



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)

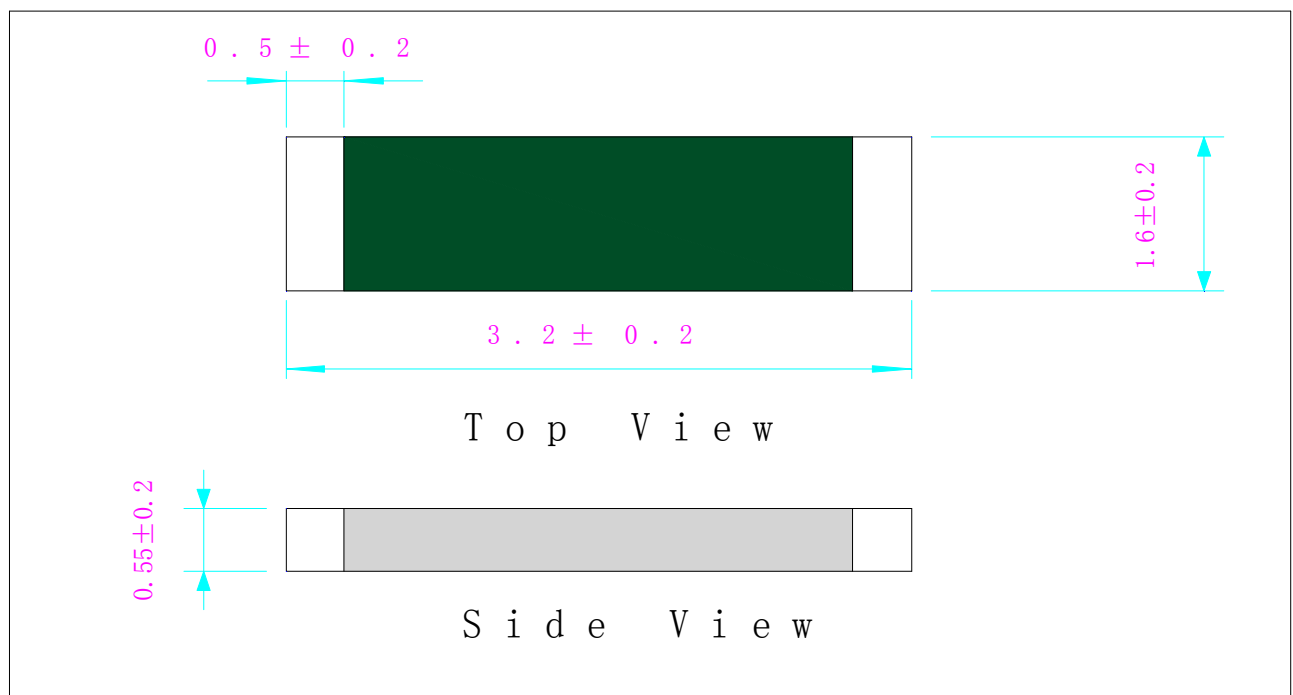
12T: 1206 贴片慢断系列产品 (12T: 1206 SMD Slow Blow Fuses)

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 Catalog No. | 额定电流 Reted Current | 额定电压 Rated Voltage | 标示 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 Catalog No. | 额定电流 Reted Current | 额定电压 Rated Voltage | 标示 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 (Item No.) \ 电流 (In ratio) | 100% | 250% (250mA ~ 3A) | 300% | 350% (4A ~ 20A) | 1000% |
|------------------------------------|-----------|---------------------------|--------------------------|--------------------|-----------------------------|
| 12F | $\geq 4h$ | $\leq 5s$ | | $\leq 5s$ | |
| 12T | $\geq 4h$ | $\geq 0.5s$ $\leq 60s$ | $\geq 0.1s$ $\leq 3s$ | | $\geq 0.2ms$ $\leq 20ms$ |

