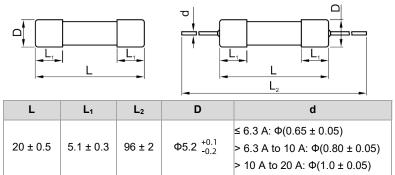
#### **Miniature Fuses** Cartridge Fuse-links (CFL)

#### SGT520 Series, Time-Lag, Glass Tube



#### **Dimensions (mm)**



#### Description

Φ5 × 20 mm, Time-Lag, low breaking capacity cartridge fuse, designed to IEC, GB/T and UL standards.

### **Key Features**

- Body Size: Φ5 × 20 mm
- Time-Lag
- Low Breaking Capacity
- Glass Tube, Nickel-plated Brass End Cap Construction
- Designed to 60127-2 Sheet 3 / GB/T 9364.2 Sheet 3 / UL 248-14
- Lead-free (Pb-free)
- **RoHS and REACH Compliant**

#### Applications

Power Supply

General Lighting

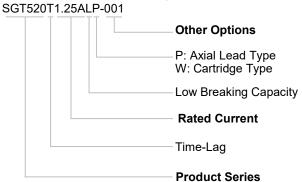
Smart Home

- Office Equipment Electric Tool •
- Household Appliance Medical Equipment
  - SPD

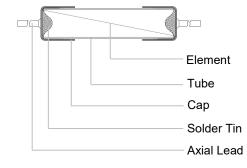
### **Time/Current Characteristic**

% of Ampere Rating	Ampere Rating	Opening Time
210%	0.5 A ~ 20 A	2 minutes, Max.
275%	0.5 A ~ 20 A	0.6 s ~ 10 s
400%	0.5 A ~ 20 A	0.15 s ~ 3 s
1000%	0.5 A ~ 20 A	0.02 s ~ 0.3 s

#### Product Number System



#### **Structure Diagrams**



#### Agency Approvals

Agency Symbol The file No. and certification No. obtained by SETsafe SETfuse		Ampere Range
c <b>RN</b> °us	E345932	1 A ~ 10 A
Â	40033355	1 A ~ 10 A
	2020980207000068 2020980207000072	1 A ~ 6.3 A
<b>K</b>	SU05023-11006 SU05023-11004 SU05023-11005	1 A ~ 2 A 3.15 A ~ 6.3 A 8 A ~ 10 A

### Miniature Fuses Cartridge Fuse-links (CFL)

### SGT520 Series, Time-Lag, Glass Tube

SET safe SET fuse

#### **Specifications**

	Rated	Rated		Max. Average Voltage Typical		ļ	Agency Approvals		/als	Environmental	
Series	Current	Voltage	Rated Breaking Ca- pacity	Drop <sup>a</sup>				C	c <b>W</b> us	RoHS	REACH
	(A)	(VAC)	-	(mV)	(A²sec)	ссс	VDE	KC	cURus		
SGT520	0.5	250		900	1.0	0	0	0	0	•	•
SGT520	0.63	250		300	1.8	0	0	0	0	•	•
SGT520	0.8	250	-	250	3.5	0	0	0	0	•	•
SGT520	1	250	-	150	5.7	•	•	•	•	•	•
SGT520	1.25	250	35 A@250 VAC	150	11	•	•	•	•	•	•
SGT520	1.6	250	-	150	21	•	•	•	•	•	•
SGT520	2	250	-	150	31	•	•	•	•	٠	•
SGT520	2.5	250	-	120	22	0	0	0	0	٠	•
SGT520	3.15	250	-	100	103	•	•	•	•	٠	•
SGT520	4	250	50 A@250 VAC	100	68	0	0	0	0	٠	•
SGT520	5	250	50 A@250 VAC	100	117	•	•	•	•	٠	•
SGT520	6.3	250	63 A@250 VAC	100	230	•	•	•	•	٠	•
SGT520	8	250	80 A@250 VAC	100	360	0	•	•	•	•	•
SGT520	10	250	100 A@250 VAC	100	570	0	•	•	•	•	•
SGT520	12	250	120 A@250 VAC	90	750	0	0	0	0	٠	•
SGT520	12.5	250	125 A@250 VAC	80	890	0	0	0	0	٠	•
SGT520	15	250	150 A@250 VAC	80	1220	0	0	0	0	٠	•
SGT520	16	250	160 A@250 VAC	80	1280	0	0	0	0	•	•
SGT520	20	250	200 A@250 VAC	80	3680	0	0	0	0	•	•

Remark:

a: Max. Voltage Drop (voltage drop is measured at (23 ± 1) °C ambient temp. at rated current).

