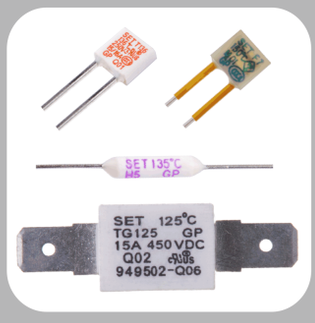
SET® fuse

设计、制造、销售电路保护元器件

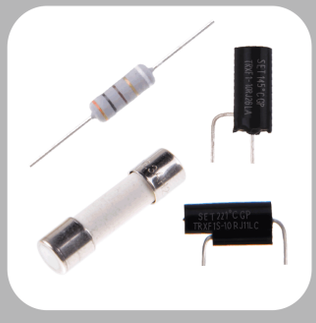
Design, Manufacture, Market Circuit Protection Components



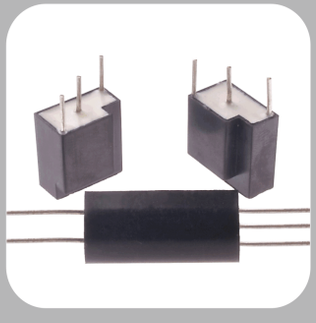
过温 Over Temperature

过压 Over Voltage

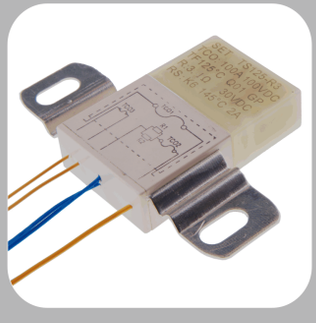
5



过流 Over Current



组合 Multiple



主动 Active

公 司 简 介

赛尔特电有限公司（以下简称 SETfuse）是一家设计、制造电路保护元器件与提供电路综合保护解决方案的公司，致力于创新的过温保护、过电流保护、过电压保护、主动保护、组合保护的技术研究，帮助客户提高其产品的安全指数。

SETfuse 为工业、消费电子、新能源和高可靠性市场开发、制造、销售产品。提供业界领先的温度保险丝（TCO）、压敏电阻（MOV）、热保护型压敏电阻（TFMOV）、电涌保护器（SPD）、线绕熔断电阻器（RXF）、热保护型熔断电阻器（TRXF）、电流保险丝（FUSE）、主动熔断器(iTCO)，以及适配器保护单元（PUA）等产品。

产品与品质

SETfuse 拥有 17 年创新的历史并获得多项专利。突破性的创新设计、工艺，自动化生产，让我们的产品在业界处于领先地位。我们拥有美国 UL 授权的 UL 1449，UL 60691 标准目击测试实验室（WTDP），专业的测试设备和完备的质量（ISO9001）、环境（ISO14001）、职业健康安全（OHSAS18000）管理体系，产品满足 RoHS、REACH 要求，取得 CCC、UL、 CUL、VDE、TUV、PSE、KTL 安规认证。严苛的品质管控方法，成就了 SETfuse 值得信赖的高品质产品。

企业责任

SETfuse 的产品销往全球市场。我们深知这意味着我们有更多的社会责任。我们提供安全的工作场所与环境，并确保遵守法规。

客户关系

SETfuse 的产品在电路保护领域发挥着举足轻重的作用，我们致力于创建和维护卓越的客户关系。从产品设计、制造到专业的客户服务和支持，我们知道什么对您很重要。

关于赛尔特电子有限公司的更多信息，我们真诚的感谢您访问公司网站：www.SETfuse.com。

Company Profile

SETfuse is a company which is engaged in Designing and Manufacturing Circuit Protection Components and Providing Integrated Circuit Protection Solutions. SETfuse is specialized in the innovative protection fields of Over Temperature Protection, Over Current Protection, Over Voltage Protection, Active Protection and Multiple Protection, helping customers to improve the safety index of their products.

SETfuse Develops, Manufactures and Sells the products to the High Reliability markets of Industry, Electronic, New Energy and so on. It offers industry-leading Thermal-link (TCO), Metal Oxide Varistor (MOV), Thermal Fuse & MOV(TFMOV), Surge Protection Device (SPD), Wirewound Fusing Resistor (RXF), Thermal-link & Fusing Resistor (TRXF), Current Fuse (Fuse), Ideal Thermal Fuse (iTCO) and Protective Unit for Adaptor (PUA).

Product and Quality

SETfuse has 17 years innovative history and obtains a lot of patents. Breakthrough Innovation Design, Manufacturing Process and Automatic production put our products in a leading position in the industry. SETfuse has set up the UL authorized Lab under UL 1449 Standard and the Witness Test Data Program (WTDP) Lab under UL 60691 Standard. Professional Testing Equipment and perfect Quality (ISO9001), Environment (ISO14001), Occupational Health and Safety (OHSAS18000) management system make the products comply with RoHS and REACH. SETfuse's products are component-recognized in China as well as internationally by organizations such as CCC, UL, CUL, VDE, TUV, PSE and KTL. The stringent quality control method ensures the products with High Quality and Reliability.

Corporate Responsibility

SETfuse sells products all over the world. This means that we have more social responsbility. We offer and guarantee safe workplace and environment, to comply with laws and regulations.

Customer Relations

SETfuse's products are very important in the circuit protection field, we are committed to set up and maintain the excellent customer relations.

For more information about SETfuse, Welcome to our website: www.SETfuse.com

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Registered Trademarks

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Xiamen SET Electronics Co., Ltd.

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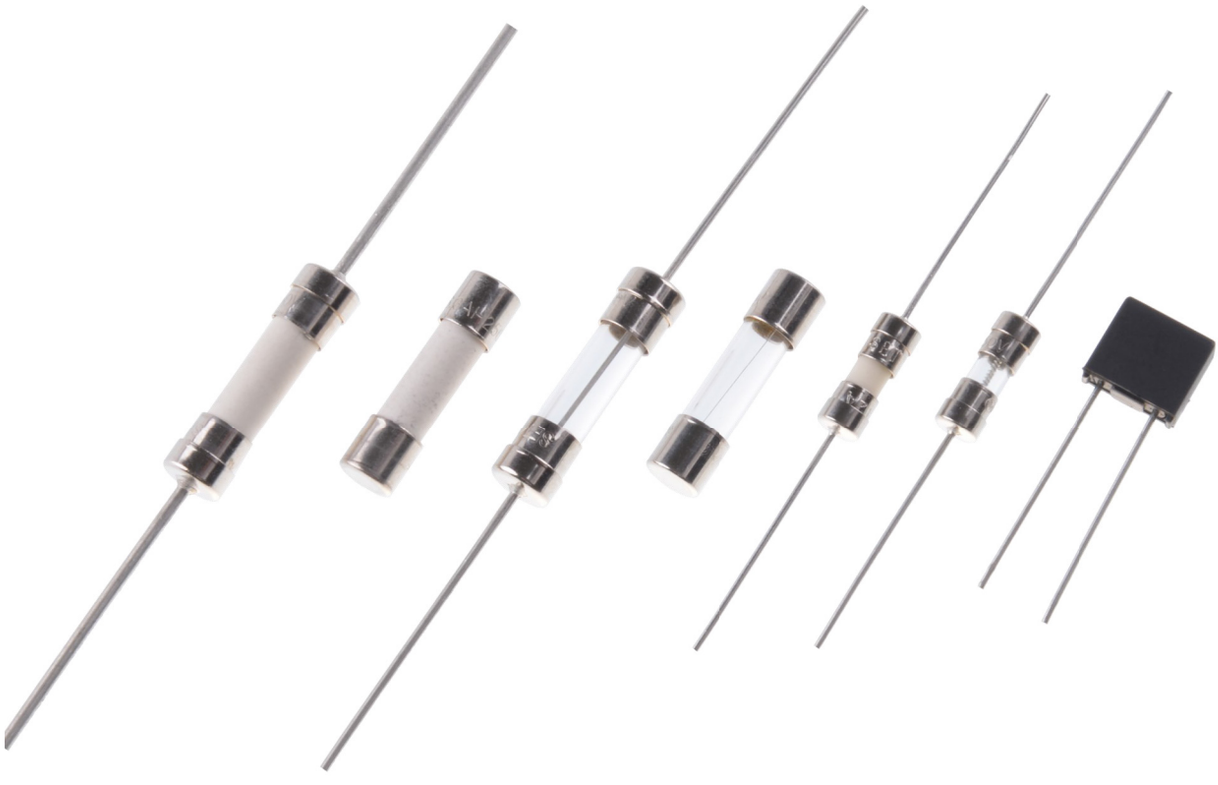
专注
Focus

专业
Professional



产品特点 FEATURES AND BENEFITS

• 陶瓷管和玻璃管	CERAMIC AND GLASS TUBE
• 快断与慢断	FAST ACTING AND TIME LAG
• 额定电流：(0.2 - 20) A	RATED CURRENT: (0.2 - 20) A
• 额定电压：125 Vac, 250 Vac	RATED VOLTAGE:125 Vac, 250 Vac
• 低分断与高分断	LOW AND HIGH BREAKING CAPACITY
• 外形尺寸：Φ5 × 20 mm, Φ3.6 × 10 mm, 4 × 7 × 8 mm	PHYSICAL DIMENSIONS: Φ5 × 20 mm, Φ3.6 × 10 mm, 4 × 7 × 8 mm
• 环保型产品	RoHS & REACH COMPLIANT

电流保险丝特征与型号概览

Fuse Feature & Model List Overview

额定电流 Rated Current	P338	P340	P342	P344	P346	P348	P350	P352	P354
20A	SGF520-20A	SGT520-20A	SCF520-20A	SCT520-20A					
16A	SGF520-16A	SGT520-16A	SCF520-16A	SCT520-16A					
15A	SGF520-15A	SGT520-15A	SCF520-15A	SCT520-15A					
12.5A	SGF520-12.5A	SGT520-12.5A	SCF520-12.5A	SCT520-12.5A					
12A	SGF520-12A	SGT520-12A	SCF520-12A	SCT520-12A					
10A	SGF520-10A	SGT520-10A	SCF520-10A	SCT520-10A		SGTU3610-10A		SCTU3610-10A	SPT478-10A
8A	SGF520-8A	SGT520-8A	SCF520-8A	SCT520-8A		SGTU3610-8A		SCTU3610-8A	SPT478-8A
6.3A	SGF520-6.3A	SGT520-6.3A	SCF520-6.3A	SCT520-6.3A	SGFU3610-6.3A	SGTU3610-6.3A	SCFU3610-6.3A	SCTU3610-6.3A	SPT478-6.3A
5A	SGF520-5A	SGT520-5A	SCF520-5A	SCT520-5A	SGFU3610-5A	SGTU3610-5A	SCFU3610-5A	SCTU3610-5A	SPT478-5A
4A	SGF520-4A	SGT520-4A	SCF520-4A	SCT520-4A	SGFU3610-4A	SGTU3610-4A	SCFU3610-4A	SCTU3610-4A	SPT478-4A
3.15A	SGF520-3.15A	SGT520-3.15A	SCF520-3.15A	SCT520-3.15A	SGFU3610-3.15A	SGTU3610-3.15A	SCFU3610-3.15A	SCTU3610-3.15A	SPT478-3.15A
2.5A	SGF520-2.5A	SGT520-2.5A	SCF520-2.5A	SCT520-2.5A	SGFU3610-2.5A	SGTU3610-2.5A	SCFU3610-2.5A	SCTU3610-2.5A	SPT478-2.5A
2A	SGF520-2A	SGT520-2A	SCF520-2A	SCT520-2A	SGFU3610-2A	SGTU3610-2A	SCFU3610-2A	SCTU3610-2A	SPT478-2A
1.6A	SGF520-1.6A	SGT520-1.6A	SCF520-1.6A	SCT520-1.6A	SGFU3610-1.6A	SGTU3610-1.6A	SCFU3610-1.6A	SCTU3610-1.6A	SPT478-1.6A
1.25A	SGF5201.25A	SGT520-1.25A	SCF5201.25A	SCT520-1.25A	SGFU3610-1.25A	SGTU3610-1.25A	SCFU3610-1.25A	SCTU3610-1.25A	SPT478-1.25A
1A	SGF520-1A	SGT520-1A	SCF520-1A	SCT520-1A	SGFU3610-1A	SGTU3610-1A	SCFU3610-1A	SCTU3610-1A	SPT478-1A
800mA	SGF520-800mA	SGT520-800mA	SCF520-800mA	SCT520-800mA	SGFU3610-800mA	SGTU3610-800mA	SCFU3610-800mA	SCTU3610-800mA	SPT478-800mA
630mA	SGF520-630mA	SGT520-630mA	SCF520-630mA	SCT520-630mA	SGFU3610-630mA	SGTU3610-630mA	SCFU3610-630mA	SCTU3610-630mA	SPT478-630mA
500mA	SGF520-500mA	SGT520-500mA	SCF520-500mA	SCT520-500mA	SGFU3610-500mA	SGTU3610-500mA	SCFU3610-500mA	SCTU3610-500mA	SPT478-500mA
400mA	SGF520-400mA	SGT520-400mA	SCF520-400mA	SCT520-400mA	SGFU3610-400mA	SGTU3610-400mA	SCFU3610-400mA	SCTU3610-400mA	SPT478-400mA
315mA	SGF520-315mA	SGT520-315mA	SCF520-315mA	SCT520-315mA	SGFU3610-315mA	SGTU3610-315mA	SCFU3610-315mA	SCTU3610-315mA	SPT478-315mA
250mA	SGF520-250mA	SGT520-250mA	SCF520-250mA	SCT520-250mA	SGFU3610-250mA	SGTU3610-250mA	SCFU3610-250mA	SCTU3610-250mA	SPT478-250mA
200mA	SGF520-200mA	SGT520-200mA	SCF520-200mA	SCT520-200mA	SGFU3610-200mA	SGTU3610-200mA	SCFU3610-200mA	SCTU3610-200mA	SPT478-200mA
时间特性 **Time Feature**	快断 **Fast Acting**	慢断 **Time Lag**	快断 **Fast Acting**	慢断 **Time Lag**	快断 **Fast Acting**	慢断 **Time Lag**	快断 **Fast Acting**	慢断 **Time Lag**	慢断 **Time Lag**
管身材质 **Tube Material**	玻璃 **Glass**		陶瓷 **Ceramic**		玻璃 **Glass**		陶瓷 **Ceramic**		塑料 **Plastic Case**
标准 **Standards**	**IEC**				**UL**				**IEC**
分断能力 **Breaking Capacity**	**35A~200A** 低 **Low**		**500A~1500A** 高 **High**		**35A~100A** 低 **Low**				
外形尺寸 **Physical Size (mm)**	**Φ5 X 20**				**Φ3.6 X 10**				**4 X 7 X 8**

特性 Feature

型号 Model NO.

