Spec. No.: SFA-TBC

Version No.:2013001

**规格承认书**

**Specification for approval**

**产品名称：TBC系列 5\*20mm慢断型 玻璃管保险丝**

**Product Type: TBC Series *5\*20mm Time-Lag Glass Tube Fuse***

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1. **适用范围 / Scope of Application**

本产品适用于各类电子设备电路的过流保护作用, 广泛应用于照明设备、电源设备以及适配器等领域。

This product is suitable for various kinds of electronic devices’ circuit over current protection. Widely used in industrial of Lighting, Power supply and Adapter applications, etc.

1. **安规认证标准及编号 / Standards and Agency Approvals**

2.1执行标准：遵循IEC60127-1, IEC60127-3, GB9364.1, GB9364.3, CQC11-462125-2009.2。

 Standards：In accordance with IEC60127-1, IEC60127-3, GB9364.1, GB9364.3.

2.2认证范围 Certification：

|  |  |  |  |
| --- | --- | --- | --- |
| **额定电压****Voltage Rating** | **安规标准****Agency** | **认证范围****Ampere Range**  | **证书编号****Agency File Number** |
| 250V | UR  | 200mA ~ 10A | E340427(JDYX2) |
| C-UR | 200mA ~ 10A | E340427( JDYX8) |
| CCC | 200mA ~ 10A | 2012010207569355 |
| VDE | 1A,2A,3.15A,5A,6.3A | 40037363 |
| PSE | 200mA ~ 10 A | Pending |
| KTL | 200mA ~ 10 A | Pending |

2.3目录编号 Catalogue No.，● 已认证Approved / ○ 认证中Pending

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **目录编号****Catalog****No.** | **额定电流****Ampere****Rating** | **额定电压****Voltage****Rating** | **最大电压降****Max Voltage****Drop (mv)** | **熔化热能****I2TMelting** **Integral(A2.S)** | **安规认证****Agency Approvals** |
|  |  |  |  |  |
| TBC0100A | 100mA | 250V | 2500 | - | ○ | ○ | ○ | ○ | ○ |
| TBC0125A | 125mA | 250V | 2000 | - | ○ | ○ | ○ | ○ | ○ |
| TBC0160A | 160mA | 250V | 1900 | - | ○ | ○ | ○ | ○ | ○ |
| TBC0200A | 200mA | 250V | 1500 | 0.1 | ● | ○ | ● | ○ | ○ |
| TBC0250A | 250mA | 250V | 1300 | 0.18 | ● | ○ | ● | ○ | ○ |
| TBC0315A | 315mA | 250V | 1100 | 0.3 | ● | ○ | ● | ○ | ○ |
| TBC0400A | 400mA | 250V | 1000 | 0.65 | ● | ○ | ● | ○ | ○ |
| TBC0500A | 500mA | 250V | 900 | 0.85 | ● | ○ | ● | ○ | ○ |
| TBC0630A | 630mA | 250V | 300 | 1.6 | ● | ○ | ● | ○ | ○ |
| TBC0800A | 800mA | 250V | 250 | 2.3 | ● | ○ | ● | ○ | ○ |
| TBC1100A | 1A | 250V | 150 | 3.5 | ● | ● | ● | ○ | ○ |
| TBC1125A | 1.25A | 250V | 150 | 4.3 | ● | ○ | ● | ○ | ○ |
| TBC1160A | 1.6A | 250V | 150 | 7.2 | ● | ○ | ● | ○ | ○ |
| TBC1200A | 2A | 250V | 150 | 10 | ● | ● | ● | ○ | ○ |
| TBC1250A | 2.5A | 250V | 120 | 22 | ● | ○ | ● | ○ | ○ |
| TBC1315A | 3.15A | 250V | 100 | 39 | ● | ● | ● | ○ | ○ |
| TBC1400A | 4A | 250V | 100 | 54 | ● | ○ | ● | ○ | ○ |
| TBC1500A | 5A | 250V | 100 | 115 | ● | ● | ● | ○ | ○ |
| TBC1630A | 6.3A | 250V  | 100 | 200 | ● | ● | ● | ○ | ○ |
| TBC1800A | 8A | 250V | 100 | 320 | ● | ○ | ● | ○ | ○ |
| TBC2100A | 10A | 250V | 100 | 510 | ● | ○ | ● | ○ | ○ |
| TBC2125A | 12.5A | 250V | 80 | 800 | ○ | ○ | ○ | ○ | ○ |
| TBC2160A | 16A | 250V | 80 | 1105 | ○ | ○ | ○ | ○ | ○ |
| TBC2200A | 20A | 250V | - | - | ○ | ○ | ○ | ○ | ○ |
| TBC2250A | 25A | 250V | - | - | ○ | ○ | ○ | ○ | ○ |
| TBC2315A | 31.5A | 250V | - | - | ○ | ○ | ○ | ○ | ○ |

