



2410 方头陶瓷 FUSE  
(慢断内焊)

DOC.NO.:  
ISS-SBT Series

## INDIVIDUAL SPECIFICATION SHEET

**Product Name:** 2410方头陶瓷FUSE

**Part Number:** SBT Series

**Revision:** A



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### 1. 适用范围 / Scope of Application

本产品适用于 LCD / PDP 电视. 液晶显示器. LCD / PDP 面板. LCD 背光逆变器. 便携式 DVD 播放器. 电源. 联网. PC 服务器. 冷却风扇系统. 存储系统. 电信系统. 无线基站. 白色家电. 游戏机. 办公自动化. 设备. 电池充电电路保护. 工业设备. 医疗器材. 汽车各类电子设备电路的过流保护作用.

This product is suitable for LCD / PDP TV. LCD display. LCD / PDP panel. LCD backlight inverter. Portable DVD player. Power supply. Networking. PC server. Cooling fan system. Storage system. Telecommunication system. Wireless base station. . Game machine. Office automation. Equipment. Battery charging circuit protection. Industrial equipment. Medical equipment. Over-current protection of various electronic equipment circuits.

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

2.1 执行标准：遵循 UL248-1;UL248-14。

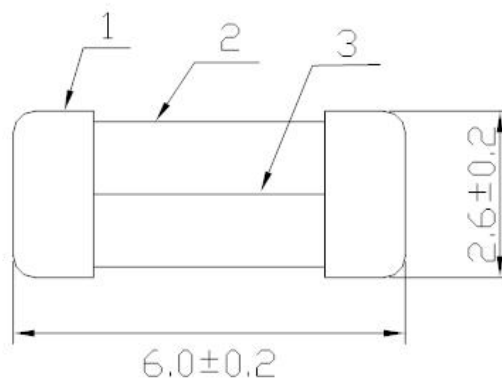
Standards: In accordance with UL248-1;UL248-14.

2.2 认证范围 Certification:

额定电压 Rated Voltage	安规标准 Agency	认证电流 Ampere Range	证书编号 Agency File Number
250V	UR-CUR	50mA ~ 10A	E467707
	VDE	500mA/1A/2A/3.15A/5A	40049351
	CQC	500mA/1A/2A/3.15A/5A	CQC19012215943
	KC	500mA/1A/2A/3.15A/5A	SU05044-19001A SU05044-19002A SU05044-19003A

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

单位：毫米 / Unit: mm



#### 4.材料明细 / Material Details


编号 NO.	零件名称 Part Name	材质 Material
1	铜帽 Cap	铜镀银/铜镀金 Ag/Gold Plated Brass
2	管体 Body	陶瓷管 Body
3	熔丝 Element	合金 Alloy

#### 5.产品标示 / Product Marking

保险丝本体上需有下列标示。

The fuses body shall have the following markings.

示例 Example:





	T	20A
1	2	3

1. 标识/ Logo
2. 电器特性符号/ Electrical Characteristic symbol
3. 额定电流/Rated Current: A 或 or Ma

**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

## 6. 产品特性/Product Characteristic(Ref)

Rated current	Rated voltage	Maximun voltage drop (mv)	Breaking capacity	I <sup>2</sup> T A <sup>2</sup> s				
50mA	250V	5000	50A	0.01	●	○	○	○
63mA		4400		0.01	●	○	○	○
100mA		3500		0.03	●	○	○	○
125mA		2500		0.05	●	○	○	○
160mA		2200		0.08	●	○	○	○
200mA		1800		0.12	●	○	○	○
250mA		1400		0.21	●	○	○	○
315mA		1300		0.36	●	○	○	○
400mA		1000		0.45	●	○	○	○
500mA		900		0.58	●	●	●	●
630mA		800		1.0	●	○	○	○
800mA		600		2.5	●	○	○	○
1.0A		500		3.25	●	●	●	●
1.25A		400		3.6	●	○	○	○
1.6A		300		9.22	●	○	○	○
2.0A		300		7.56	●	●	●	●
2.5A		300		12.8	●	○	○	○
3.15A		300		25.3	●	●	●	●
3.5A		300		30.0	●	○	○	○
4.0A		300		42.8	●	○	○	○
5.0A		300		72.9	●	●	●	●
6.3A		300		110.0	●	○	○	○
8.0A		220		131.1	●	○	○	○
10.0A		220		135.2	●	○	○	○
12A	150	219.4	○	○	○	○		
15A	120	360	○	○	○	○		
20A	63V/72V	100	200A	500	○	○	○	○
25A		70		/	○	○	○	○
30A		60		/	○	○	○	○

●Approved ○pending

## 7. 外观及形状 / Appearances and Configuration

7.1 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.