产品简介 Product Description

电流保险丝(Fuse)是指在过电流的情况下断开电路的一种保护装置，它串联在电路中，一般要求电阻小（功耗小），当电路正常工作时，它相当于一根导线，能够长时间稳定地导通电路；由于电源或外部干扰而发生电流波动时，也应能承受一定范围的过载；只有当电路中出现较大的过载电流（故障或短路）时，电流保险丝才会动作，通过切断电流来保护电路的安全。

赛尔特公司的电流保险丝广泛应用于各种电子电器设备的过电流保护。其具有响应速度快、体积小的特点。当电路出现故障电流升高时，能迅速彻底地断开电路。额定电流涵盖200 mA - 20 A，安规认证包括UL、CUL、VDE、PSE、CCC、CQC、KC，同时满足RoHS、REACH等环保要求。

Fuse is a Over Current Protection device, which is designed in series with the protected device in the circuit. Its resistance is very low, when in normal circuit, it acts as a conductor that can be conducting longly and steady. When current fluctuation happens because of power system or other interference, it can withstand kind of overload. Only when fault current happens, fuse can blow fast to protect the circuit.

SET company's fuse is widely used in all kinds of electrical equipment. It responses Fast and the Size is Compact. Its rated current ranges from 200mA to 20A. It complies with RoHS and REACH and is approved by UL, CUL, VDE, PSE, CCC, CQC, KC.

Fuse

术语 Glossary

保险丝 Fuse

一种装置，当通过该装置的电流超过规定值，并持续足够的时间，该装置中一个或多个经特殊设计、特殊配比的部件熔断，断开其所接入的电路，从而切断电流。 —(GB 9364)

Device that, by the fusing of one or more of its specialy designed and proportioned components, opens the circuit in which it is inserted by breaking the current when this exceeds a given value for a sufficient time.

—(IEC 60127)

速断型保险丝 Fast Acting Fuse

在过载和短路时能很快断开电路的一类保险丝。这类保险丝无法承受一些超载浪涌电流。UL认证或认可的速断型保险丝，通常在额定电流的200%到250%倍时，会在5秒内断开。

IEC标准有两类速断型保险丝：

A fuse which opens on overload and short circuits very quickly. This type of fuse is not designed to withstand temporary overload currents associated with some electrical load. UL listed or recognized fast acting fuses would typically open within 5 s when subjected to 200% to 250% of its rated current. IEC has two categories of fast acting fuses：

- F表示快速动作，10倍额定电流时，能在1 ms到10 ms之间断开。

  F=Fast acting, opens on 10X rated current within 0.001 s to 0.01 s.
- FF表示非常快速动作, 10倍额定电流时，能在1 ms以内断开。

  FF=Very fast acting, opens on 10X rated current within less than 0.001 s.

—(UL 248)

延时型保险丝 Time Lag Fuse

内置时间延迟，允许暂时的、无害的浪涌电流通过而不动作，设计时应断开持续过载和短路电流的时间应该是：UL认证或认可的延时型保险丝在200%到250%倍额定电流下，在2分钟内断开。IEC标准有两种延时型保险丝：

A fuse with a built-in delay that allows temporary and harmless inrush currents to pass without operating, but is so designed to open on sustained overloads and short circuits. UL listed or recognized time delay fuses typically open in 2 minutes Max. when subjected to 200% to 250% of rated current. IEC has two categories of time delay fuses:

- T表示延时，10倍额定电流时，能在10 ms到300 ms之间断开。

  T=Time Lag, opens on 10X rated current within 0. 01 s to 0. 3 s.
- TT表示长延时，10倍额定电流时，能在0.1 s到1 s之间断开。

  TT=Long time Lag, opens on 10X rated current within 0. 1 s to 1 s.

—(UL 248)

额定电流 Rated Current

保险丝的额定电流是根据其可控制测试条件的截流能力确定的。每个保险丝上都应标上额定电流。它可以是数字、字母、或色码。

The rated current of a fuse identifies its current-carrying capacity based on a controllable set of test conditions. Each fuse is marked with its rated current. This rating can be identified with a numeric, alpha, or color code mark.

—(IEC 60127)

额定电压 Rated Voltage

保险丝可以使用的最大安全开断电压，超过额定电压将影响断开过载和短路电路的能力。

A Max. open circuit voltage in which a fuse can be used, yet safely interrupt an overcurrent. Exceeding the voltage rating of a fuse impairs its ability to clear an overload or short circuit safely.

—(IEC 60127)

有效电流 RMS Current

将一个直流电流和一个非直流电流分别通入两个相同的电阻器件，如果在相同时间内它们产生的热量相等，那么就把直流电流的值作为非直流电流的有效值。称为有效电流。

The R.M.S. (root mean square) value of any periodic current is equal to the value of the direct current ,which flowing through a resistance, produces the same heating effect in the resistance as the periodic current does.

—(IEC 60127)

正常工作电流 Normal Operating Current

正常条件下接通电路后，电路中流过的电流被称为正常工作电流。在25 ◦C的条件下，正常工作电流应小于等于80%的额定电流。例如，额定电流为1 A的保险丝不推荐在大于800 mA的电路中使用。如果环境温度较高，则需进一步降级使用。

The normal operating current of a circuit is the level of current drawn (in RMS or dc amperes) after it has been energized and is operating under normal conditions. An operating current of 80% or less of rated current is recommended for operation at 25 ◦C to avoid nuisance openings. For example, a fuse with a Rated Current of 1 A is usually not recommended in circuits with normal operating currents of more than 800 mA. Further derating is required at elevated ambient Temp..

—(UL 248)

标称熔化热能 Ampere Squared Seconds I^2t

电流平方对给定时间间隔的积分，被称为I^2t。它是熔断所需的热能。熔断I^2t可以是熔化I^2t，飞弧I^2t，或二者之和。

The melting, arcing, or clearing integral of a fuse, termed I^2t, is the thermal energy required to melt, arc, or clear a specific current. It can be expressed as melting I^2t, arcing I^2t or the sum of them, clearing I^2t.

—(IEC 60127)

过载 Overload

电流超过额定负荷的2到5倍，且保持正常的电流路径。

Can be classified as an overcurrent which exceeds the normal full load current of a circuit by 2 to 5 times its magnitude and stays within the normal current path.

—(UL 248)

过电流 Overcurrent

在一个电路中，超过正常负载电流的电流称为过电流。过电流包括过载电流和短路电流。

A condition which exists in an electrical circuit when the normal load current is exceeded. Overcurrents take on two separate characteristics-overloads and short circuits.

—(UL 248)

短路 Short Circuit

短路是电流不流过正常电路而引起的过电流，它大大超出了正常满载电流数十、数百甚至数千倍。

An overcurrent that leaves the normal current path and greatly exceeds the normal full load current of the circuit by a factor of tens, hundreds, or thousands times.

—(UL 248)

飞弧时间 Arcing Time

从出现电弧的瞬间到最终电弧熄灭的瞬间所间隔的时间。

The amount of time from the instant the fuse link has melted until the overcurrent is interrupted, or cleared.

—(IEC 60127)

熔断时间 Clearing Time

熔化时间和飞弧时间之和。

The total time between the beginning of the overcurrent and the final opening of the circuit at rated voltage by an overcurrent protective device. Clearing time is the total of the melting time and the arcing time.

—(IEC 60127)

分断能力 Breaking Capacity of a Fuse-link

在规定的使用和性能条件下，熔断器在规定电压下能分断的预期电流值（对交流为有效值）。

Value（r. m. s. for ac) of prospective current that a fuse-link is capable of breaking at a stated voltage under prescribed conditions of use and behaviour.

—(IEC 60127)

Fuse

选择过电流保护 Selecting Overcurrent Protection

在正常负载条件下，保险丝必须在电路中正常工作。然而，当过电流时保险丝必须断开电流和承受内部电弧。

During normal load conditions, the fuse must carry the normal operating current of the circuit without nuisance openings. However, when an overcurrent occurs the fuse must interrupt the overcurrent and withstand the voltage across the fuse after internal arcing.

正确选择保险丝必须考虑以下项目：

To properly select a fuse the following items must be considered:

- 额定电压（交流或直流） Rated Voltage (AC or DC Voltage)
- 额定电流 Rated Current
- 正常工作电流 Normal Operating Current
- 环境温度 Ambient Temp.
- 过载条件和熔断时间 Overload conditions and Opening Time
- 短路电流 Available Short Circuit Current
- 熔化热能值 Ampere squared seconds(I^2t)
- 脉冲和浪涌特性 Pulse and In-rush Characteristics
- 被保护设备或部件的特性 Characteristics of equipment or components to be protected
- 安装空间和外形尺寸 Physical Size and Available Board Space
- 标准要求 Standards Requirements

选型流程 Selection Process

步骤 Procedure	解释 Expound
开始 Start	准备相关设计信息 Prepare related design information
安规认证 Safety Approval	根据整机所需的安规认证决定保险丝的安规认证，在此，可初步确定选用IEC规格或UL规格保险丝 The safety approvals required for fuse shall be upon to the end product. It is determined initially IEC standard or UL standard
尺寸 Dimensions	● 设计时电路中空间的限制 The space limit of circuit in design ● 安装方式 Mounting mode
额定电压 Rated Voltage	额定电压应大于等于有效的电路电压 The Rated Voltage of the fuse shall be greater than, or equal to the available circuit voltage
分断能力 Breaking Capacity	分断能力的电流应大于电器中的最大故障电流 The interrupting rating of the fuse should exceed the Max. Fault Current of the circuit

初步选择型号 Initial Selection For Fuse Type	整机开关机时电器中是否存在起动电流，起动电流在某些电路中是正常的，这种场合应使用慢断型或中等慢断型保险丝。 Does there exist “starting current” in a circuit when the end product turns on or off? The “starting current” is normal for some circuit and requires the time-lag fuse or medium time-lag fuse.
确定额定电流上限I_U Upper Limit For Rated Current I_U	保险丝必须切断的电流及持续时间（该条件由设计人员依具体电路的保护需求而定），参考相应型号的时间电流曲线，取满足要求的最大额定电流作为上限值I_U。 The overload current and lasting time in which a fuse must function (It may be specified on the specific protection needs of circuit by a design engineer.). Referring to the Time-Current curve, the Max. Rated Current which meet the requirement would be taken as the upper limit for Rated Current I_U.
确定额定电流下限 I_L Lower Limit For Rated Current I_L	● 通过保险丝的稳态电流（依具体电路而定）。 Steady state current through a fuse (based on the specific circuit). ● IEC规格及UL规格保险丝的额定电流的差别，参考“稳态电流”。 The difference of Rated Current for fuse designed to IEC standard and UL standard, refer to STEADY STATE CURRENT. ● 环境温度对保险丝承载能力的影响，参考“环境温度”。 Effect of ambient Temp. on current-carrying capacity of fuse, refer to AMBIENT TEMP.. ● 脉冲（冲击电流、浪涌电流、起动电流、及电流瞬变值等）对保险丝寿命的影响，参考“脉冲”。 Effect of pulse (including surge currents, starting current, in-rush currents and transients) on life time of fuse, refer to PULSE. ● 起动电流及持续时间与相应型号的时间电流曲线比较。 “Starting current” and duration should be compared to Time-Current curve of relevant fuse. 综合考虑以上5个因素后，选出满足要求的最小额定电流作为下限I_L。 According to the above 5 factors, the Min. Rated Current which meets the requirement will be as the lower limit of I_L.
SET Fuse具体型号及电流 SET Fuse Model & Rated Current	综合考虑以上因素后，选出最合适的型号及额定电流。 According to the above factors, choose the most appropriate model and rated current. ● 当$I_U \geq I_L$时，则可选用I_L到I_U区间内的任何一规格的保险丝。 When $I_U \geq I_L$, any rating is available from the range of I_L to I_U. ● 当$I_U < I_L$时，则建议选用其它型号的保险丝。 When $I_U < I_L$, recommend to select another type fuse.
验证 Proving	样品应在实际电路中试运行。 The sample shall be trial-operation in the actual circuit.
完成 End	

Fuse

稳态电流 Steady State Current

在实际应用中和实验室之间有不同的条件，如：

There exist the different conditions between the actual appliance and test conditions, such as:

- 有时使用保险丝盒；
  Fuse-holder;
- 电路中的电线横截面积；
  Connecting cable size;
- 保险丝夹的接触电阻等。
  Contacting resistance between fuse clip and fuse, etc.

考虑到以上因素，故在25 ℃条件下所选用的保险丝应满足如下条件才可使得保险丝持续可靠地工作：

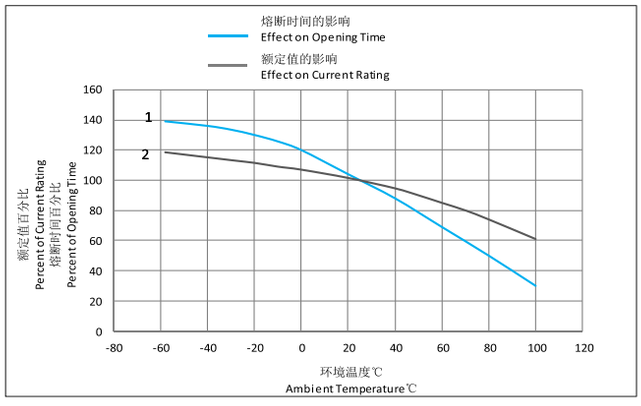
The above factors should be taken into consideration when selecting a fuse at a 25 ℃ ambient Temp.. To ensure the fuse operating continuously and properly, the following conditions shall be required:

- IEC规格：保险丝的额定电流I_N=稳态电流/0.9。
  Fuse designed to IEC standard: Rated Current (I_N) =steady state current of circuit/0.9.
- UL规格：保险丝的额定电流I_N=稳态电流/0.75。
  Fuse designed to UL standard: Rated Current (I_N) =steady state current of circuit/0.75.