1. **产品标示 / Product Marking**

保险丝两端铜帽上需有下列标示。

The fuses cap shall have the following markings.

示例Example:



|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **TBC** | **T** | **1A** | **L** | **250V** |  |
| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ |



|  |  |
| --- | --- |
| ① | 制造厂商标识/Reomax Trade Mark:  |
| ② | 系列型号名称/Series Type Name: **TBC** |
| ③ | 电器特性符号/ Electrical Characteristic symbol: **T** *(慢断型保险丝符号 / symbol for Time-Lag)* |
| ④ | 额定电流/Rated Current (A): **A** 或or **mA** |
| ⑤ | 分断容量符号/ Breaking Capacity symbol: **L** (低分断 / Low Breaking Capacity) |
| ⑥ | 额定电压/Rated Voltage (V): **250V** |
| ⑦ | 认证符号/ Approval Marks:  |

***注意 / Note*：***对于标示的大小和位置没有规定。*

*Size and position of the markings shall not be provided.*

1. **外观及形状 / Appearances and Configuration**

4.1 外观不应出现显著的污点、裂纹，标识应该容易辨识。

There shall not be any remarkable stain and crack on the appearances, markings shall be easily legible.

4.2 形状：带直线引脚小型玻璃管保险丝。

Configuration：Axial Leaded Miniature Glass Tube Fuse.

1. **结构及尺寸 / Dimensions and Structure**

*单位：毫米 / Unit: mm*

1. **材料明细 / Material Details**

|  |  |  |
| --- | --- | --- |
| **编 号****NO.** | **零 件 名 称****Part Name** | **材 质****Material** |
|  | 铜帽Cap | 黄铜镀镍Nickel Plated Brass |
|  | 玻璃管Body | 玻璃管Glass Tube |
|  | 熔丝Fuse element | 合金Alloy |
| ④ | 引线Lead wire | 镀锡铜线Tin Plated Copper |

1. **产品特性 / Product Characteristics**

7.1 引脚拉力强度 / Lead Pull Strength

5牛顿 10±1 秒 / 5N for 10±1 Seconds

7.2 引脚推力强度 / Lead Thrust Strength

2 牛顿10±1 秒 / 2N for 10±1 Seconds

7.3 可焊性 / Solder ability

波峰焊/Wave : 260℃，≤3s;

烙铁焊/Soldering Iron: 350±10℃，≤3s.

7.4 耐焊接热 / Soldering Heat Resistance

波峰焊/Wave : 260℃，10s;

 烙铁焊/Soldering Iron: 350℃，5s.

1. **电气特性 / Electrical Characteristics**

8.1 实验条件：Test Condition

 所有测试环境温度为25±5℃。

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

8.2 分断能力 / Interrupting Rating：

保险丝承受分断能力：在250伏交流电源下，35A或10倍的额定电流当中较大的。

分断能力测试后保险丝的绝缘阻抗值大于0.1ΜΩ。

Breaking Capacity: 35A or10In whichever is greater at 250V AC.