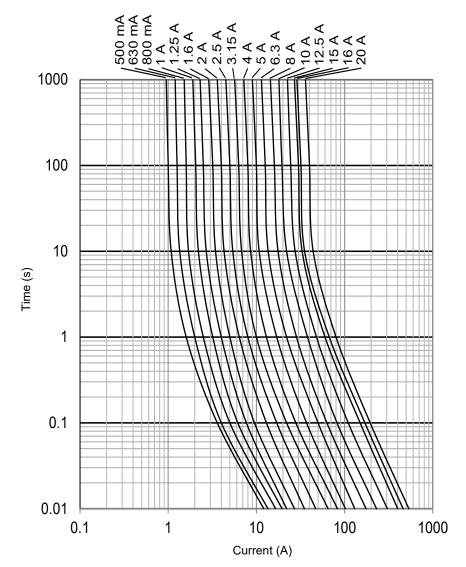
b:  $I^2t$  value is measured at 10  $I_{\rm N.}$ 

o: Pending.

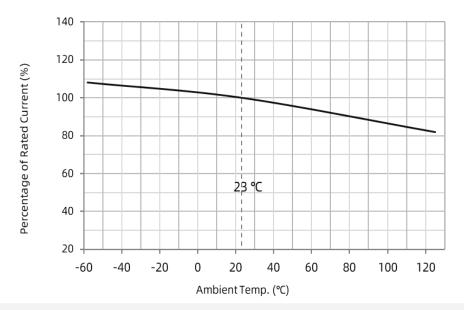
RoHS and REACH Compliant.

SET safe SET fuse

#### Time Current Curve (For Reference Only)



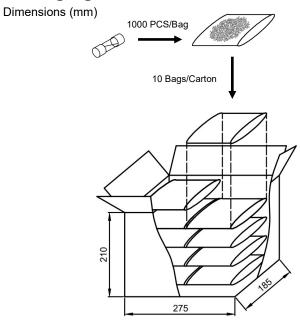
Rated Current Derating Curve (For Reference Only)



### Miniature Fuses Cartridge Fuse-links (CFL)

## SGT520 Series, Time-Lag, Glass Tube

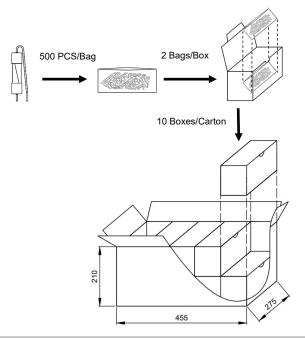
#### **Packaging Information**



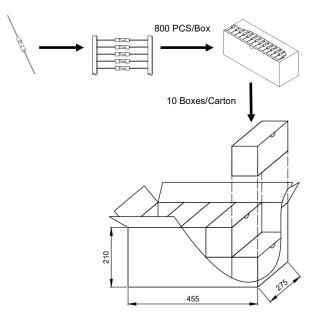
400 PCS/Bag	2 Bags/Box	
\	10 Boxes/Carte	on
210		
	455	

Cartridge Type				
Item PE Bag Carton				
<b>Q'ty (PCS)</b> 1,000		10,000		
Gross Weight (kg)		8.2×(1±10%)		

Axial Lead Type					
Item PE Bag Box Carton					
Q'ty (PCS)	400	800	8,000		
Gross Weight (kg)		9.5×(1	±10%)		



Bending Molding Type (Vertical or Horizontal)				
Item PE Bag Box Carton				
Q'ty (PCS)	500	1,000	10,000	
Gross Weight (kg)		10×(1	±10%)	



Taping Type				
Item	Box Carton			
Q'ty (PCS)	800		8,000	
Gross Weight (kg)			9.2×(1±10%)	

SET safe SET fuse

#### Miniature Fuses Cartridge Fuse-links (CFL)

#### SGT520 Series, Time-Lag, Glass Tube



# ATTENTION

#### Inspection

**Cold Resistance Test** 

- a. Applied current shall be less than 10% of rated current, at ambient Temp. of (23±2) °C.
- b. 4-Wire Resistance Measurement.

