |          |            |     |               |
| 5    |  |           |           |          |            |     | 耐久性试验         |
| 6    |  |           |           |          |            |     |               |
| 7    |  |           |           |          |            |     |               |
| 8    |  |           |           |          |            |     | 标识            |
| 9    |  |           |           |          |            |     |               |
| 备注   | 直丝   |           |           |          |            | 判定  | 产品可靠性测试<br>合格 |

ZJ10-030/A1

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