环境温度 Ambient Temp.

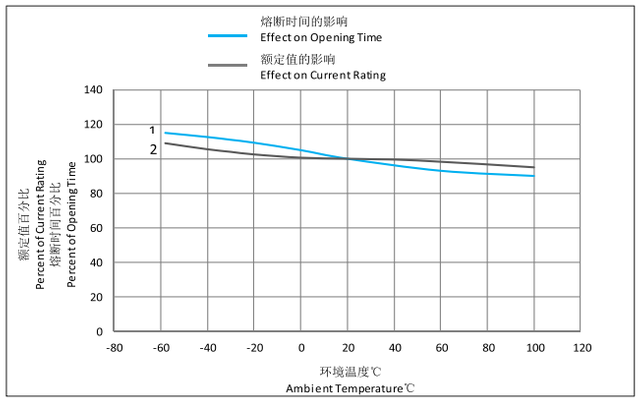
保险丝的电流承载能力测试是在环境温度25 ℃条件下进行的，而保险丝的电流承载能力是会受环境温度影响的。环境温度越高，保险丝的寿命越短，承载能力就越低。所以选用保险丝时应考虑保险丝周边的环境温度，环境温度对各类保险丝承载能力的影响如下图所示：

The current carrying capacity tests of a fuse are performed at 25 ℃ and will be effected by the changes of the ambient Temp.. The higher the ambient Temp. is, the shorter the fuse life time will be, and the lower the current carrying capacity will be. So the ambient Temp. shall be considered for proper fuse selection. Refer to the following charts showing its effect on the current carrying capacity of all kinds of fuse:



(1)表示环境温度对传统慢断及中等慢断型保险丝承载能力及$5I_N$熔断时间的影响。

Effect on rating and opening time in $5I_N$ of traditional time-lag and medium time Lag fuse.



(2)表示环境温度对快速熔断型保险丝承载能力及$5I_N$熔断时间的影响。

Effect on rating and opening time in $5I_N$ of fast acting fuse.

脉冲 Pulse

脉冲产生的热循环，从而产生机械疲劳影响保险丝的寿命。设计时应使脉冲I^2t远远小于保险丝标称熔化热能I^2t。保险丝寿命（可承受的脉冲循环次数）与U（脉冲I^2t值与保险丝I^2t值之比率）的关系参照表A。表B提供各种典型脉冲波形的I^2t值近似计算公式：

Pulse produces thermal cycling and mechanical fatigue which could affect the life time of fuse. The selected fuse should have an I^2t value much greater than the I^2t value of pulse. Refer to Table A showing the relationship between the life time of fuse(the endurable times of pulse shock) and U (ratio between pulse I^2t value and fuse I^2t value). The I^2t value of a fuse presented in this catalog may be for your reference. The I^2t value of a pulse can be approximated from the following formulas for a typical wave shape, refer to Table B.

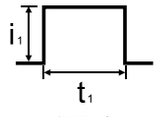
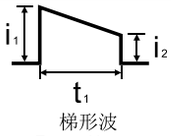
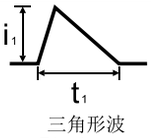
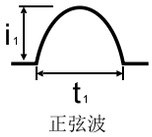
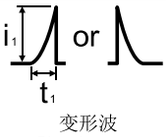
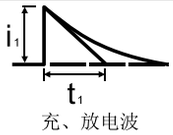
Fuse

可承受脉冲次数 Endurable times of pulse shock	U（比率Ratio）
100000	20%
10000	30%
1000	40%

注：脉冲间隔时间必须足够长（5到10秒），以利于脉冲产生的热量散失。

Adequate interval(5 - 10 s) must be required between pulse events to allow the heat from the previous event to dissipate.

表Table A

波形 Wave Shape	 矩形波 Rectangle wave	 梯形波 Trapezoid wave	 三角形波 Triangle wave	 正弦波 Sine wave	 变形波 Distortion wave	 充、放电波 Charge or Discharge wave
I^2t计算公式 I^2t Formula	$i_1^2t_1$	$(1/3)(i_1^2+i_1i_2+i_2^2)t_1$	$(1/3)i_1^2t_1$	$(1/2)i_1^2t_1$	$(1/5)i_1^2t_1$	$(1/2)i_1^2t_1$

表Table B

验证 Proving

所选定的产品必须在实际被保护电路中进行测试，以验证所选择的保险丝。此验证应包括正常条件及故障条件下的测试，以确保所选择的保险丝在被保护电路中能正常运行。

The selected sample should be tested in the actual circuit to verify the right selection. The testing should include the tests under normal and fault conditions to ensure that the fuse will operate properly in the circuit.

Fuse

注意事项 ATTENTION

检测 Inspection

电阻测试 Cold Resistance Test

a. 环境温度为(25±2) ℃，测试电流不大于保险丝额定电流的10%。

Applied current shall be less than 10% of rated current, at ambient Temp. of (25±2) ℃.

b. 采用四端测试法（4-Wire) Resistance Measurement.

使用 Usage

a. 通电情况下请勿直接触碰电流保险丝本体或引线，防止烫伤或触电。

Do not touch the fuse body or lead wire when power on, avoiding scald or electric shock.

b. 气压在80 kPa 到106 kPa，对应海拔为+2000 m至- 500 m。

Air pressure is 80 kPa to 106 kPa. These values represent an altitude of +2000 m to -500 m, respectively.

更换 Replace

基于安全原因，电流保险丝是不可修复的产品，替换时应使用同类别同型号的产品。

For safety reasons, the Fuse is the non-resettable product, please insure that the alternative Fuse is the same type when replace it.

贮存 Storage

电流保险丝的贮存应避免高温、高湿、日光直射和腐蚀性气体的场合，以免影响引脚可焊性，产品购入后请于1年内使用完毕。

Please store the Fuse without high temperature, high humidity or corrosive gas. To avoid reducing the solderability of the lead wire, please use them up within 1 year after receiving the goods.

安装 Installation

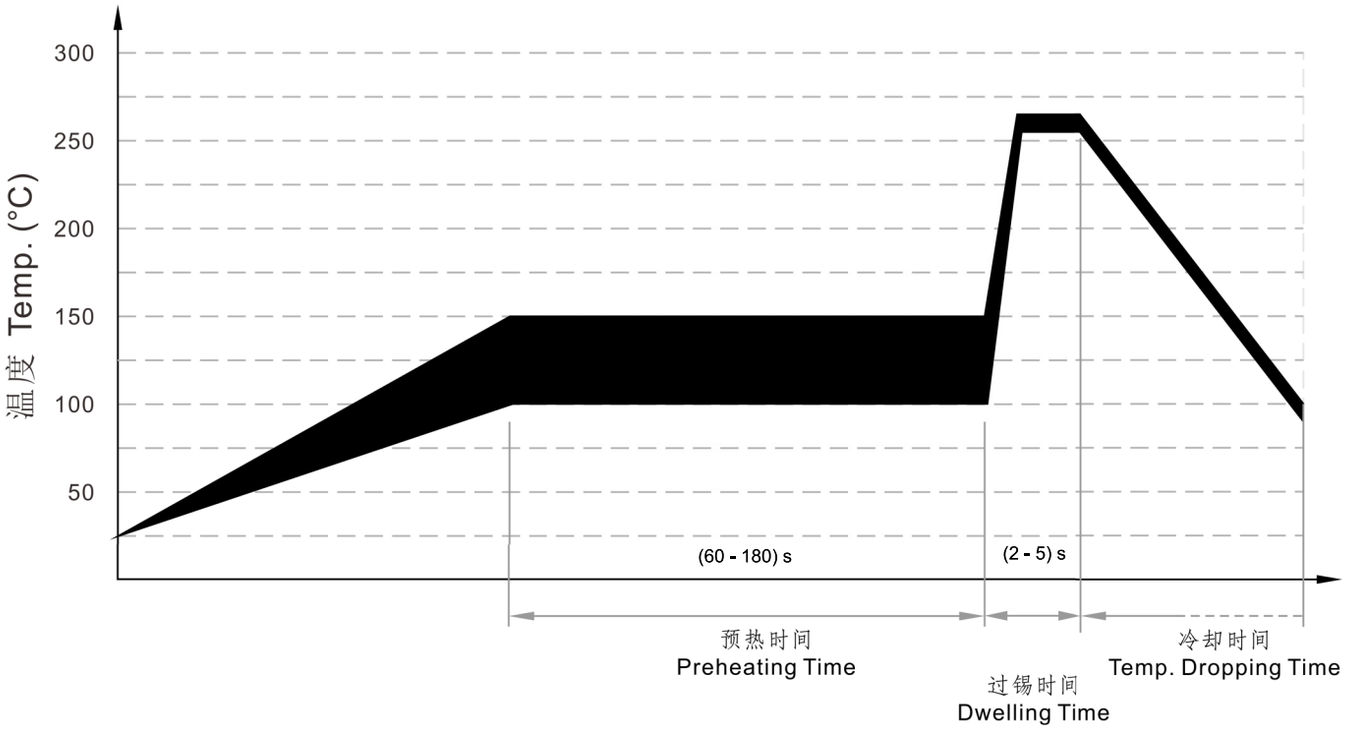
机械应力 Mechanical stress

安装过程和安装后不宜对保险丝本体施加机械应力。

Do not apply mechanical stress to the fuse body during or after the installation.

焊接参数 Soldering Parameters

波峰焊参数 Wave soldering Parameters（供参考 Reference）



项目 Item	温度 Temp. （°C）	时间 Time （s）
预热 Preheating	100 - 150	60 - 180
过锡 Dwelling	260±5	2 - 5

推荐的手工焊参数 Recommended Hand-solder Parameters

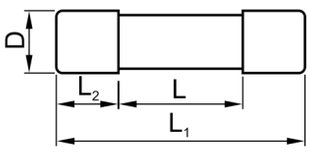
烙铁温度 Solder Iron Temp.：(350 ± 5) °C

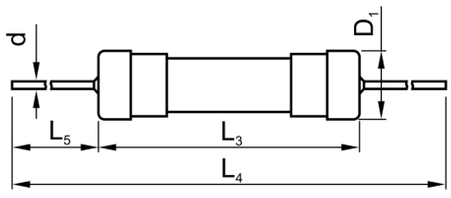
加热时间 Heating Time：≤5 s

安装位置 Installation Position

勿将电流保险丝安装在可能经常出现剧烈振动的位置。

Do not install the fuse on an assembly that may often subject to severe continuous vibration.





尺寸 Dimensions (mm)

L	L_1	L_2	L_3	L_4	L_5	D	D_1	d
10±2	20.0±0.5	$5.00^{+0.25}_{0}$	21±1	97±2	38±2	$\Phi5.00^{+0.25}_{0}$	Φ5.5±0.2	≤6.3A：Φ0.65±0.05 >6.3A - 10A：Φ0.80±0.05 >10A：Φ1.20±0.05

关键特性 Key Features

- 外形尺寸：Φ5 mm × 20 mm
  Φ5 mm × 20 mm Physical Size
- 快断
  Fast Acting
- 低分断能力
  Low-breaking Capacity
- 玻璃管，镀镍黄铜帽结构
  Glass tube, Nickel-plated Brass Endcap Construction
- 执行标准：IEC 60127-2/规格单2.GB 9364-2/规格单2
  Designed to IEC 60127-2/Sheet2.GB 9364-2/Sheet2
- 环保型产品 RoHS & REACH Compliant

应用领域 Applications

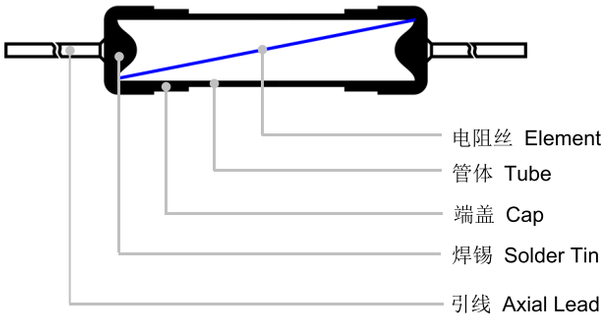
- 打印机 Printers
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

型号说明 Part Number System

S G F 520–1A–L

- 带引线 Axial Lead
- 额定电流 Rated Current
- 尺寸 Dimensions
- 快断 Fast Acting
- 玻璃管 Glass Tube
- 公司代码 Company Code

结构图 Structure Diagrams

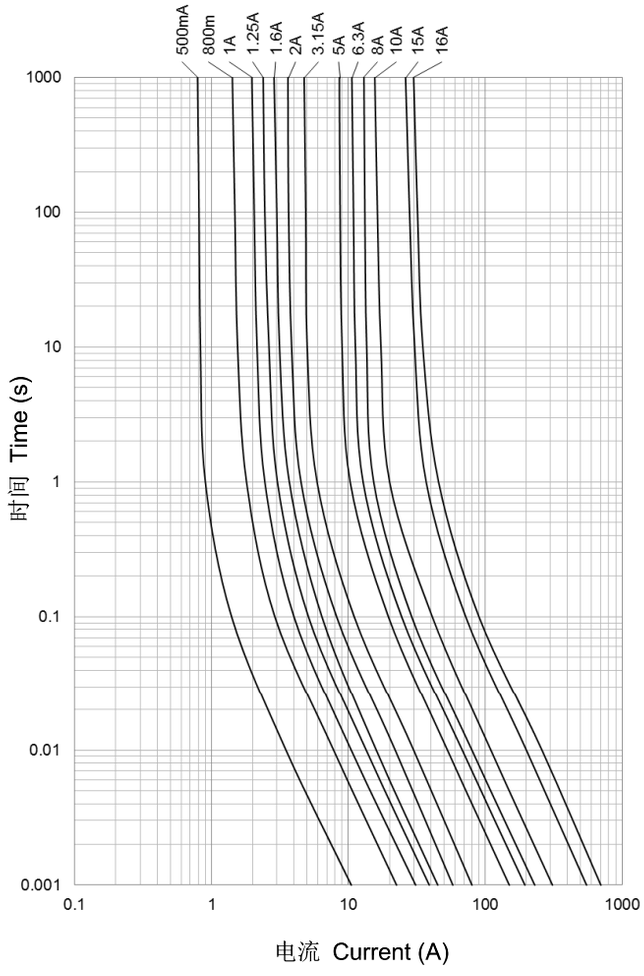


安规认证 Agency Approvals

- CCC：(1 - 6.3) A：2011010207516066
- CQC：(8 - 10) A：CQC11012065997
  带引线 Axial Leads (1 - 10) A：CQC11012065997
- VDE：(1 - 10) A：40033351
- KC：(1 - 2) A：SU05023-11007；(3.15 - 6.3) A：SU05023-11008；(8 - 10) A：SU05023-11009
- PSE：(1 - 5) A：PSE11020385；(6.3 - 10) A：PSE11020386 带引线 Axial Leads (1 - 5) A：PSE11020387；(6.3 - 10) A：PSE11020388
- UL / CUL：(1 - 10) A：E345932