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

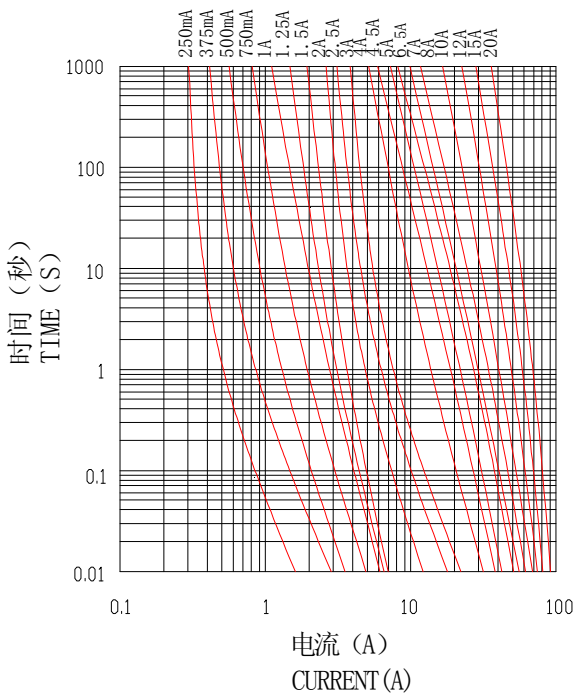
Do the experience of breaking capacity, under the situation of DC63V/32V/24V 50A, After the test, the marking shall still be legible, and the fuse-link shall operate satisfactorily without ignition and Bursting. for example, shall not show and appreciable deterioration.

注意：颜色改变不认为是不合格。

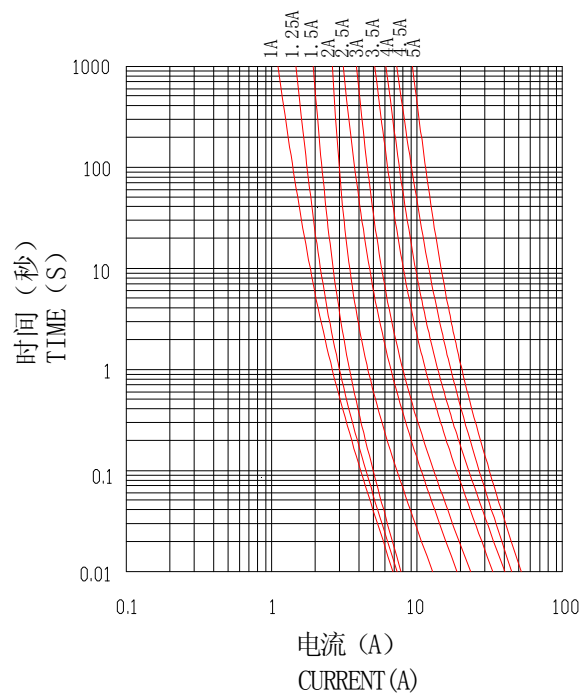
NOTE: changes in color are not considered as a failure.

6.5 时间电流特性曲线图 (Time-current curves)

