

# 规格承认书

## Specification for approval

产品名称: 2410/6125/1808 慢断型 表面贴装保险丝 300vac

Product Type: 2410/6125/1808 *Time-Lag Surface Mount Fuse 300vac*

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## 1. 产品特性及应用范围 / Description, Features and Applications

本产品适用于各类电子设备电路初、次级电路板的过流保护, 广泛应用于固态照明、电池充电、消费电子、电子镇流器、LED AC/DC 电源供应、网络通信、医疗仪器及工业控制器等领域。

### Descriptions:

REOMAX 6125 series slow-blow square Surface Mount fuses are ceramic tube/end cap constructions, RoHS compliant, Halogen Free and lead(Pb) exempts of the requirements of RoHS Directive(2002/95/EC), with U.S. (UL/CSA) safety agency approvals. Provide board level primary and secondary circuit protection in a wide variety of applications. With excellent inrush current withstanding capability, excellent reliability for thermal and mechanic shock, also have a high reliability and stable solder ability, end caps are available in gold/silver/nickel plated.

### Features:

- Time-Lag (Slow-Blow)
- Wide range of current rating available
- Low temperature de-rating
- Tape and Reel for automatic placement
- Small size(6.1mm\*2.5mm)
- Wide operating temperature range
- RoHS compliant
- Conflict free metals

### Applications:



- LED lighting
- LCD backlight inverter
- PC server
- Wireless base station
- Digital camera
- Notebook PC
- Portable Devices
- Cooling fan system
- White goods
- Industrial equipment
- Battery devices
- Power supply
- Storage system
- Game console
- Medical equipment
- LCD/PDP devices
- Networking devices
- Telecom system
- Office equipment
- Automotive devices

## 2. 安规认证标准及编号 / Standards and Agency Approvals



21 执行标准: 遵循 UL 248-14。

Standards: In accordance with UL 248-14.

22 认证范围 Certification:

| 安规标准<br>Agency  | 认证范围 125V/250V<br>Ampere Range | 证书编号<br>Agency File Number     |
|---|--------------------------------|--------------------------------|
|  | 50mA ~ 7A-15A                  | <a href="#">E340427(JDYX2)</a> |
|  | 50mA ~ 7A-15A                  | <a href="#">E340427(JDYX8)</a> |

## 23 目录编号 Catalogue No., ● 已认证 Approved / ○ 认证中 Pending

| 目录编号<br>Catalog<br>No.  | 额定电流<br>Ampere<br>Rating | 额定电压<br>Voltage<br>Rating | 分断能力<br>Breaking<br>Capacity | 冷阻值<br>Nominal Cold<br>Resistance<br>(Ohms) | 熔化热能<br>I <sup>2</sup> TMelting<br>Integral(A <sup>2</sup> .S) | 安规认证<br>Agency Approvals  |   |
|-------------------------|--------------------------|---------------------------|------------------------------|---|--|---|---|
|                         |                          |                           |                              |   |  |  |  |
| <a href="#">SET1800</a> | 8A                       |                           |                              | 0.015                                       | 80.750   |   |   |
| <a href="#">SET2100</a> | 10A                      |                           |                              | 0.014                                       | 110.380  |   |   |
| <a href="#">SET2120</a> | 12A                      |                           |                              | 0.013                                       | 180.080  |   |   |
| <a href="#">SET2150</a> | 15A                      |                           |                              | 0.012                                       | 200.680  |   |   |

- \*: These catalog no. cold resistance and I<sup>2</sup>t value are pending due to fuse elements shall be customized;
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C;

- Typical Pre-arching I2t are calculated at 10\*In Current or 8ms;
- Min Interrupting Rating: 1.35\*In.