The insulation resistance value of fuse is greater than 0.1ΜΩ after breaking capacity testing.

8.3 温度上升试验 / Rising Temperature Test：

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。测得熔断体断开时任何部位的温升不得超过135℃，周围环境温度为25±5℃。

Under the ambient temperature of 25±5℃, through 1.5 times the rated current for 15 minutes, then every 15 minutes, add an increase of 0.1 times the rated current. When operates, the temperature rise in any part of fuse should not exceed 135℃.

8.4熔断时限 / Operating Characteristics

|  |  |  |
| --- | --- | --- |
| **额定电流的%****% of Ampere Rating(In)** | **熔断时间 Opening Time****(200mA～10A)** | **熔断时间 Opening Time****(12.5A～16A)** |
| 210%\*In | 小于2分钟 (2 min Max) | 小于5分钟 (5 min Max) |
| 275%\*In | 600毫秒至10秒 (600 ms~10 s) | 600毫秒至15秒 (600 ms~15 s) |
| 400%\*In | 150毫秒至3秒 (150 ms~3 s) | 150毫秒至5秒 (150 ms~5 s) |
| 1000%\*In | 20毫秒至300毫秒 (20 ms~300 ms) | 20毫秒至400毫秒 (20 ms~400 ms) |

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

**时间(秒) / TIME IN SECONDS**

**电流(安培) / CURRENT IN AMPERES**

1. **环境特性 / Environmental Characteristic**

9.1　使用温度范围 / Operating Temperature

-55℃～+125℃。

9.2　保存条件 Stock Condition

湿度：相对湿度≦75%平均可以存放3年。

Humidity：Relative humidity ≤ 75% store 3 years in average.

9.3 若操作环境温度超出25±5℃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℃, engineer should consider the environmental temperature's affection to fuses. Please refer: Temperature Rerating Curve:

1. **安装建议 / Installation Recommendations**

10.1 建议按照如下示意图方式进行安装。

Propose installation way as following picture.

A、卧式安装

Horizontal installation

B、立式安装

Vertical installation

C、立式安装

Vertical installation

10.2 建议焊接参数 / Recommended Soldering Parameters

1. 波峰焊参数 / Wave Parameters:

锡炉温度 / Solder Pot Temperature: 260℃ Max

焊接时间 / Solder Dwell Time: 2~5s

1. 手工焊参数 / Hand-Solder Parameters:

烙铁温度 / Solder Iron Temperature: 350±5℃

焊接时间 / Heating Time: 5s Max

1. **包装 / Packaging**

11.1 包装袋/盒印明下列标示: / The following items indicated on the label:

产品料号、额定(电压、电流)、分断类型及安规名称。

Catalog number, ratings (voltage, current), interrupting type and safety mark.

包装材料均符合RoHS/REACH/HF的环保要求， 且包装材料不会和零件发生化学反应，造成不良。

The packing material conforms to ROHS/REACH/HF environmental protection request. And the packing materials will not have the chemical reaction with the components.

11.2 包装数量 / Packing Quantity

每胶袋250个保险丝 / Bulk 250 pcs in per poly bag;

每10胶袋1个内盒 / 10 poly bags in per inner box;

每4个内盒1个外箱 / 4 inner boxes in per outer carton

 11.3 包装箱尺寸 / Packing Size

 *单位：毫米 / Unit: mm*

|  |  |
| --- | --- |
| **A. 内盒Inner box：** | **B. 外箱Outer carton：** |
| L240±2 \* W170±2 \* H110±2 | L390±5 \* W240±5 \* H250±5 |
|  |  |

1. **其他 / Others**

12.1 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.

12.2 如果本规格书有不适当的情况，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, *REOMAX ELECTRONICS CO., LTD.* shall amend it by mutual agreement between the parties.

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