#### Usage

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

b. The air pressure is 80 kPa to 106 kPa, corresponding to the altitude of +2000 m to -500 m.

#### Replacement

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

#### Storage

Fuse storage should avoid high temperature, high humidity, direct sunlight, and corrosive gases, so as not to affect the solderability of the lead wire. Please use them up within 1 year after receiving the goods.

#### Installation

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

#### **Installation Position**

Do not install the fuse on an assembly that may often subject to severe continuous vibration or with corrosive gases (NH<sub>3</sub>, SO<sub>2</sub>, Cl<sub>2</sub> etc.).

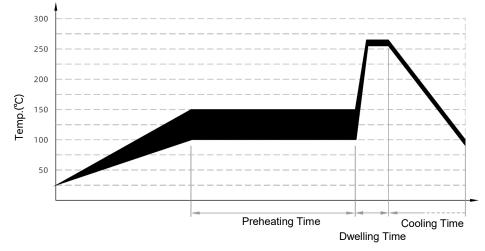
#### Miniature Fuses Cartridge Fuse-links (CFL)

#### SGT520 Series, Time-Lag, Glass Tube

SET safe SET fuse

#### **Soldering Parameters**

#### Wave soldering Parameters (For Reference Only)



Item	Temp. (°C)	Time (second)
Preheating	100 ~ 150	60 ~ 180
Dwelling	255 ~ 265	4~8

#### **Recommended Soldering Parameters**

Solder Iron Temp.: (350 ± 5) °C

Soldering Time: 5 seconds, Max.

#### Lead Wire Bending

If the lead wire has to be bent, please pay attention to the distance between body and the bending point. Refer to the following table.

Axial Type						
d	≤ Φ 1.0 mm	>Φ 1.0 mm				
L	≥ 3 mm	≥ 5 mm				

SET safe SET fuse

#### Glossary

Item	Description
Fuse	A device, by the fusing of one or more of its specially designed and proportioned components, opens the circuit in which it is inserted by breaking the current when this exceeds a given value for a suffi- cient time. —(IEC 60127)
Rated Current	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)
Rated Voltage	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)
Ampere Squared Seconds <i>I<sup>2</sup>t</i>	The melting, arcing, or clearing integral of a fuse, termed $l^2t$ , is the thermal energy required to melt, arc, or clear a specific current. It can be expressed as melting $l^2t$ , arcing $l^2t$ or the sum of them, clearing $l^2t$ . —(IEC 60127)
Overload	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)
Overcurrent	A condition which exists in an electrical circuit when the normal load current is exceeded. Overcurrent take on two separate characteristics-overloads and short circuits. —(UL 248)
Short Circuit	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)
Breaking Capacity of a Fuse-link	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)

## SGT520 Series, Time-Lag, Glass Tube

#### **Reliability Test**

No.	Items	Inspection Standards	Standards
1	High Temp. Test	Test Condition: Temperature: (105 ± 2) °C Time: 1000 hours Test Requirement: After the test, the voltage drop shall not have changed by more than 10% of the value measured before the test. The clearing time of the fuse shall be in range.	MIL-STD-202(Test Method 108) GJB360B(Test Method 108)
2	High Humidity Test	Test Condition: Temperature: (40 ± 2) °C Humidity: 90% to 95% Time: 96 hours Test Requirement: After the test, the voltage drop shall not have changed by more than 10 % of the value measured before the test. The clearing time of the fuse shall be in range.	MIL-STD-202(Test Method 103) GJB360B(Test Method 103)
3	Thermal Shock Test	Test Condition: Per Cycle: -55 °C / 30 minutes, 125 °C / 30 minutes Time: 100 Cycles Test Requirement: After the test, the voltage drop shall not have changed by more than 10 % of the value measured before the test. The clearing time of the fuse shall be in range.	MIL-STD-202(Test Method 107) GJB360B(Test Method 107)