### 3. 产品标示 / Product Marking

保险丝上需有下列标示 / The fuses shall have the following markings

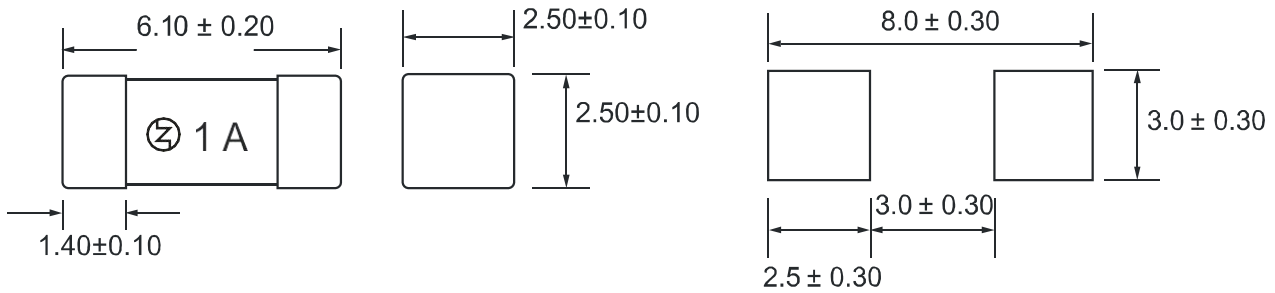
示例 Example:

|   |           |   |
|---|-----------|---|
|  | <b>1A</b> | ① 制造厂商标识/REOMAX Trade Mark:  |
| ①   | ②         | ② 额定电流/Rated Current (A): ___A 或 or ___mA   |

注: 对于标示的大小和位置没有规定 / Note: Size and position of the markings shall not be provided.

### 4. 结构及尺寸 / Dimensions and Structure

单位: 毫米 / Unit: mm



### 5. 材料明细 / Material Details

| 编号<br>NO. | 零件名称<br>Part Name | 材质<br>Material                          |
|-----------|-------------------|---|
| ①         | 端帽 End caps       | 黄铜镀金 Au Plated Brass Cap                |
| ②         | 主体 Body           | 陶瓷管 Non-Transparent Square Ceramic Tube |
| ③         | 熔丝 Fuse element   | 合金 Cu-Ag Alloy wire                     |

### 6. 产品特性 / Product Characteristics

| 编号<br>NO. | 项目<br>Item | 内容<br>Content | 参考标准<br>Reference standards |
|-----------|------------|---------------|-----------------------------|
|-----------|------------|---------------|-----------------------------|

|    |   |  |   |
|----|---|--|---|
| 1  | 产品标识<br>Product Marking                       | Brand, Ampere Rating                                   | REOMAX marking standards                  |
| 2  | 工作温度<br>Operating Temperature                 | -55°C to 125°C   | IEC60068-2-1/2                            |
| 3  | 可焊性<br>Solderability                          | T=240°C ± 5°C , t=3sec ± 0.5sec,<br>Coverage ≥ 95%     | MIL-STD-202, Method 208                   |
| 4  | 耐焊接热<br>Resistance to Soldering Heat          | 10 sec at 260°C  | MIL-STD-202, Method 210, Test condition B |
| 5  | 绝缘阻抗<br>Insulation Resistance (after Opening) | 10,000 ohms minimum                                    | MIL-STD-202, Method 302, Test Condition A |
| 6  | 热冲击<br>Thermal Shock                          | 5 cycles, -65°C / +125°C, 15 minutes at each extreme   | MIL-STD-202, Method 107, Test Condition B |
| 7  | 机械冲击<br>Mechanical Shock                      | 100G's peak for 6 milliseconds, 3cycles                | MIL-STD-202, Method 213, Test I           |
| 8  | 振动试验<br>Vibration                             | 0.03" amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs | MIL-STD-202, Method 201                   |
| 9  | 耐湿性<br>Moisture Resistance                    | 10 cycles  | MIL-STD-202, Method 106                   |
| 10 | 盐雾试验<br>Salt Spray                            | 5% salt solution, 48hrs                                | MIL-STD-202, Method 101, Test Condition B |

## 7. 电气特性 / Electrical Characteristics

### 7.1 实验条件: Test Condition

所有测试环境温度均为 25±5°C。

All electrical test is to be conducted with the ambient air at a temperature of 25±5°C.