7.2 形状：方形陶瓷贴片保险丝。

Configuration: Square ceramic patch fuse

## 8. 产品特性 / Product Characteristics

### 8.1 引脚拉力强度 / Lead Pull Strength

10 牛顿 10±1 秒 / 10N for 10±1 Seconds

### 8.2 引脚推力强度 / Lead Thrust Strength

2 牛顿 10±1 秒 / 2N for 10±1 Seconds

## 9. 电气特性 / Electrical Characteristics

### 9.1 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℃.

### 9.2 分断能力 / Interrupting Rating:

分断能力 Breaking Capacity::

50A 使用 250 伏交流电源(50mA~10A);200A@63V/72V(12A~20A)。

50 A@ 250V AC(50mA~10A); 200A@63V/72V(12A~20A)

### 9.3 温度上升试验 / Rising Temperature Test:

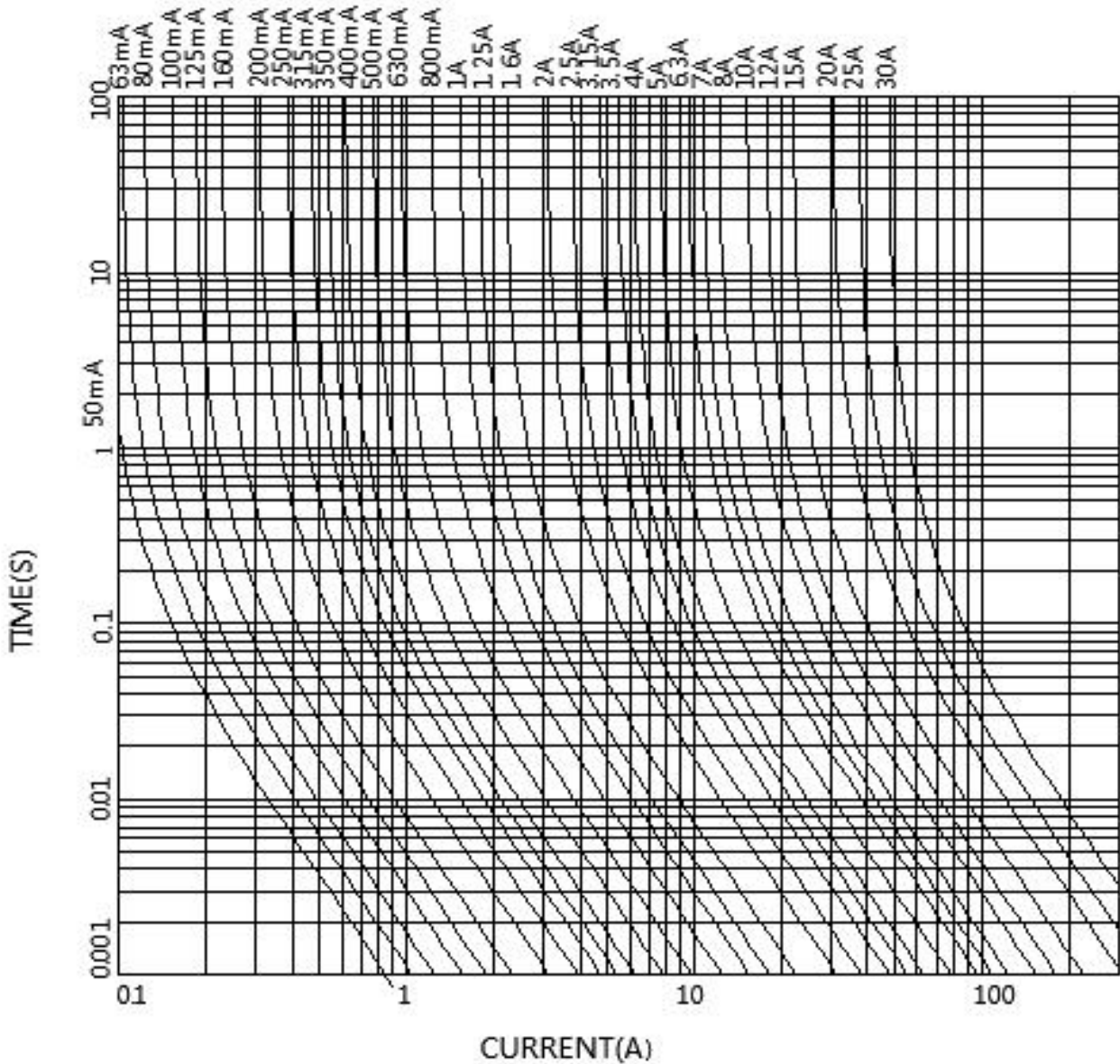
温度上升试验：通 1.0 倍额定电流，当温度稳定时（5 分钟测量 4 次，且每次测量值与平均值相差不超过 2℃）。测得熔断体任何部位的温升不得超过 75℃，周围环境温度为 25±5℃。