Remark:

refer to

each

Mode

tor complete

models

## SGT520 Series, Time-Lag, Glass Tube

#### 50.00 40.00 30.00 SCF632A30A SCF632AP30A SCF63230A SCF632P30A 25.00 SCF632A25A SCF632AP25A SCF63225A SCF632P25A 21.00 SCF632P21A Please SCF63221A 20.00 SCF632A20A SCF632AP20A SCF63220A SCF632P20A 16.00 SCF632A16A SCF632AP16A SCF63216A SCF632P16A 15.00 SCF632A15A SCF632AP15A SCF63215A SCF632P15A 13.00 12.50 SCF632P12.5A SCF63212.5A 12.00 SCF632P12A SCF63212A 10.00 SCF63210A SCF632P10A 8.00 SCF6328A SCF632P8A product series specification page Rated Current In (A) 7.00 6.30 SCF6326.3A SCF632P6.3A 6.00 SCF632P6A SCF6326A 5.00 SCF6325A SCF632P5A 4.00 SCF6324A SCF632P4A 3.15 SCF632P3.15A SCF6323.15A 锁定电流 3.00 2.50 SCF6322.5A SCF632P2.5A 2.00 SCF6322A SCF632P2A 1.60 SCF632P1.6A SCF6321.6A 1.25 SCF6321.25A SCF632P1.25A 1.00 SCF6321A SCF632P1A 0.80 0.63 0.50 0.40 0.315 0.25 0.20 0.16 0.125 0.10 (250 ~ 500) VAC (250 ~ 600) VDC (250 ~ 600) VAC (250 ~ 600) VDC (VAC U<sub>r</sub> Rated Voltage (VDC **Time Feature** 1 / **Tube Material** Ceramic Standards IEC / UL Breaking 10 kA ~ 30 kA 1000 A ~ 50 kA Capacity Physical Size Φ6.35 × 31.8 ( mm ) Product Structure