时间电流特性曲线 Time Current Curve

仅供参考 Reference



技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Rated Breaking Capacity	冷电阻 Typical DC Cold Resistance[a]	最大压降 Max. Voltage Drop[b]	熔化热能值 Typical Melting I^2t	安规认证 Agency Approvals						环境状态 Environmental Status	
							CCC	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
		(Vac)	(A)	(mΩ)	(mV)	(A^2Sec)	CCC	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
SGF520-500mA	500 mA	250	35		1000		○	○	○	○	○	○	●	●
SGF520-630mA	630 mA	250	35		650		○	○	○	○	○	○	●	●
SGF520-800mA	800 mA	250	35		240		○	○	○	○	○	○	●	●
SGF520-1A	1 A	250	35	95.00	200	1.50	●		●	●	●	●	●	●
SGF520-1.25A	1.25 A	250	35	80.00	200	2.59	●		●	●	●	●	●	●
SGF520-1.6A	1.6 A	250	35	60.00	190	4.25	●		●	●	●	●	●	●
SGF520-2A	2 A	250	35	50.00	170	6.24	●		●	●	●	●	●	●
SGF520-3.15A	3.15 A	250	35	32.00	150	8.93	●		●	●	●	●	●	●
SGF520-5A	5 A	250	50	19.00	130	36.00	●		●	●	●	●	●	●
SGF520-6.3A	6.3 A	250	63	15.00	130	46.04	●		●	●	●	●	●	●
SGF520-8A	8 A	250	80	12.00	130	69.12		●	●	●	●	●	●	●
SGF520-10A	10 A	250	100	9.00	130	144.00		●	●	●	●	●	●	●
SGF520-12A	12 A	250	120		110			○	○	○	○	○	●	●
SGF520-12.5A	12.5 A	250	125		100			○	○	○	○	○	●	●
SGF520-15A	15 A	250	150		100	585.00		○	○	○	○	○	●	●
SGF520-16A	16 A	250	160		100	715.35		○	○	○	○	○	●	●
SGF520-20A	20 A	250	200		100	945.78		○	○	○	○	○	●	●

○-认证申请中 On-going.

[a]-冷电阻需在＜10%额定电流下测试 DC Cold Resistance (Measured at <10% of rated current).

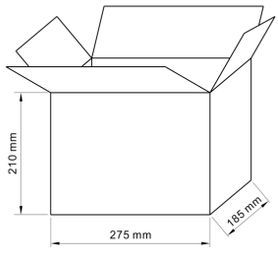
[b]-最大压降（环境温度20 °C时，在额定电流下测得）Max. Voltage Drop (voltage drop was measured at 20 °C ambient temp. at rated current).

熔断特性 Pre-arcing Time/Current Characteristic

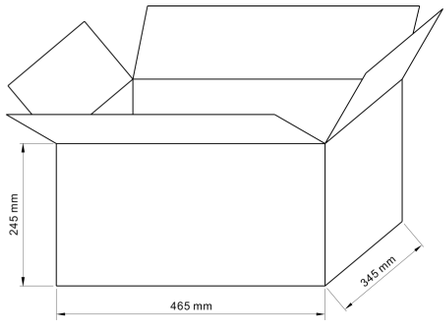
额定电流 Rated Current	2.1I_N	2.75I_N		4I_N		10I_N
	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.	最大 Max.
(0.032 - 0.1) A	30 minutes	10 ms	500 ms	3 ms	100 ms	20 ms
(0.125 - 6.3) A	30 minutes	50 ms	2 s	10 ms	300 ms	20 ms
(8 - 10) A	30 minutes	50 ms	2 s	10 ms	400 ms	40 ms
(12 - 20) A	30 minutes	100 ms	6 s	20 ms	600 ms	60 ms

包装信息 Packaging Information

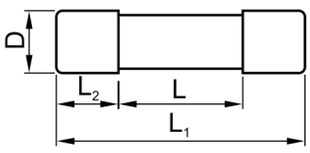
包装代码 Packaging Code	描述 Description
不带引线 Endcaps	10000 PCS/箱 Carton
带引线 Axial Leads	4000 PCS/箱 Carton

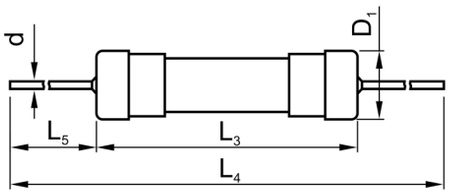


不带引线 Endcaps



带引线 Axial Leads





尺寸 Dimensions (mm)

L	L_1	L_2	L_3	L_4	L_5	D	D_1	d
10±2	20.0±0.5	$5.00^{+0.25}_{0}$	21±1	97±2	38±2	$\Phi5.00^{+0.25}_{0}$	Φ5.5±0.2	≤6.3A：Φ0.65±0.05 >6.3A - 10A：Φ0.80±0.05 >10A：Φ1.20±0.05

关键特性 Key Features

- 外形尺寸：Φ5 mm × 20 mm
  Φ5 mm × 20 mm Physical Size
- 慢断
  Time Lag
- 低分断能力
  Low-breaking Capacity
- 玻璃管，镀镍黄铜帽结构
  Glass tube, Nickel-plated Brass Endcap Construction
- 执行标准：IEC 60127-2/规格单3.GB 9364-2/规格单3
  Designed to IEC 60127-2/Sheet3.GB 9364-2/Sheet3
- 环保型产品 RoHS & REACH Compliant
- 打印机 Printers

应用领域 Applications

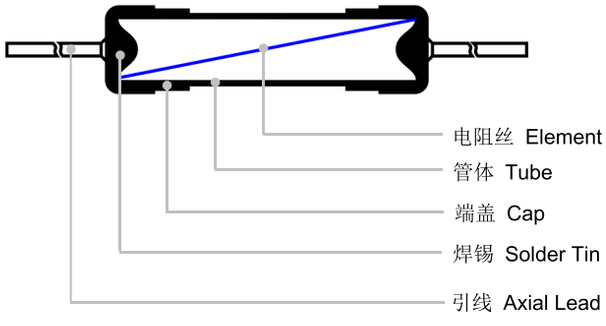
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

型号说明 Part Number System

S G T 520–1A–L

- 带引线 Axial Lead
- 额定电流 Rated Current
- 尺寸 Dimensions
- 快断 Fast Acting
- 玻璃管 Glass Tube
- 公司代码 Company Code

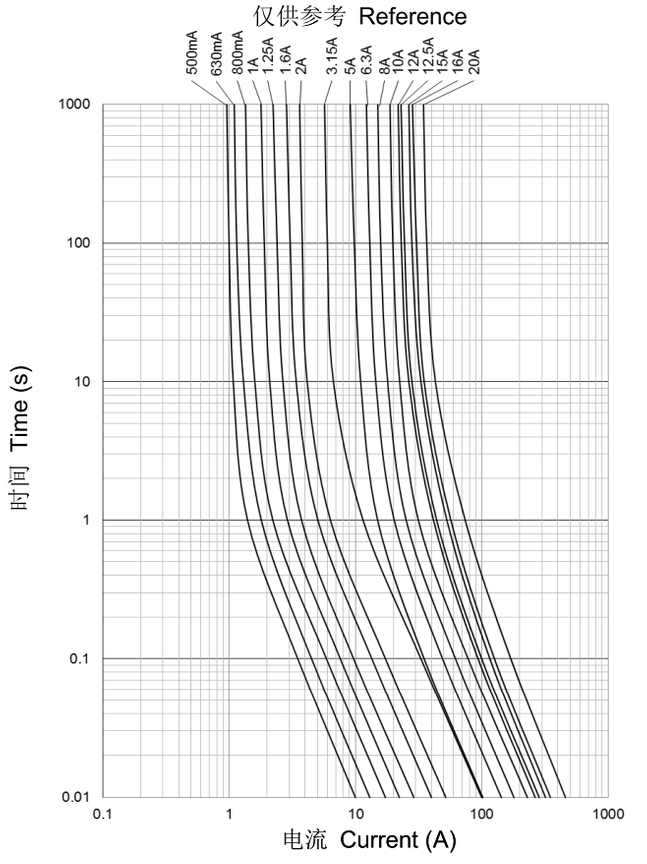
结构图 Structure Diagrams



安规认证 Agency Approvals

- CCC：(1 - 6.3) A：2011010207516067
- CQC：(8 - 10) A：CQC11012065996;
  (12.5 - 16) A：CQC14012113258
  带引线 Axial Leads (1 - 10) A：CQC11012065996;
  (12.5 - 16) A:CQC14012113258
- VDE：(1 - 10) A：40033355
- KC：(1 - 2)：SU05023-11006;(3.15 - 6.3) A:SU05023-11004；(8 - 10) A：SU05023-11005
  带引线 Axial Leads (1 - 2) A：SU05023-11006；
  (3.15 - 6.3) A：SU05023-11004；(8 - 10) A:SU05023-11005
- PSE：(1 - 5) A：PSE11020389; (6.3 - 10) A:PSE11020390
  (12 - 15) A：PSE14020785; (16 - 20):PSE14020786
  带引线 Axial Leads (1 - 5) A ：PSE11020391;
  (6.3 - 10) A:PSE11020392；(12 - 15) A：PSE14020785;
  (16 - 20) A:PSE14020786
- UL / CUL：(1 - 10) A：E345932

时间电流特性曲线 Time Current Curve



技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Rated Breaking Capacity	冷电阻 Typical DC Cold Resistance[a]	最大压降 Max. Voltage Drop[b]	熔化热能值 Typical Melting I^2t	安规认证 Agency Approvals						环境状态 Environmental Status	
							CCC	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
		(Vac)	(A)	(mΩ)	(mV)	(A^2Sec)	CCC	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
SGT520-500mA	500 mA	250	35	208.1	900	1.02	O		O	O	O	O	●	●
SGT520-630mA	630 mA	250	35	171.5	300	1.78	O		O	O	O	O	●	●
SGT520-800mA	800 mA	250	35	115.5	250	3.52	O		O	O	O	O	●	●
SGT520-1A	1 A	250	35	85.00	150	5.70	●		●	●	●	●	●	●
SGT520-1.25A	1.25 A	250	35	56.00	150	11.20	●		●	●	●	●	●	●
SGT520-1.6A	1.6 A	250	35	46.00	150	20.99	●		●	●	●	●	●	●
SGT520-2A	2 A	250	35	38.00	150	30.80	●		●	●	●	●	●	●
SGT520-3.15A	3.15 A	250	35	21.00	100	103.19	●		●	●	●	●	●	●
SGT520-5A	5 A	250	50	12.00	100	117.50	●		●	●	●	●	●	●
SGT520-6.3A	6.3 A	250	63	10.00	100	230.20	●		●	●	●	●	●	●
SGT520-8A	8 A	250	80	8.00	100	355.84		●	●	●	●	●	●	●
SGT520-10A	10 A	250	100	5.50	100	570.00		●	●	●	●	●	●	●
SGT520-12A	12 A	250	120	3.96	90	648.00		O	O	O	●	O	●	●
SGT520-12.5A	12.5 A	250	125	3.59	80	812.5		●	O	O	●	O	●	●
SGT520-15A	15 A	250	150	2.87	80	1350		O	O	O	●	O	●	●
SGT520-16A	16 A	250	160	2.58	80	1587		●	O	O	●	O	●	●
SGT520-20A	20 A	250	200	2.04	80	2480		O	O	O	●	O	●	●

○-认证申请中 On-going.

[a]-冷电阻需在＜10%额定电流下测试 DC Cold Resistance (Measured at <10% of rated current).

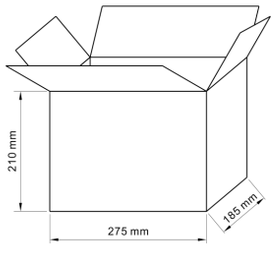
[b]-最大压降（环境温度20 °C时，在额定电流下测得）Max. Voltage Drop (voltage drop was measured at 20 °C ambient temp. at rated current).