12F I-T Characteristics Curves



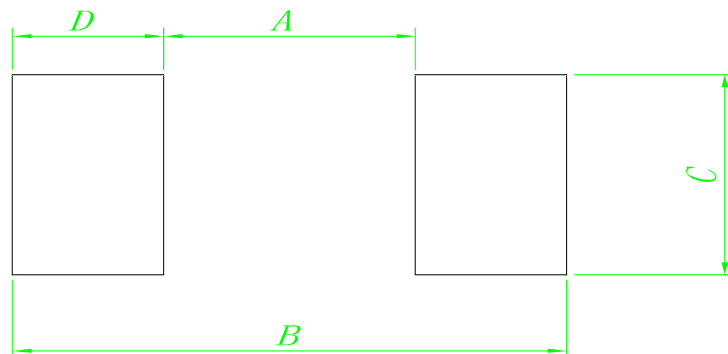
12T I-T Characteristics Curves



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 |



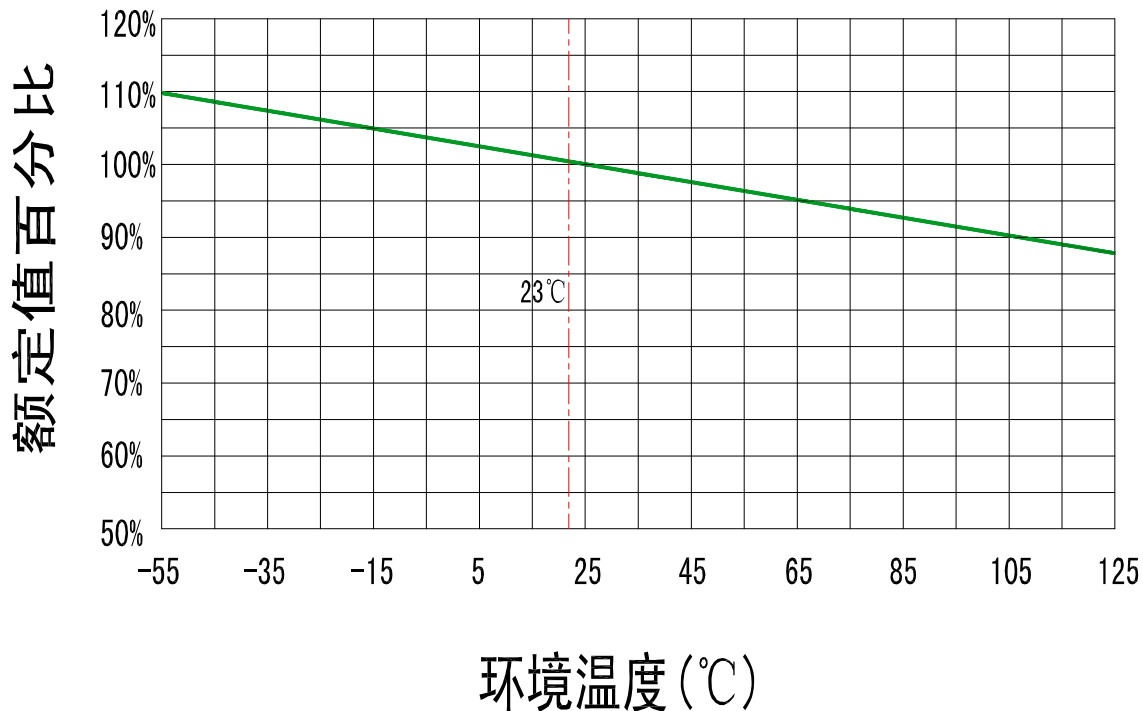
7.2 环保焊接条件 Soldering conditions (RoHS)

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。

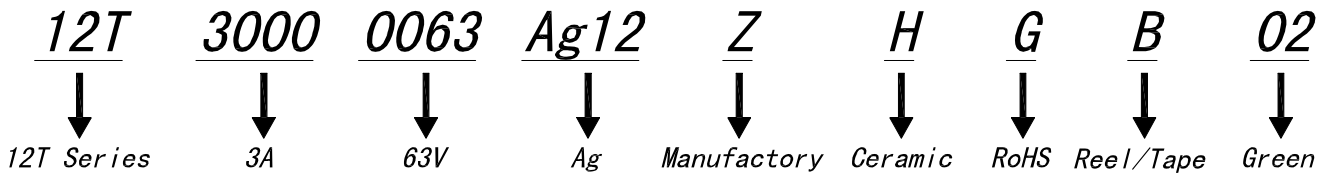
3K Pieces taped and reeled in one box,60K/External Carton.

| | | |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |
| 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 | | | | | | |
| | | | | | | | 产品可靠性测试 合格 |

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 | | |
| 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 | | |
| 3 | >4h | 69K | 2.3s | 1000ms | 2ms | 强度 | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | 耐久性测试 | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | 标识 | |
| 备注 | 直丝 | | | | | | 判定 |
| | | | | | | | 产品可靠性测试 合格 |

ZJ10-030/A1

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