When the 100% times of rating electric current passes the fuse, After reaching thermal balance , the temperature on the fuse surface rising is not higher than 75℃.Rising temperature= The surface temperature-Ambient temperature

### 9.4 熔断时限 / Opening Time

额定电流的%% of Ampere Rating	熔断时间 Opening Time (Time lag)
100%	T>4hrs
200%	T<120s
300%	1s<T<3s
800%	10ms<T<100ms

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



## 10.环境特性 / Environmental Characteristic

### 10.1 使用温度范围 / Operating Temperature

-55℃~+125℃。

### 10.2 保存条件 Stock Condition

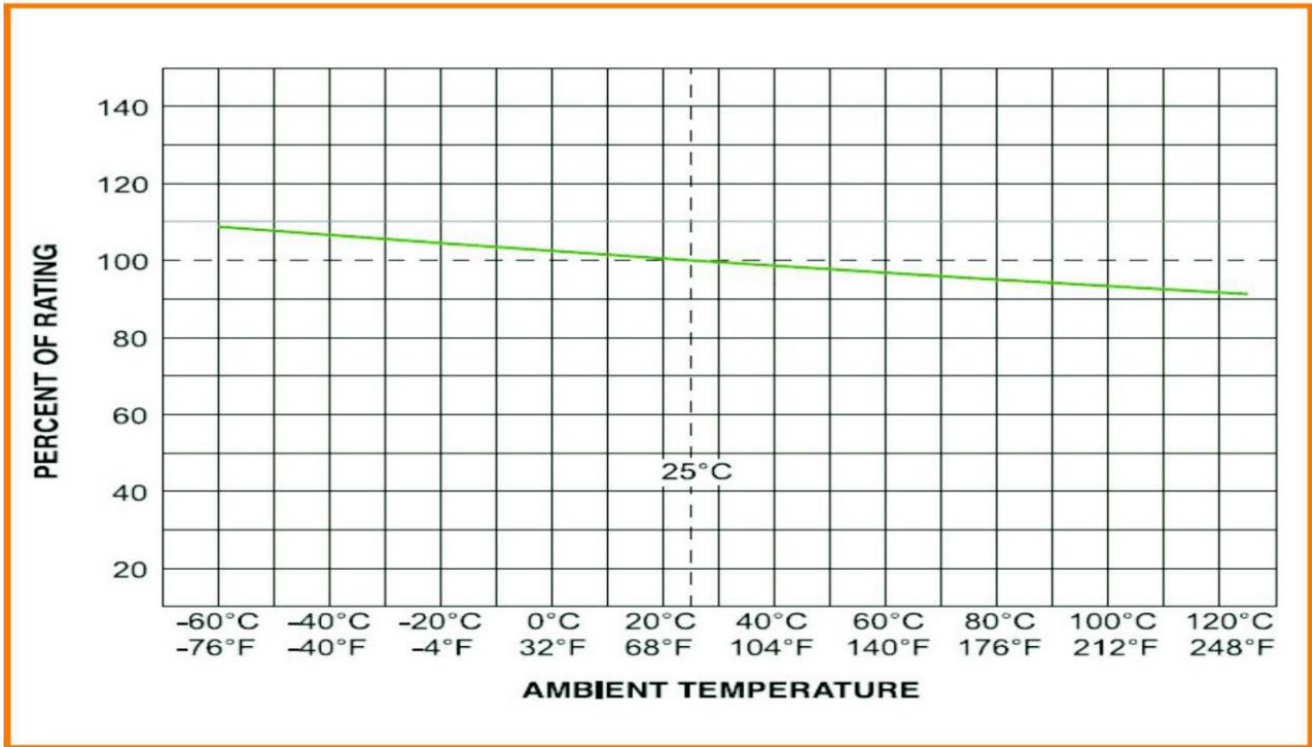
湿度：相对湿度 $\leq 75\%$ 平均可以存放3年。

Humidity: Relative humidity  $\leq 75\%$  store 3 years in average.

10.3 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:

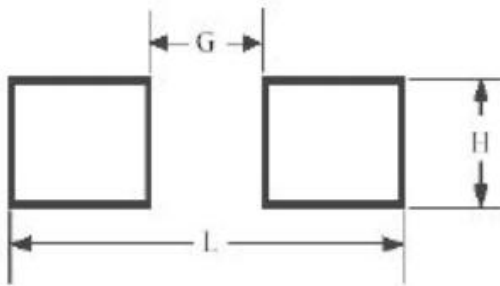
### Temperature Rerating Curve



## 11. 安装建议 / Installation Recommendations

11.1 建议按照如下示意图方式进行安装。

Propose installation way as following picture.



/	mm	inch
L	8.7	0.343
H	2.9	0.114
G	3.0	0.118

11.2 建议焊接参数 / Recommended Soldering Parameters