熔断特性 Pre-arcing Time/Current Characteristic

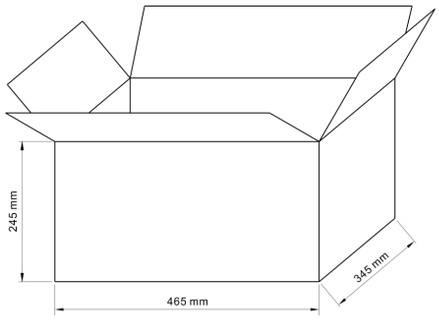
额定电流 Rated Current	$2.1I_N$	$2.75I_N$		$4I_N$		$10I_N$	
	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.
(0.2 - 6.3) A	2 minutes	600 ms	10 s	150 ms	3 s	20 ms	300 ms
(8 - 10) A	2 minutes	600 ms	10 s	150 ms	3 s	20 ms	300 ms
(12 - 20) A	2 minutes	600 ms	10 s	150 ms	3 s	20 ms	300 ms

包装信息 Packaging Information

包装代码 Packaging Code	描述 Description
不带引线 Endcaps	10000 PCS/箱 Carton
带引线 Axial Leads	4000 PCS/箱 Carton

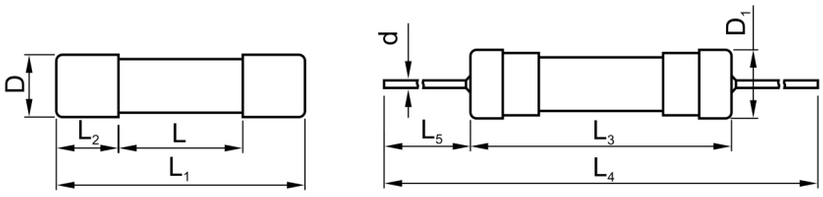


不带引线 Endcaps



带引线 Axial Leads

Fuse



尺寸 Dimensions (mm)

L	L_1	L_2	L_3	L_4	L_5	D	D_1	d
10±2	20.0±0.5	$5.00^{+0.25}_{0}$	21±1	97±2	38±2	$\Phi5.00^{+0.25}_{0}$	Φ5.5±0.2	≤6.3A：Φ0.65±0.05 >6.3A - 10A：Φ0.80±0.05 >10A：Φ1.20±0.05

关键特性 Key Features

- 外形尺寸Φ5 mm × 20 mm
  Φ5 mm × 20 mm Physical Size
- 快断
  Fast Acting
- 高分断能力
  High-breaking Capacity
- 陶瓷管，镀镍黄铜帽结构
  Ceramic tube, Nickel-plated Brass Endcap Construction
- 执行标准：IEC 60127-2/规格单1.GB 9364-2/规格单1
  Designed to IEC 60127-2/Sheet1.GB 9364-2/Sheet1
- 环保型产品 RoHS & REACH Compliant

应用领域 Applications

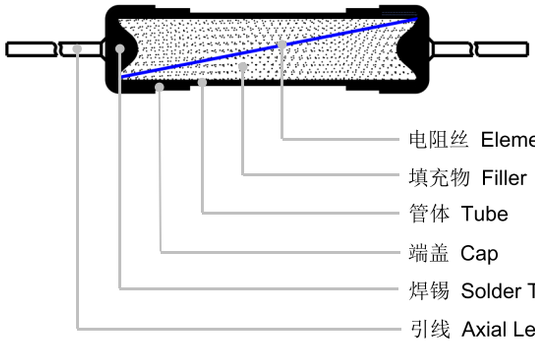
- 打印机 Printers
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

产品型号 Part Number System

S C F 520–1A–L

- 带引线 Axial Lead
- 额定电流 Rated Current
- 尺寸 Dimensions
- 快断 Fast Acting
- 陶瓷管 Ceramic Tube
- 公司代码 Company Code

结构图 Structure Diagrams

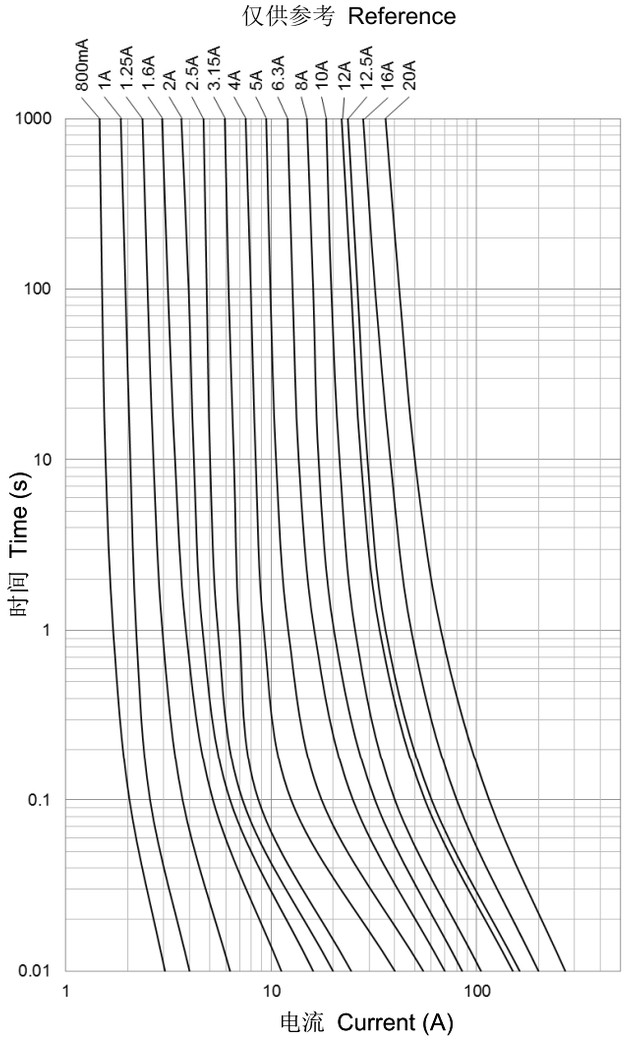


安规认证 Agency Approvals

- CCC:TBA
- CQC:TBA
- VDE:TBA
- KC:TBA
- PSE:TBA
- UL / CUL:TBA

时间电流特性曲线 Time Current Curve

仅供参考 Reference



技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Rated Breaking Capacity	最大压降 Max. Voltage Drop[a]	熔化 热能值 Typical Melting I^2t	安规认证 Agency Approvals						环境状态 Environmental Status	
						CCC	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
		(Vac)	(A)	(mV)	(A^2Sec)	CCC	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
SCF520-200mA	200 mA	250	1500	3500		O		O	O	O	O	●	●
SCF520-250mA	250 mA	250	1500	2800		O		O	O	O	O	●	●
SCF520-315mA	315 mA	250	1500	2500		O		O	O	O	O	●	●
SCF520-400mA	400 mA	250	1500	2000		O		O	O	O	O	●	●
SCF520-500mA	500 mA	250	1500	1800		O		O	O	O	O	●	●
SCF520-630mA	630 mA	250	1500	1500		O		O	O	O	O	●	●
SCF520-800mA	800 mA	250	1500	1200		O		O	O	O	O	●	●
SCF520-1A	1 A	250	1500	1000		O		O	O	O	O	●	●
SCF520-1.25A	1.25 A	250	1500	800		O		O	O	O	O	●	●
SCF520-1.6A	1.6 A	250	1500	600		O		O	O	O	O	●	●
SCF520-2A	2 A	250	1500	500		O		O	O	O	O	●	●
SCF520-2.5A	2.5 A	250	1500	400		O		O	O	O	O	●	●
SCF520-3.15A	3.15 A	250	1500	350		O		O	O	O	O	●	●
SCF520-4A	4 A	250	1500	300		O		O	O	O	O	●	●
SCF520-5A	5 A	250	1500	250		O		O	O	O	O	●	●
SCF520-6.3A	6.3 A	250	1500	200		O		O	O	O	O	●	●
SCF520-8A	8 A	250	1500	200			O	O	O	O	O	●	●
SCF520-10A	10 A	250	1500	200			O	O	O	O	O	●	●
SCF520-12A	12 A	250	1500	200				O	O	O	O	●	●
SCF520-12.5A	12.5 A	250	1500	180			O	O	O	O	O	●	●
SCF520-15A	15 A	250	600	180				O	O	O	O	●	●
SCF520-16A	16 A	250	600	180			O	O	O	O	O	●	●
SCF520-20A	20 A	250	500	150				O	O	O	O	●	●

○-认证申请中 On-going.

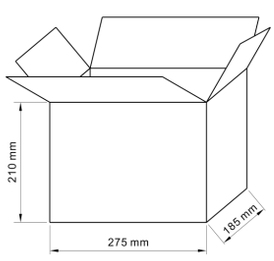
[a]-最大压降（环境温度20 °C时，在额定电流下测得）Max. Voltage Drop (voltage drop was measured at 20 °C ambient temp. at rated current).

熔断特性 Pre-arcing Time/Current Characteristic

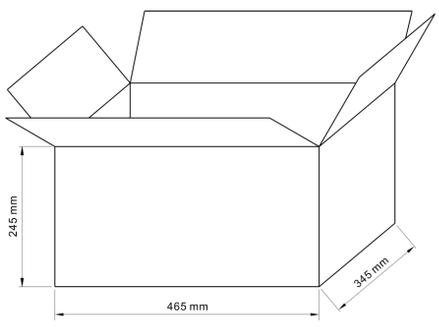
额定电流 Rated Current	$2.1I_N$	$2.75I_N$		$4I_N$		$10I_N$
	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.	最大 Max.
(0.2 - 4) A	30 minutes	10 ms	2 s	3 ms	300 ms	20 ms
(4 - 6.3) A	30 minutes	10 ms	3 s	3 ms	300 ms	20 ms
(8 - 10) A	30 minutes	40 ms	20 s	10 ms	1 s	30 ms
(12 - 20) A	30 minutes	40 ms	20 s	10 ms	1 s	40 ms

包装信息 Packaging Information

包装代码 Packaging Code	描述 Description
不带引线 Endcaps	10000 PCS/箱 Carton
带引线 Axial Leads	4000 PCS/箱 Carton

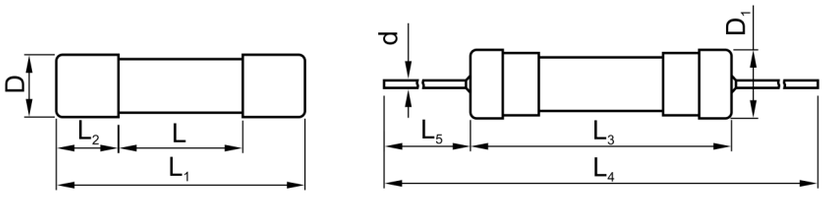


不带引线 Endcaps



带引线 Axial Leads

Fuse



尺寸 Dimensions (mm)

L	L_1	L_2	L_3	L_4	L_5	D	D_1	d
10±2	20.0±0.5	$5.00^{+0.25}_{0}$	21±1	97±2	38±2	$\Phi5.00^{+0.25}_{0}$	Φ5.5±0.2	≤6.3A：Φ0.65±0.05 >6.3A - 10A：Φ0.80±0.05 >10A：Φ1.20±0.05

关键特性 Key Features

- 外形尺寸Φ5 mm × 20 mm
  Φ5 mm × 20 mm Physical Size
- 慢断
  Time Lag
- 高分断能力
  High-breaking Capacity
- 陶瓷管，镀镍黄铜帽结构
  Ceramic tube, Nickel-plated Brass Endcap Construction
- 执行标准：IEC 60127-2/规格单5.GB 9364-2/规格单5
  Designed to IEC 60127-2/Sheet5.GB 9364-2/Sheet5
- 环保型产品 RoHS & REACH Compliant

应用领域 Applications

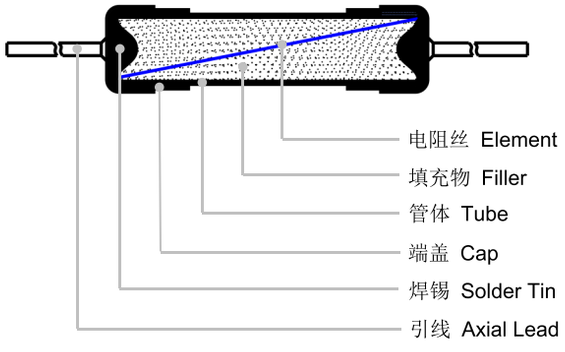
- 打印机 Printers
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

产品型号 Part Number System

S C T 520–1A–L

- 带引线 Axial Lead
- 额定电流 Rated Current
- 尺寸 Dimensions
- 快断 Fast Acting
- 陶瓷管 Ceramic Tube
- 公司代码 Company Code