### 7.2 分断能力 Interrupting Rating:

保险丝承受分断能力: Breaking Capacity:

### 7.3 熔断时限 / Operating Characteristics

| 额定电流的%<br>% of Ampere Rating(In) | 熔断时间<br>Blowing Time   |
|----------------------------------|------------------------|
| 100% * In                        | 大于 4 小时(4 hours Min)   |
| 200% * In                        | 小于 120 秒 (120 sec Max) |

1000% \* In

大于 10 毫秒 (10ms Min)

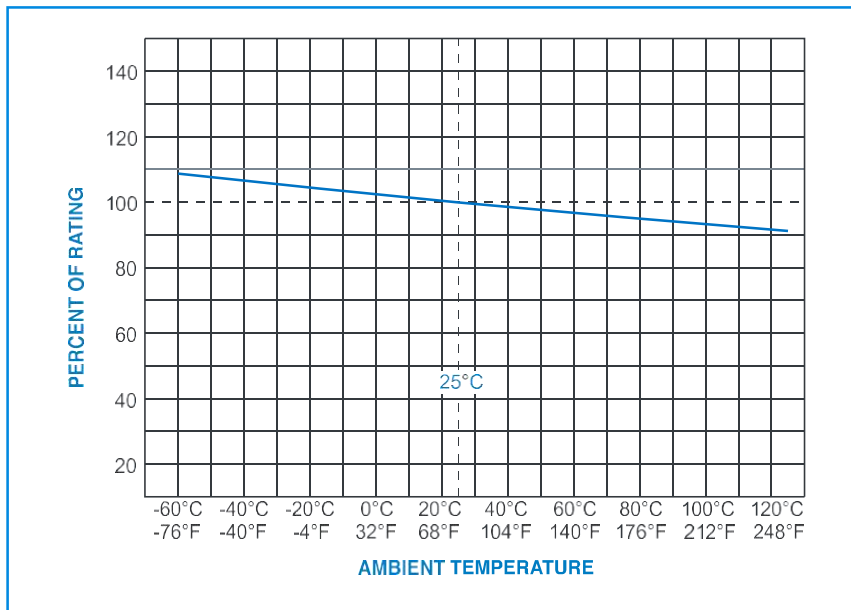
#### 7.4 平均时间电流曲线图 / Average Time Current Curves

### 8. 环境特性 / Environmental Characteristic

若操作环境温度超出  $25 \pm 5^{\circ}\text{C}$  范围，在选用保险丝规格时，需考虑操作环境温度对保险丝的影响，请参照如下：温度-电流曲线图。

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from 20~30°C, engineer should consider the environmental temperature's affection to fuses.

Please refer: Temperature Rerating Curve:



## 9. 建议焊接参数 / Recommended Soldering Parameters

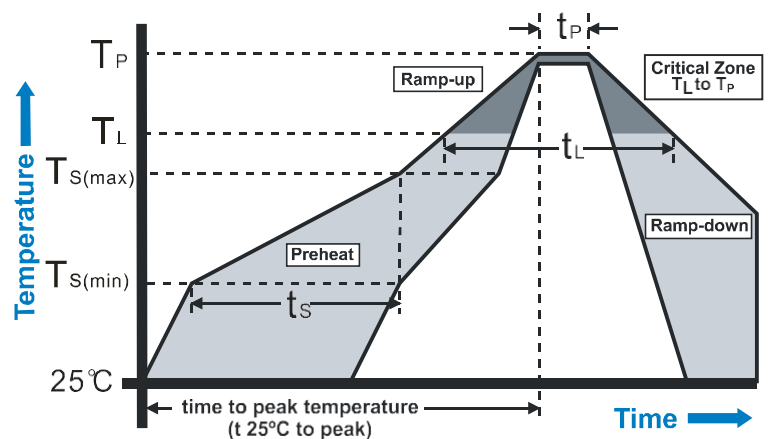
### A. 波峰/回流焊参数 / Wave/Reflow Soldering Parameters:

锡膏工艺 / Solder paste process.

锡炉温度 / Solder Pot Temperature: 260°C Max

焊接时间 / Solder Dwell Time: 5 seconds max

| Reflow Condition                     | Pb-Free assembly |
|--------------------------------------|------------------|
| Average ramp-up rate (Ts(max) to Tp) | 5°C /second max. |
| Temperature Min (Ts(min))            | 150°C            |
| Preheat Temperature Max (Ts(max))    | 200°C            |
| Time (Min to Max) (ts)               | 60-120 seconds   |
| Temperature (TL)                     | 220°C            |
| Reflow Time Max (tL)                 | 60 seconds       |
| Peak Temperature (Tp)                | 260°C max        |
| Ramp-down Rate                       | 5°C/second max   |
| Time 25°C to peak Temperature (Tp)   | 8 minutes max    |