#### Cartridge Fuse-links (CFL) Features & Model List Overview

#### Cartridge Fuse-links (CFL) Features & Model List Overview

Prod Struct						
Physical Size (mm)		Ф6.35 × 25.4		Φ6.35 × 25.4	Φ5 × 20	
Break Capa		300 A ~ 10 kA		6 kA	35 A ~ 200 A	
Standards		UL		IEC / BS	IEC / UL	
ube Material		Fast Acting Ceramic		Medium-Acting Ceramic	Glass	
						Ilme-Lag
ated Voltage		(75 ~ 400) VDC		Medium-Acting	Fast Acting	Time-Lag
Ur ated Voltage			VAC	264 VAC	250	VAC
	0.10		0		0	
	0.125		0		0	
	0.16		0		0	
	0.20		0		0	
	0.25		0		0	
	0.315		0		0	
	0.40		0		0	0
	0.50		0		SGF520-500mA (-L)	
	0.60		0		SGF520-630mA (-L)	
	0.80		0		SGF520-1A (-L)	. ,
	1.25		0		SGF5201.25A (-L) SGF520-1A (-L)	SGT520-1.25A (-L) SGT520-1A (-L)
	1.60 1.25		0		SGF520-1.6A (-L)	SGT520-1.6A (-L)
	2.00		0		SGF520-2A (-L)	SGT520-2A (-L)
R	2.50		0		SGF520-2.5A (-L)	SGT520-2.5A (-L)
Rated Current <i>I</i> <sub>6(A)</sub>	3.00		0	SC625FM3A	O	
0 p	3.15		0		SGF520-3.15A (-L)	SGT520-3.15A (-L)
Cur	4.00		0		SGF520-4A (-L)	SGT520-4A (-L)
rel	5.00	SCF625F5A	SCF625PF5A	SC625FM5A	SGF520-5A (-L)	SGT520-5A (-L)
ut	6.00	SCF625F6A	SCF632PF6A			
h ( A	6.30	SCF625F6.3A	SCF625PF6.3A		SGF520-6.3A (-L)	SGT520-6.3A (-L)
(	7.00	0	0	SC625FM7A		
	8.00	SCF625F8A	SCF625PF8A	0	SGF520-8A (-L)	SGT520-8A (-L)
	10.00	SCF625F10A	SCF625PF10A	SC625FM10A	SGF520-10A (-L)	SGT520-10A (-L)
	12.00	SCF625F12A	SCF625PF12A	0	SGF520-12A (-L)	SGT520-12A (-L)
	12.50	SCF625F12.5A	SCF625PF12.5A		SGF520-12.5A (-L)	SGT520-12.5A (-L)
	13.00		0	SC625FM13A	0	
	15.00	SCF625F15A	SCF625PF15A		SGF520-15A (-L)	SGT520-15A (-L)
	16.00	SCF625F16A	SCF625PF16A		SGF520-16A (-L)	SGT520-16A (-L)
	20.00	SCF625F20A	SCF625PF20A		SGF520-20A (-L)	SGT520-20A (-L)
	21.00		0		0	
	25.00	SCF625F25A	SCF625PF25A		0	
	30.00	SCF625F30A	SCF625PF30A		0	
	40.00	SCF625F40A	SCF625PF40A		0	
	50.00	SCF625F50A	SCF625PF50A			

duct								
andards creaking capacity vsical Size ( mm )		Φ5 × 20						
		200 A ~ 5 kA		200 A ~ 10 kA				
		IEC / UL						
Material		Ceramic						
eatu	ure	Fast Acting Time-Lag						
Jr (VAC) Voltage (VDC)				`				
()		(125 ~ 6 (125 ~ 6		(125~5	00) VAC 00) VDC			
	.10	0	0	0	0			
0.1	125							
0	.16							
0	.20							
0	.25							
0.3	315							
0	.40	SCF520F400mA	SCF520PF400mA	SCT520T400mA	SCT520PT400mA			
0	.50	SCF520F500mA	SCF520PF500mA	SCT520T500mA	SCT520PT500mA			
0	.63	SCF520F630mA	SCF520PF630mA	SCT520T630mA	SCT520PT630mA			
0	.80	SCF520F800mA	SCF520PF800mA	SCT520T800mA	SCT520PT800mA			
	.00	SCF520F1A	SCF520PF1A	SCT520T1A	SCT520PT1A			
1	.25	SCF520F1.25A	SCF520PF1.25A	SCT520T1.25A	SCT520PT1.25A			
	.60	SCF520F1.6A	SCF520PF1.6A	SCT520T1.6A	SCT520PT1.6A			
2	.00	SCF520F2A	SCF520PF2A	SCT520T2A	SCT520PT2A			
2	.50	SCF520F2.5A	SCF520PF2.5A	SCT520T2.5A	SCT520PT2.5A			
3	.00	SCF520F3A	SCF520PF3A	SCT520T3A	SCT520PT3A			
3	.15	SCF520F3.15A	SCF520PF3.15A	SCT520T3.15A	SCT520PT3.15A			
4	.00	SCF520F4A	SCF520PF4A	SCT520T4A	SCT520PT4A			
5	.00	SCF520F5A	SCF520PF5A	SCT520T5A	SCT520PT5A			
6	.00							
6	.30	SCF520F6.3A	SCF520PF6.3A	SCT520T6.3A	SCT520PT6.3A			
7	.00							
8	.00	SCF520F8A	SCF520PF8A	SCT520T8A	SCT520PT8A			
10	.00	SCF520F10A	SCF520PF10A	SCT520T10A	SCT520PT10A			
	.00	SCF520F12A	SCF520PF12A	SCT520T12A	SCT520PT12A			
	.50	SCF520F12.5A	SCF520PF12.5A	SCT520T12.5A	SCT520PT12.5A			
	.00	001 0201 104	0010201110A	0010201104	0010201110A			
	.00	SCF520F15A	SCF520PF15A	SCT520T15A	SCT520PT15A			
	.00	SCF520F20A SCF520F16A	SCF520PF20A SCF520PF16A	SCT520T20A	SCT520PT16A			
	.00	SCF520F20A	SCF520PF20A	SCT520T20A	SCT520PT20A			
	.00	SCF520F25A	SCF520PF25A	SCT520T25A	SCT520PT25A			
	.00	0	0	SCT520T30A	SCT520PT30A			
	.00			0	0			
	00							