结构图 Structure Diagrams

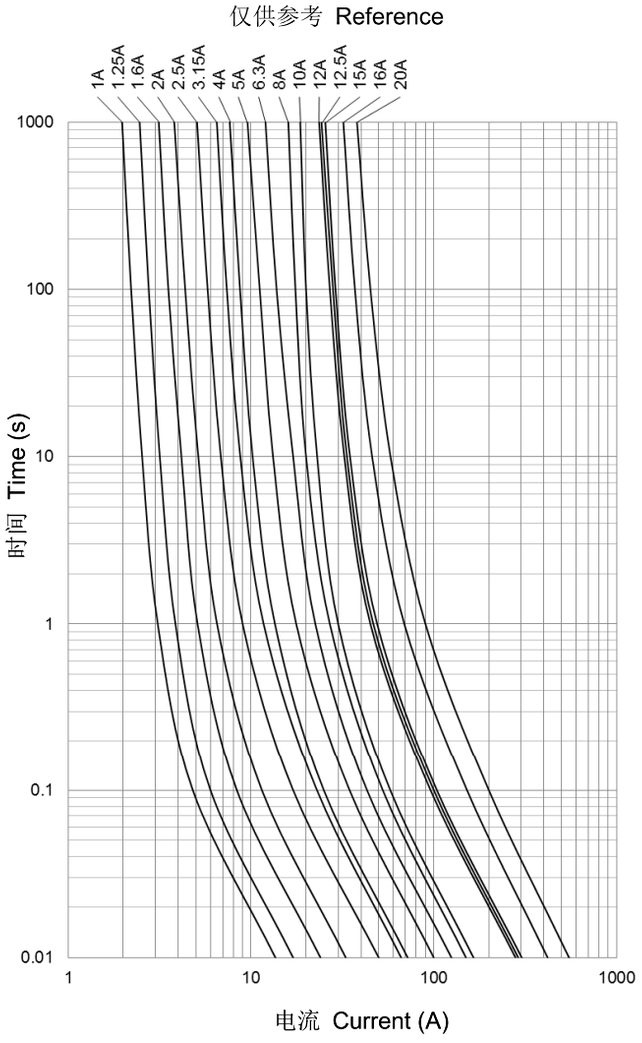


安规认证 Agency Approvals

- CCC:TBA
- CQC:TBA
- VDE:TBA
- KC:TBA
- PSE:TBA
- UL / CUL:TBA

时间电流特性曲线 Time Current Curve

仅供参考 Reference



技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Rated Breaking Capacity	最大压降 Max. Voltage Drop[a]	熔化热能值 Typical Melting I^2t	安规认证 Agency Approvals						环境状态 Environmental Status	
						CCC	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
		(Vac)	(A)	(mV)	(A^2Sec)	CCC	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
SCT520-200mA	200 mA	250	1500	2100		O		O	O	O	O	●	●
SCT520-250mA	250 mA	250	1500	1500		O		O	O	O	O	●	●
SCT520-315mA	315 mA	250	1500	1100		O		O	O	O	O	●	●
SCT520-400mA	400 mA	250	1500	1000		O		O	O	O	O	●	●
SCT520-500mA	500 mA	250	1500	850		O		O	O	O	O	●	●
SCT520-630mA	630 mA	250	1500	650		O		O	O	O	O	●	●
SCT520-800mA	800 mA	250	1500	500		O		O	O	O	O	●	●
SCT520-1A	1 A	250	1500	350		O		O	O	O	O	●	●
SCT520-1.25A	1.25 A	250	1500	300		O		O	O	O	O	●	●
SCT520-1.6A	1.6 A	250	1500	200		O		O	O	O	O	●	●
SCT520-2A	2 A	250	1500	190		O		O	O	O	O	●	●
SCT520-2.5A	2.5 A	250	1500	180		O		O	O	O	O	●	●
SCT520-3.15A	3.15 A	250	1500	140		O		O	O	O	O	●	●
SCT520-4A	4 A	250	1500	100		O		O	O	O	O	●	●
SCT520-5A	5 A	250	1500	100		O		O	O	O	O	●	●
SCT520-6.3A	6.3 A	250	1500	100		O		O	O	O	O	●	●
SCT520-8A	8 A	250	1500	100			O	O	O	O	O	●	●
SCT520-10A	10 A	250	1500	100			O	O	O	O	O	●	●
SCT520-12A	12 A	250	1500	100				O	O	O	O	●	●
SCT520-12.5A	12.5 A	250	1500	80			O	O	O	O	O	●	●
SCT520-15A	15 A	250	600	80				O	O	O	O	●	●
SCT520-16A	16 A	250	600	80			O	O	O	O	O	●	●
SCT520-20A	20 A	250	500	80				O	O	O	O	●	●

○-认证申请中 On-going.

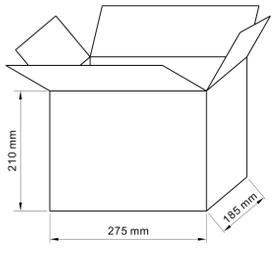
[a]-最大压降（环境温度20 °C时，在额定电流下测得）Max. Voltage Drop (voltage drop was measured at 20 °C ambient temp. at rated current).

熔断特性 Pre-arcing Time/Current Characteristic

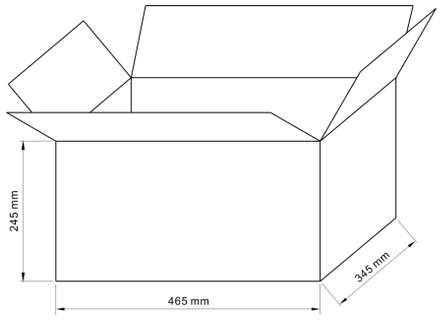
额定电流 Rated Current	$2.1I_N$	$2.75I_N$		$4I_N$		$10I_N$	
	最大 Max.	最小 Minimum	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.
(0.2 - 0.8) A	30 minutes	250 ms	80 s	50 ms	5 s	5 ms	150 ms
(0.8 - 3.15) A	30 minutes	750 ms	80 s	95 ms	5 s	10 ms	150 ms
(4 - 10) A	30 minutes	750 ms	80 s	150 ms	5 s	10 ms	150 ms
(12 - 20) A	/	750 ms	80 s	150 ms	8 s	10 ms	150 ms

包装信息 Packaging Information

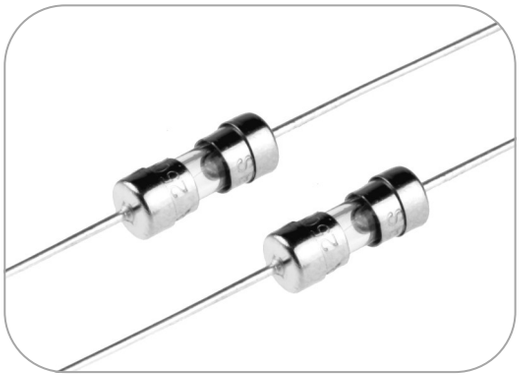
包装代码 Packaging Code	描述 Description
不带引线 Endcaps	10000 PCS/箱 Carton
带引线 Axial Leads	4000 PCS/箱 Carton

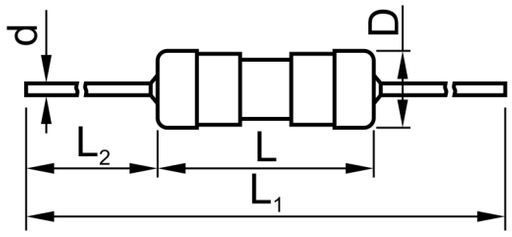


不带引线 Endcaps



带引线 Axial Leads





尺寸 Dimensions (mm)

L	L_1	L_2	D	d
11±1	71±2	30±1	Φ4.00±0.15	Φ0.60±0.05

关键特性 Key Features

- 外形尺寸Φ3.6 mm × 10 mm
  Φ3.6 mm × 10 mm Physical Size
- 快断
  Fast Acting
- 低分断能力
  Low-breaking Capacity
- 玻璃管，镀镍黄铜帽结构
  Glass tube, Nickel-plated Brass Endcap Construction
- 执行标准：UL 248-1、UL 248-14
  Designed to UL 248-1 & UL 248-14
- 环保型产品 RoHS & REACH Compliant

安规认证 Agency Approvals

- UL / CUL: (0.5 - 6.3) A: 20130304-E345932

应用领域 Applications

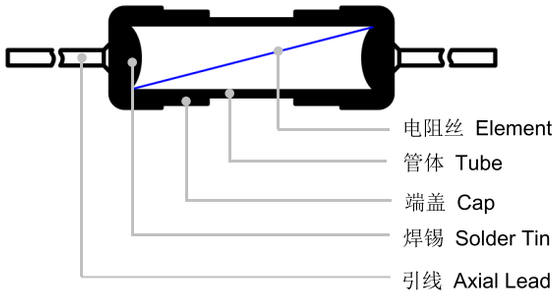
- 打印机 Printers
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

产品型号 Part Number System

S G F U 3610–1A–L

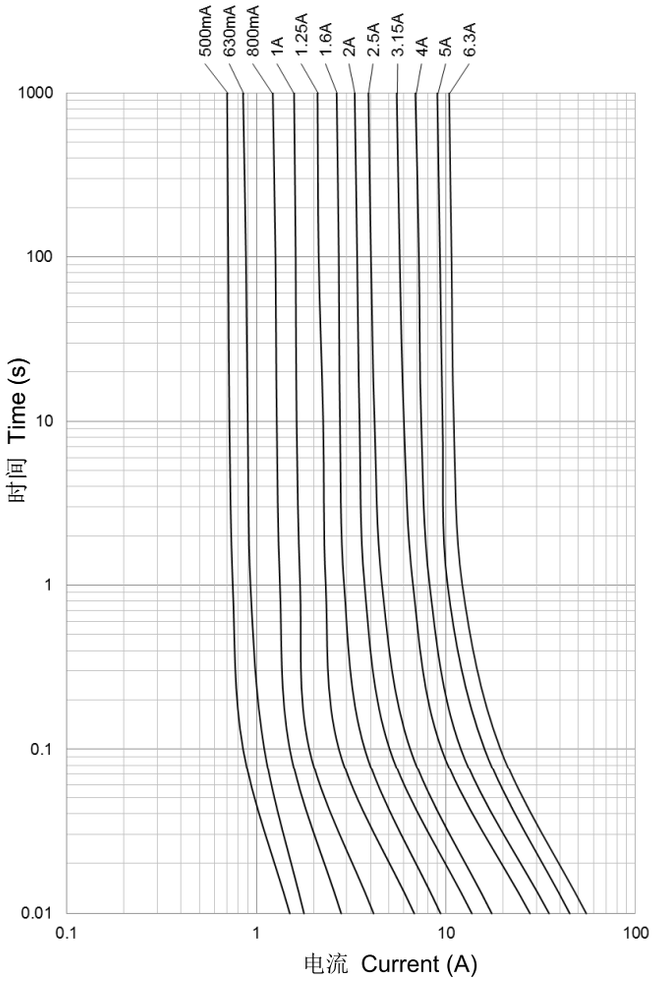
- 带引线 Axial Lead
- 额定电流 Rated Current
- 尺寸 Dimensions
- UL标准 UL Standard
- 快断 Fast Acting
- 玻璃管 Glass Tube
- 公司代码 Company Code

结构图 Structure Diagrams



时间电流特性曲线 Time Current Curve

仅供参考 Reference



技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Interrupting Rating (amps) at Rated Voltage (50Hz)	熔化热能值 Typical Melting I^2t	安规认证 Agency Approvals		环境状态 Environmental Status	
							RoHS	REACH
		(Vac)	(A)	(A²Sec)	UL	CUL	RoHS	REACH
SGFU3610-500mA-L	500 mA	250	50		●	●	●	●
SGFU3610-630mA-L	630 mA	250	50		●	●	●	●
SGFU3610-800mA-L	800 mA	250	50		●	●	●	●
SGFU3610-1A-L	1 A	250	50		●	●	●	●
SGFU3610-1.25A-L	1.25 A	250	50	0.468	●	●	●	●
SGFU3610-1.6A-L	1.6 A	250	50	0.896	●	●	●	●
SGFU3610-2A-L	2 A	250	50	1.80	●	●	●	●
SGFU3610-2.5A-L	2.5 A	250	50	3.12	●	●	●	●
SGFU3610-3.15A-L	3.15 A	250	50	7.44	●	●	●	●
SGFU3610-4A-L	4 A	250	50	11.2	●	●	●	●
SGFU3610-5A-L	5 A	250	50	22.5	●	●	●	●
SGFU3610-6.3A-L	6.3 A	250	50	33.7	●	●	●	●

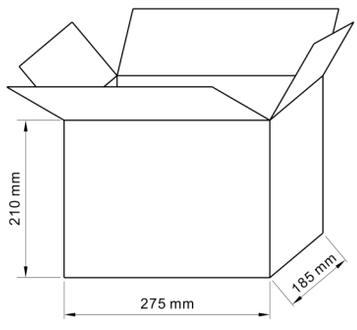
○-认证申请中 On-going.

熔断特性 Pre-arcing Time/Current Characteristic

额定电流 Rated Current	1.0I_N	2.0I_N
(0.5 - 6.3) A	最快4小时 4 hours Min.	最慢60秒 60 s Max.

包装信息 Packaging Information

包装代码 Packaging Code	描述 Description
带引线 Axial Leads	8000 PCS/箱 Carton



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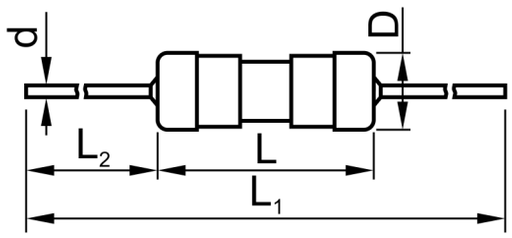


尺寸 Dimensions (mm)

L	L_1	L_2	D	d
11±1	71±2	30±1	Φ4.00±0.15	Φ0.60±0.05

关键特性 Key Features

- 外形尺寸Φ3.6 mm × 10 mm
  Φ3.6 mm × 10 mm Physical Size
- 慢断
  Time Lag
- 低分断能力
  Low-breaking Capacity
- 玻璃管，镀镍黄铜帽结构
  Glass tube, Nickel-plated Brass Endcap Construction
- 执行标准：UL 248-1、UL 248-14
  Designed to UL 248-1 & UL 248-14
- 环保型产品 RoHS & REACH Compliant

应用领域 Applications

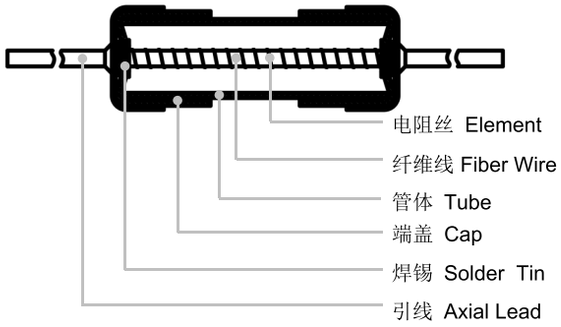
- 打印机 Printers
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

产品型号 Part Number System

S G T U 3610–1A–L

- 带引线 Axial Lead
- 额定电流 Rated Current
- 尺寸 Dimensions
- UL标准 UL Standard
- 慢断 Time Lag
- 玻璃管 Glass Tube
- 公司代码 Company Code