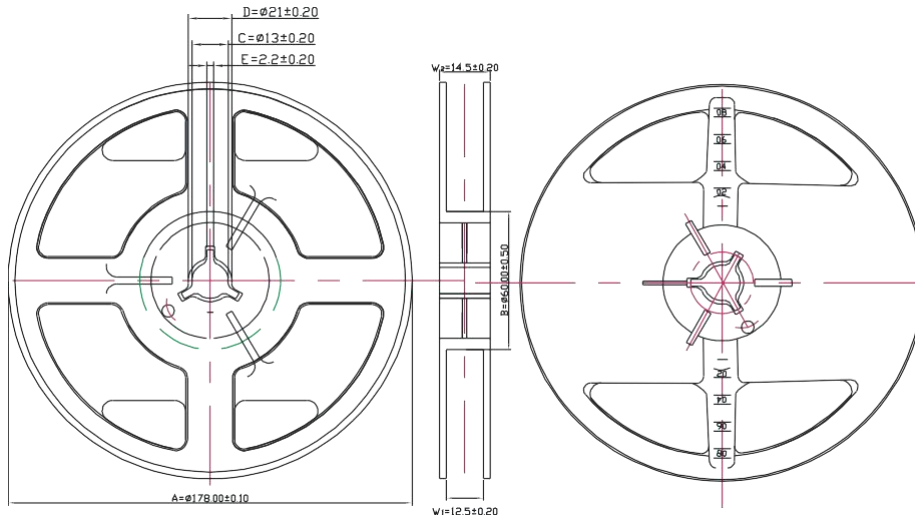
## B. 手工焊参数 / Hand-Solder Parameters:

烙铁温度 / Solder Iron Temperature:  $300 \pm 5^\circ\text{C}$

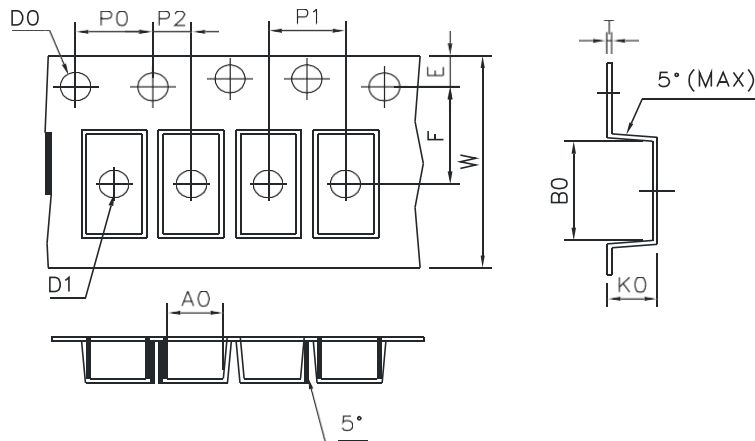
焊接时间 / Heating Time: 1~2 s Max

## 10. 包装 / Packaging

1000 个每卷 / 1,000 pcs in 7 inches dia. reel, 12mm wide tape, EIA Standard 481



| Item      | A        | B       | C       | D       | E        | W1        | W2        |
|-----------|----------|---------|---------|---------|----------|-----------|-----------|
| Spec.(mm) | 178±0.10 | 60±0.50 | 13±0.20 | 21±0.20 | 2.2±0.20 | 12.5±0.20 | 14.5±0.20 |



| Item      | $A_0$           | $B_0$           | $D_0$           | $D_1$           | E                | F               |
|-----------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|
| Spec.(mm) | $2.70 \pm 0.10$ | $6.40 \pm 0.10$ | $1.50 \pm 0.10$ | $1.50 \pm 0.25$ | $1.75 \pm 0.10$  | $5.50 \pm 0.10$ |
| Item      | $K_0$           | $P_0$           | $P_1$           | $P_2$           | W                | t               |
| Spec.(mm) | $2.70 \pm 0.10$ | $4.00 \pm 0.10$ | $4.00 \pm 0.10$ | $2.00 \pm 0.10$ | $12.00 \pm 0.15$ | $0.25 \pm 0.05$ |

## 11. 其他 / Others



11.1 如果在使用中有超出本规格书的要求，须经双方协商确认。

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

**附件 I: 安规证书 / Appendix I: Safety approval certificates**