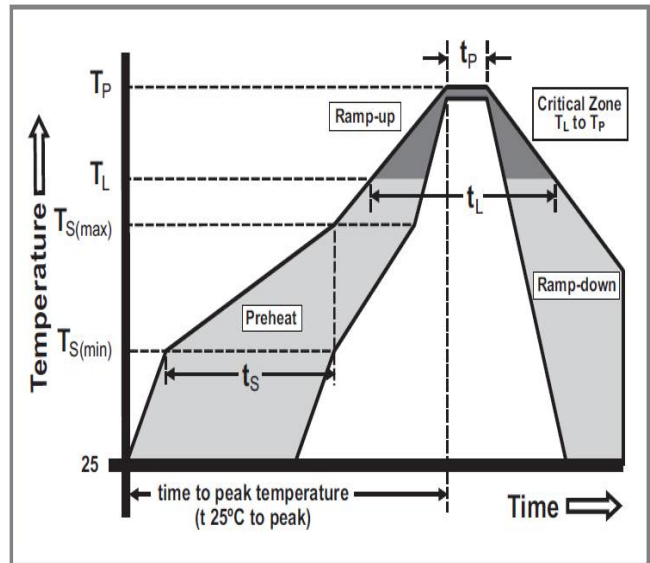
A. 回流焊/Infrared Reflow 温度 Temperature 250°C ; 时间 Time 5sec Max;

B.波峰焊/ Wave soldering : 温度 Temperature 250℃ ; 时间 Time 10sec Max;

C.烙铁焊/Hand Soldering: 温度 Temperature 300℃ ; 时间 Time 2sec Max

烙铁避免接触铜帽 Soldering iron avoid touch Copper cap

Profile Features	Pb-Free assembly
Average Ramp-up Rate (T <sub>Smax</sub> to T <sub>p</sub> )	3°C/sec Max.
Preheat Temperature Min T <sub>s(min)</sub> Temperature Max T <sub>s(max)</sub> Time(T <sub>smin</sub> to T <sub>smax</sub> )	150°C 200°C 60-120 sec
Peak Temperature(T <sub>p</sub> )	250°C
Time within 5 °C of actual Peak Temperature(T <sub>p</sub> )	5 sec
Melting tin time(T <sub>L</sub> )	20sec~40sec
Ramp-down Rate	6°C/sec Max
Time 25°C to peak Temperature	8minutes Max



回流焊接参考温度 Recommend Reflow profile

## 12. 包装 / Packaging

12.1 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.

12.2 包装数量 / Packing Quantity

每 1000pcs 一卷/Every 1000 PCS for 1 roll

每盒 1 卷/Each box 1 volume

附件 I: 安规证书和 SGS 证书 / Appendix I: Safety approval certificates and SGS approval