结构图 Structure Diagrams

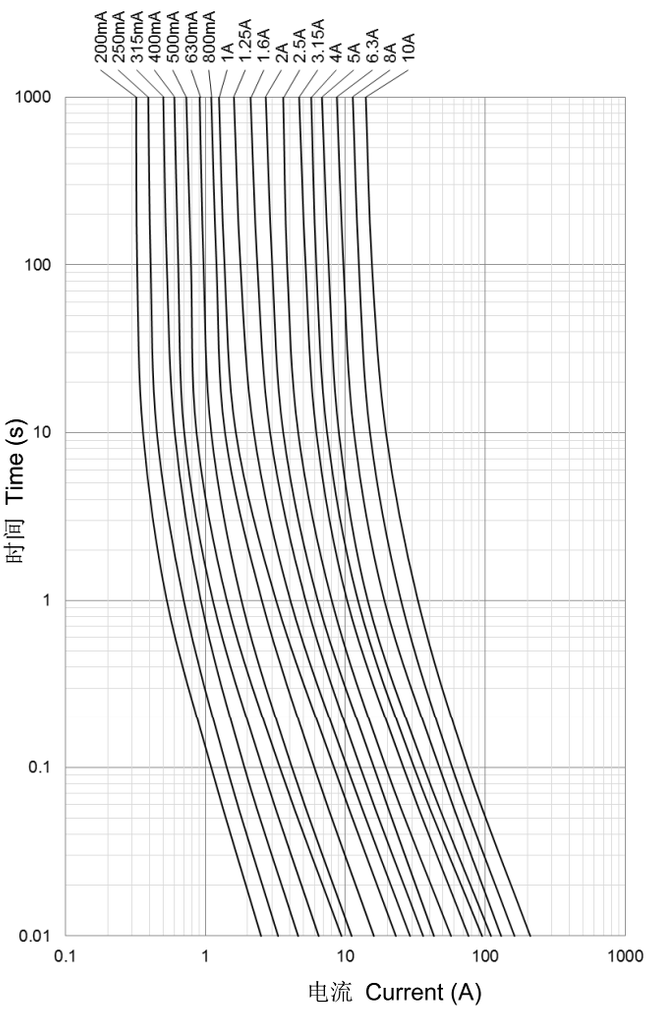


安规认证 Agency Approvals

- UL / CUL: (0.2 - 6.3) A: 20130304-E345932

时间电流特性曲线 Time Current Curve

仅供参考 Reference



技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Interrupting Rating (amps) at Rated Voltage (50Hz)	冷电阻 Typical DC Cold Resistance[a]	熔化热能值 Typical Melting I^2t	安规认证 Agency Approvals		环境状态 Environmental Status	
								RoHS	REACH
		(Vac)	(A)	(mΩ)	(A^2Sec)	UL	CUL	RoHS	REACH
SGTU3610-200mA-L	200 mA	250	50	1815	0.0840	●	●	●	●
SGTU3610-250mA-L	250 mA	250	50	1294	0.1937	●	●	●	●
SGTU3610-315mA-L	315 mA	250	50	812	0.3001	●	●	●	●
SGTU3610-400mA-L	400 mA	250	50	563	0.6240	●	●	●	●
SGTU3610-500mA-L	500 mA	250	50	410	1.087	●	●	●	●
SGTU3610-630mA-L	630 mA	250	50	263	1.521	●	●	●	●
SGTU3610-800mA-L	800 mA	250	50	217	5.216	●	●	●	●
SGTU3610-1A-L	1 A	250	50	162	10.08	●	●	●	●
SGTU3610-1.25A-L	1.25 A	250	50	110	15.31	●	●	●	●
SGTU3610-1.6A-L	1.6 A	250	50	82.8	26.43	●	●	●	●
SGTU3610-2A-L	2 A	250	50	57.7	39.12	●	●	●	●
SGTU3610-2.5A-L	2.5 A	250	50	38.6	41.88	●	●	●	●
SGTU3610-3.15A-L	3.15 A	250	50	36.3	115.6	●	●	●	●
SGTU3610-4A-L	4 A	250	50	30.9	204.8	●	●	●	●
SGTU3610-5A-L	5 A	250	50	15.3	130.5	●	●	●	●
SGTU3610-6.3A-L	6.3 A	250	50	15.0	238.1	●	●	●	●
SGTU3610-8A-L	8 A	250	50	7.87	377.6	O	O	●	●
SGTU3610-10A-L	10 A	250	50	5.95	596.6	O	O	●	●

○-认证申请中 On-going.

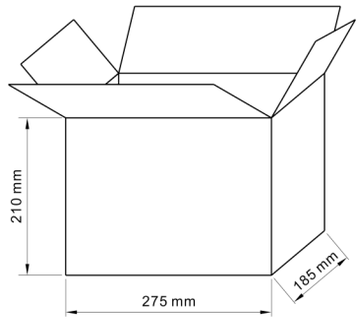
[a]-冷电阻需在＜10%额定电流下测试 DC Cold Resistance (Measured at <10% of rated current).

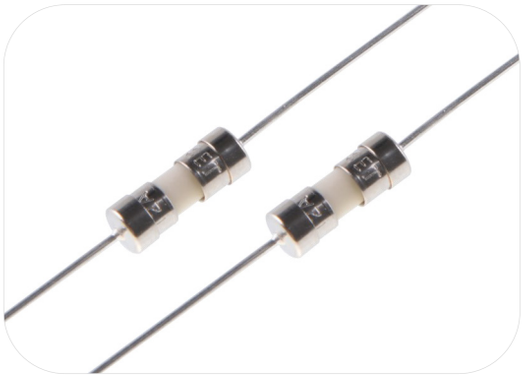
熔断特性 Pre-arcing Time/Current Characteristic

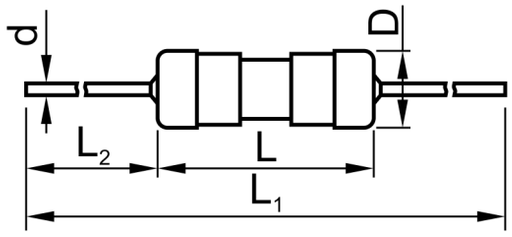
额定电流 Rated Current	$1.0I_N$	$2.0I_N$	$5.0I_N$		$10.0I_N$	
	最小 Min.	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.
(0.2 - 0.4) A	4 hours	60 s	100 ms	1.5 s	20 ms	200 ms
(0.5 - 10) A	4 hours	60 s	100 ms	1.5 s	30 ms	300 ms

包装信息 Packaging Information

包装代码 Packaging Code	描述 Description
带引线 Axial Leads	8000 PCS/箱 Carton







尺寸 Dimensions (mm)

L	L_1	L_2	D	d
11±1	71±2	30±1	Φ4.00±0.15	Φ0.60±0.05

关键特性 Key Features

- 外形尺寸Φ3.6 mm × 10 mm
  Φ3.6 mm × 10 mm Physical Size
- 快断
  Fast Acting
- 低分断能力
  Low-breaking capacity
- 陶瓷管，镀镍黄铜帽结构
  Ceramic tube, Nickel-plated Brass Endcap Construction
- 执行标准：UL 248-1、UL 248-14
  Designed to UL 248-1 & UL 248-14
- 环保型产品 RoHS & REACH Compliant

安规认证 Agency Approvals

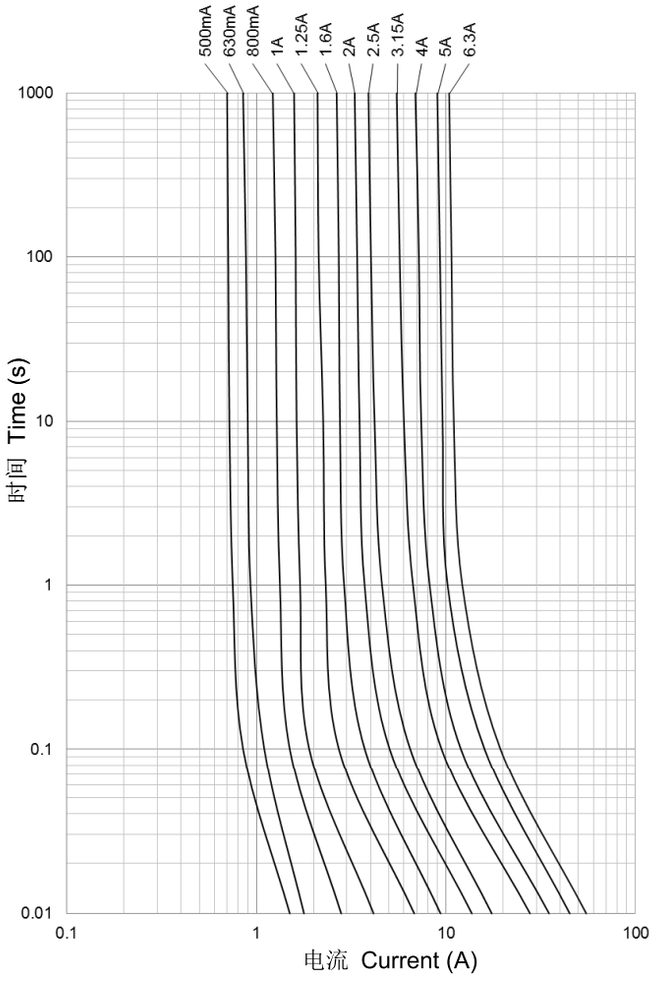
- UL:TBA

应用领域 Applications

- 打印机 Printers
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

时间电流特性曲线 Time Current Curve

仅供参考 Reference

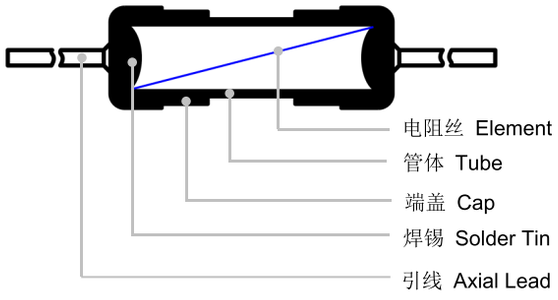


产品型号 Part Number System

S C F U 3610–1A–L

- 带引线 Axial Lead
- 额定电流 Rated Current
- 尺寸 Dimensions
- UL标准 UL Standard
- 快断 Fast Acting
- 陶瓷管 Ceramic Tube
- 公司代码 Company Code

结构图 Structure Diagrams



技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Interrupting Rating (amps) at Rated Voltage (50Hz)	熔化热能值 Typical Melting I^2t	安规认证 Agency Approvals		环境状态 Environmental Status	
							RoHS	REACH
		(Vac)	(A)	(A^2Sec)	UL	CUL	RoHS	REACH
SCFU3610-500mA-L	500 mA	250	50		O	O	●	●
SCFU3610-630mA-L	630 mA	250	50		O	O	●	●
SCFU3610-800mA-L	800 mA	250	50		O	O	●	●
SCFU3610-1A-L	1 A	250	50		O	O	●	●
SCFU3610-1.25A-L	1.25 A	250	50	0.468	O	O	●	●
SCFU3610-1.6A-L	1.6 A	250	50	0.896	O	O	●	●
SCFU3610-2A-L	2 A	250	50	1.80	O	O	●	●
SCFU3610-2.5A-L	2.5 A	250	50	3.12	O	O	●	●
SCFU3610-3.15A-L	3.15 A	250	50	7.44	O	O	●	●
SCFU3610-4A-L	4 A	250	50	11.2	O	O	●	●
SCFU3610-5A-L	5 A	250	50	22.5	O	O	●	●
SCFU3610-6.3A-L	6.3 A	250	50	33.7	O	O	●	●

○-认证申请中 On-going.

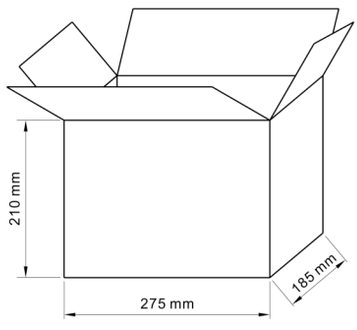
[a]-冷电阻需在＜10%额定电流下测试 DC Cold Resistance (Measured at <10% of rated current).

熔断特性 Pre-arcing Time/Current Characteristic

额定电流 Rated Current	1倍额定电流 $1.0I_N$	2倍额定电流 $2.0I_N$
(0.5 - 6.3) A	最快4小时 4 hours Min.	最慢60秒 60 s Max.

包装信息 Packaging Information

包装代码 Packaging Code	描述 Description
带引线 Axial Leads	8000 PCS/箱 Carton



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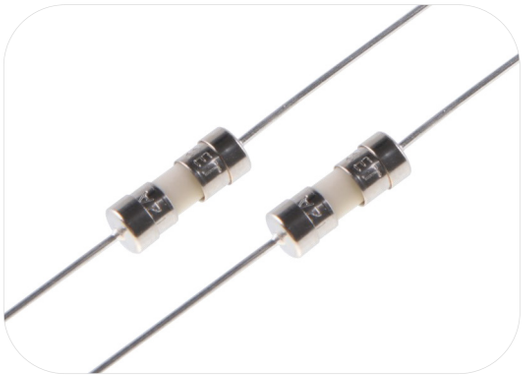
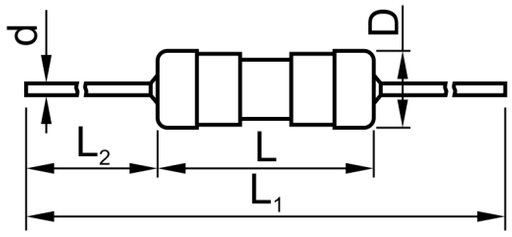




尺寸 Dimensions (mm)

L	L_1	L_2	D	d
11±1	71±2	30±1	Φ4.00±0.15	Φ0.60±0.05

关键特性 Key Features

- 外形尺寸Φ3.6 mm × 10 mm
  Φ3.6 mm × 10 mm Physical Size
- 慢断
  Time Lag
- 低分断能力
  Low-breaking Capacity
- 陶瓷管，镀镍黄铜帽结构
  Ceramic Tube, Nickel-plated Brass Endcap Construction
- 执行标准：UL 248-1、UL 248-14
  Designed to UL 248-1 & UL 248-14
- 环保型产品 RoHS & REACH Compliant