#### Cartridge Fuse-links (CFL) Features & Model List Overview

SGT520 Series, Time-Lag, Glass Tube

#### Sub-miniature Fuse-links (SFL) Feature & Model List Overview

SGT520 Series, Time-Lag, Glass Tube

1	N N			
50.00	0	0	0	0
40.00			SCF1032F40A	
30.00			SCF1032F30A	
25.00			SCF1032F25A	
21.00				
20.00	SCF6125F20A		SCF1032F20A	
16.00	SCF6125F16A		SCF1032F16A	
15.00	SCF6125F15A		SCF1032F15A	SCT1032T15A
13.00				
12.50	SCF6125F12.5A	SCT6125T12.5A	SCF1032F12.5A	SCT1032T12.5A
12.00	SCF6125F12A	SCT6125T12A	SCF1032F12A	SCT1032T12A
10.00	SCF6125F10A	SCT6125T10A	SCF1032F10A	SCT1032T10A
8.00	SCF6125F8A	SCT6125T8A	SCF1032F8A	SCT1032T8A
7.00	0	0	0	0
6.30	SCF6125F6.3A	SCT6125T6.3A	SCF1032F6.3A	SCT1032T6.3A
6.00	0	001012010.0A	001 10021 0.04	001103210.5A
5.00	SCF6125F5A	SCT6125T5A	SCF1032F5A	SCT1032T5A
4.00	SCF6125F4A	SCT6125T4A	SCF1032F4A	SCT1032T4A
3.15	SCF6125F3.15A	SCT6125T3.15A	SCF1032F3.15A	SCT1032T4A
3.00	SCF6125F3A	SCT6125T3A	SCF1032F3.15A	SCT1032T3.15A
2.50	SCF6125F2.5A	SCT6125T2.5A	SCF1032F3A	SCT1032T3A SCT1032T2.5A
2.00	SCF6125F2A	SCT6125T2A	SCF1032F2A	SCT1032T2A
1.60	SCF6125F1.6A	SCT6125T1.6A	SCF1032F1.6A	SCT1032T1.6A
1.25		SCT6125T1.25A	SCF1032F1.25A	SCT1032T1.25A
1.00		SCT6125T1A	SCF1032F1A	SCT1032T1A
0.80		SCT6125T800mA		SCT1032T800mA
0.63		SCT6125T630mA		SCT1032T630mA
0.50		SCT6125T500mA		SCT1032T500mA
0.40		SCT6125T400mA		SCT1032T400mA
0.315		SCT6125T315mA		SCT1032T315mA
0.25		SCT6125T250mA		SCT1032T250mA
0.20		SCT6125T200mA		SCT1032T200mA
0.16				SCT1032T160mA
0.125				SCT1032T125mA
0.10	0	0	0	SCT1032T100mA
(VAC) (VDC)	(125 ~ 350) VAC (24 ~ 125) VDC		(125 ~ 350) VAC (32 ~ 250) VDC	
ature	Fast Acting	Time-Lag	Fast Acting	Time-Lag
aterial		Cera		
ards		IEC		
king	50 A ~ 500 A		100 A ~ 1000 A	
city Il Size	2.7 × 2.7 × 6.3		3.2 × 3.2 × 10.3	
n )	2.1 × 2.		3.2 × 3.2	2 ^ IU.Ə
uct ture				

#### Surface Mount Fuse-lingks (SMFL) Feature & Model List Overview