安规认证 Agency Approvals

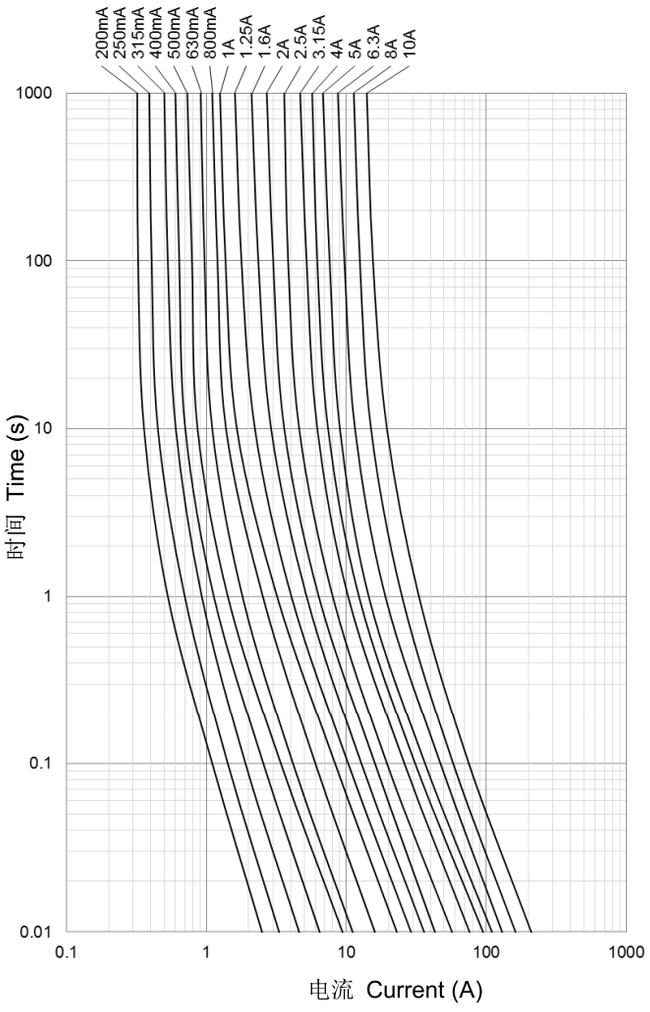
- UL:TBA

应用领域 Applications

- 打印机 Printers
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

时间电流特性曲线 Time Current Curve

仅供参考 Reference

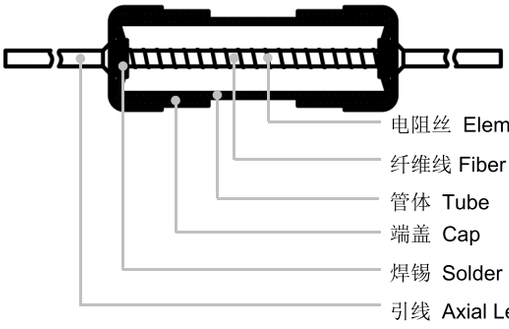


产品型号 Part Number System

S C T U 3610–1A–L

- 带引线 Axial Lead
- 额定电流 Rated Current
- 尺寸 Dimensions
- UL标准 UL Standard
- 慢断 Time Lag
- 陶瓷管 Ceramic Tube
- 公司代码 Company Code

结构图 Structure Diagrams



- 电阻丝 Element
- 纤维线 Fiber Wire
- 管体 Tube
- 端盖 Cap
- 焊锡 Solder Tin
- 引线 Axial Lead

技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Interrupting Rating (amps) at Rated Voltage (50Hz)	冷电阻 Typical DC Cold Resistance[a]	熔化热能值 Typical Melting I^2t	安规认证 Agency Approvals		环境状态 Environmental Status	
								RoHS	REACH
		(Vac)	(A)	(mΩ)	(A^2Sec)	UL	CUL	RoHS	REACH
SCTU3610-200mA-L	200 mA	250	50	1815	0.0840	O	O	●	●
SCTU3610-250mA-L	250 mA	250	50	1294	0.1937	O	O	●	●
SCTU3610-315mA-L	315 mA	250	50	812	0.3001	O	O	●	●
SCTU3610-400mA-L	400 mA	250	50	563	0.6240	O	O	●	●
SCTU3610-500mA-L	500 mA	250	50	410	1.087	O	O	●	●
SCTU3610-630mA-L	630 mA	250	50	263	1.521	O	O	●	●
SCTU3610-800mA-L	800 mA	250	50	217	5.216	O	O	●	●
SCTU3610-1A-L	1 A	250	50	162	10.08	O	O	●	●
SCTU3610-1.25A-L	1.25 A	250	50	110	15.31	O	O	●	●
SCTU3610-1.6A-L	1.6 A	250	50	82.8	26.43	O	O	●	●
SCTU3610-2A-L	2 A	250	50	57.7	39.12	O	O	●	●
SCTU3610-2.5A-L	2.5 A	250	50	38.6	41.88	O	O	●	●
SCTU3610-3.15A-L	3.15 A	250	50	36.3	115.6	O	O	●	●
SCTU3610-4A-L	4 A	250	50	30.9	204.8	O	O	●	●
SCTU3610-5A-L	5 A	250	50	15.3	130.5	O	O	●	●
SCTU3610-6.3A-L	6.3 A	250	50	15.0	238.1	O	O	●	●
SCTU3610-8A-L	8 A	250	50	7.87	377.6	O	O	●	●
SCTU3610-10A-L	10 A	250	50	5.95	596.6	O	O	●	●

○-认证申请中 On-going.

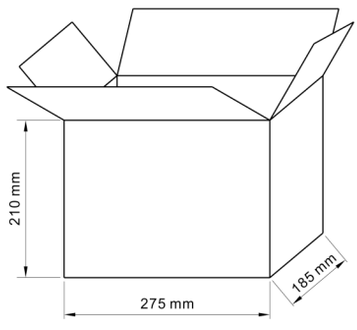
[a]-冷电阻需在＜10%额定电流下测试 DC Cold Resistance (Measured at <10% of rated current).

熔断特性 Pre-arcing Time/Current Characteristic

额定电流 Rated Current	$1.0I_N$	$2.0I_N$	$5.0I_N$		$10.0I_N$	
	最小 Min.	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.
(0.2 - 0.4) A	4 hours	60 s	100 ms	1.5 s	20 ms	200 ms
(0.5 - 10) A	4 hours	60 s	100 ms	1.5 s	30 ms	300 ms

包装信息 Packaging Information

包装代码 Packaging Code	描述 Description
带引线 Axial Leads	8000 PCS/箱 Carton



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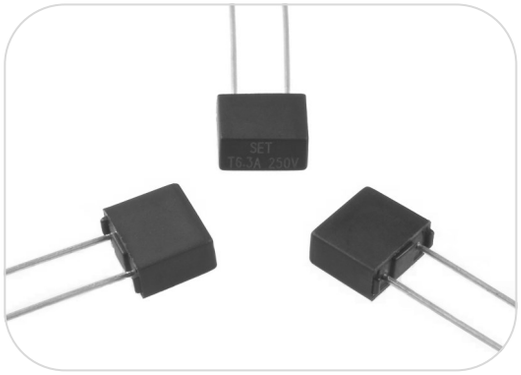
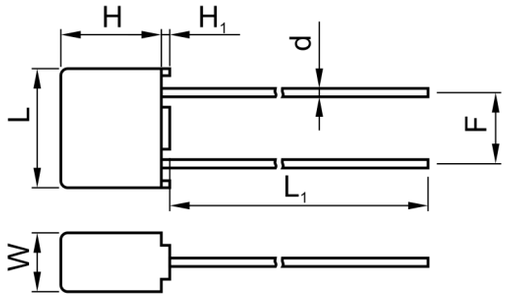




尺寸 Dimensions (mm)

L	L_1	W	H	H_1	d	F
8.5±0.3	19.5±0.5	4.0±0.3	7.3±0.5	0.50 Min.	Φ0.60±0.05	5.08±0.10

关键特性 Key Features

- 体积小
  Miniature Size
- 慢断
  Time Lag
- 抗浪涌
  Surge protection
- 执行标准：IEC 60127-3/Sheet4
  Designed to IEC 60127-3/Sheet4
- 环保型产品 RoHS & REACH Compliant

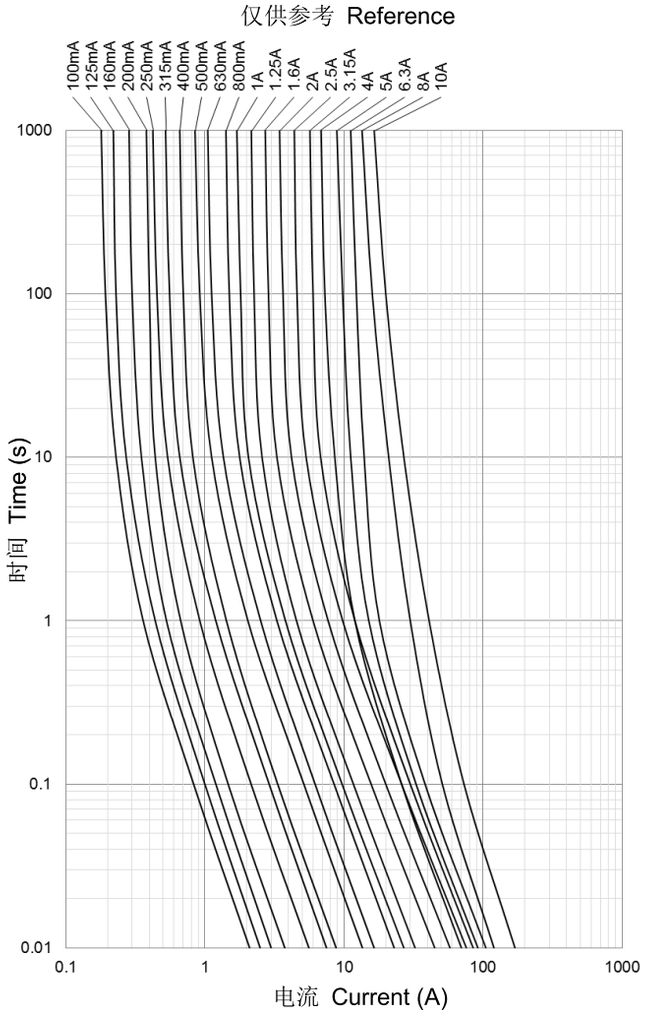
安规认证 Agency Approvals

- CQC:TBA
- VDE:TBA
- KC:TBA
- PSE:TBA
- UL / CUL:TBA

应用领域 Applications

- 打印机 Printers
- 空调 Air Conditioners
- 开关电源 Switched-Mode Power Supply(SMPS)
- 电源适配器 Adapters
- 电池充电器 Battery Chargers
- 电视机/显示器 TVs / Displays
- 节能灯 Energy-saving Lighting Ballasts

时间电流特性曲线 Time Current Curve

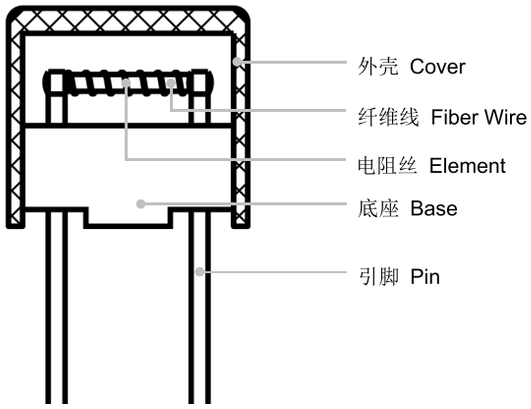


产品型号 Part Number System

S P T 478–1A

- 额定电流 Rated Current
- 尺寸 Dimensions
- 慢断 Time Lag
- 塑料外壳 Plastic Case
- 公司代码 Company Code

结构图 Structure Diagrams



技术参数 Specifications

型号 Model	额定电流 Rated Current	额定电压 Rated Voltage	分断能力 Rated Breaking Capacity	最大压降 Max. Voltage Drop[a]	熔化热能值 Typical Melting I^2t	安规认证 Agency Approvals					环境状态 Environmental Status	
						CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
		(Vac)	(A)	(mV)	(A^2Sec)	CQC	VDE	KC	PSE	UL / CUL	RoHS	REACH
SPT478-200mA	200 mA	250	35	260	0.1685	O	O	O	O	O	●	●
SPT478-250mA	250 mA	250	35	240	0.4438	O	O	O	O	O	●	●
SPT478-315mA	315 mA	250	35	220	0.8136	O	O	O	O	O	●	●
SPT478-400mA	400 mA	250	35	200	1.056	O	O	O	O	O	●	●
SPT478-500mA	500 mA	250	35	190	2.680	O	O	O	O	O	●	●
SPT478-630mA	630 mA	250	35	180	3.810	O	O	O	O	O	●	●
SPT478-800mA	800 mA	250	35	160	7.100	O	O	O	O	O	●	●
SPT478-1A	1 A	250	35	140	9.000	O	O	O	O	O	●	●
SPT478-1.25A	1.25 A	250	35	130	13.59	O	O	O	O	O	●	●
SPT478-1.6A	1.6 A	250	35	120	24.83	O	O	O	O	O	●	●
SPT478-2A	2 A	250	35	100	37.60	O	O	O	O	O	●	●
SPT478-2.5A	2.5 A	250	35	100	67.50	O	O	O	O	O	●	●
SPT478-3.15A	3.15 A	250	35	100	93.27	O	O	O	O	O	●	●
SPT478-4A	4 A	250	40	100	51.20	O	O	O	O	O	●	●
SPT478-5A	5 A	250	50	100	85.00	O	O	O	O	O	●	●
SPT478-6.3A	6.3 A	250	63	100	99.22	O	O	O	O	O	●	●
SPT478-8A	8 A	250	80	90	185.6	O	O	O	O	O	●	●
SPT478-10A	10 A	250	100	90	270.0	O	O	O	O	O	●	●

○-认证申请中 On-going.

[a]-最大压降（环境温度20 °C时，在额定电流下测得）Max. Voltage Drop (voltage drop was measured at 20 °C ambient temp. at rated current).

熔断特性 Pre-arcing Time/Current Characteristic

额定电流 Rated Current	$1.5I_N$	$2.1I_N$	$2.75I_N$		$4.0I_N$		$10.0I_N$	
	最小 Min.	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.	最小 Min.	最大 Max.
(0.2 - 6.3) A	60 minutes	2 minutes	400 ms	10 s	150 ms	3 s	20 ms	150 ms
(8 - 10) A	60 minutes	5 minutes	1 s	20 s	150 ms	3 s	20 ms	150 ms

包装信息 Packaging Information

包装代码 Packaging Code	描述 Description
TBA	TBA

设计、制造、销售电路保护元器件
Design, Manufacture, Market Circuit Protection Components

UL 60691 & UL 1449目击实验室
WTDP Lab for UL 60691 & UL 1449

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