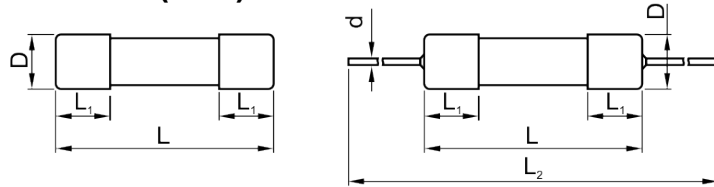


Miniature Fuses (Cartridge Fuse-links)

SGF520 Series, Fast Acting, Glass Tube



Dimensions (mm)



L	L ₁	L ₂	D	d
20 ± 0.5	5.1 ± 0.3	96 ± 2	Φ5.2 ^{+0.1} _{-0.2}	≤ 6.3 A: Φ(0.65 ± 0.05) > 6.3 A to 10 A: Φ(0.80 ± 0.05) > 10 A to 20 A: Φ(1.0 ± 0.05)

Description

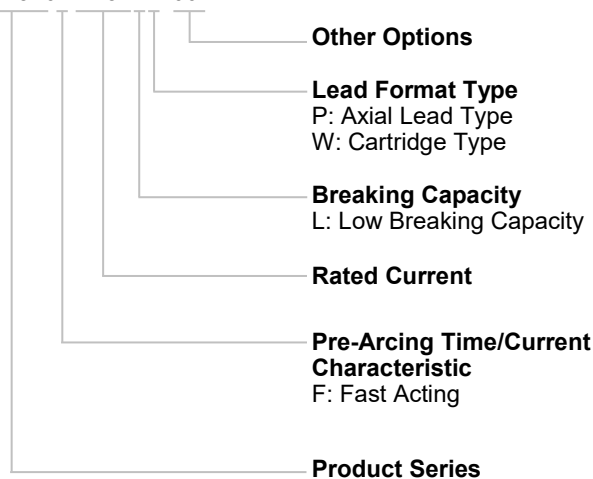
Φ5 x 20 mm, Fast acting, glass body cartridge fuse, designed to IEC & UL standards.

Features

- Φ5 × 20 mm
- Fast Acting
- Low-Breaking Capacity
- Glass Tube, Nickel-Plated Brass End cap Construction
- Designed to IEC 60127-2 Sheet 2, GB/T 9364.2 Sheet 2
- Lead-free (Pb-free)
- RoHS & REACH Compliant

Part Numbering System

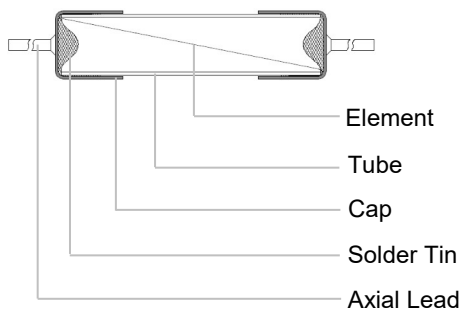
SGF520F1.25ALP-001



Applications

- Power Supply
- Household Appliance
- General Lighting
- Smart Home
- Office Equipment
- Electric Tool
- Medical Equipment
- Instruments and Apparatuses

Structure Diagram



Agency Approvals

Agency Approvals	Agency File Number	Ampere Range
	E345932	1 A to 10 A
	40033351	1 A to 10 A
	2020980207000069 2020980207000071	1 A to 6.3 A
	SU05023-11007 SU05023-11008 SU05023-11009	1 A to 2 A 3.15 A to 6.3 A 8 A to 10 A

Glossary

Item	Description
Fuse	An overcurrent protective device with a fusible link that operates and permanently opens the circuit on an overcurrent condition.
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.
Rated Voltage	A maximum open circuit voltage in which a fuse can be used, yet safely interrupt an over-current. Exceeding the voltage rating of a fuse impairs its ability to clear an overload or short circuit safely.
Ampere Squared Seconds I^2t	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 .
Time-current Characteristics	Under stated conditions of operation, the value of time as a function of the prospective current.
Rated Breaking Capacity	Value (r.m.s. for a.c.) of prospective current that a fuse-link is capable of breaking at a stated voltage under prescribed conditions of use and behaviour.





Miniature Fuses

Miniature Fuses

Miniature Fuses (Cartridge Fuse-links)

SGF520 Series, Fast Acting, Glass Tube

Specifications

Series	Rated Current	Rated Voltage	Rated Breaking Capacity	Max. Voltage Drop ^a	Average Typical Melting I^2t ^b	Agency Approvals				Environmental	
	(A)	(VAC)		(mV)	(A ² sec)					RoHS	REACH
SGF520	0.5	250	35 A@250 VAC	1000	0.33	○	○	○	○	●	●
SGF520	0.63	250		650	0.51	○	○	○	○	●	●
SGF520	0.8	250		240	0.83	○	○	○	○	●	●
SGF520	1	250		200	1.2	●	●	●	●	●	●
SGF520	1.25	250		200	2.6	●	●	●	●	●	●
SGF520	1.6	250		190	4.2	●	●	●	●	●	●
SGF520	2	250		170	6.2	●	●	●	●	●	●
SGF520	2.5	250		170	11.3	○	○	○	○	●	●
SGF520	3.15	250		150	20.8	●	●	●	●	●	●
SGF520	4	250	40 A@250 VAC	130	32	○	○	○	○	●	●
SGF520	5	250	50 A@250 VAC	130	62.5	●	●	●	●	●	●
SGF520	6.3	250	63 A@250 VAC	130	95.2	●	●	●	●	●	●
SGF520	8	250	80 A@250 VAC	130	166		●	●	●	●	●
SGF520	10	250	100 A@250 VAC	130	280		●	●	●	●	●
SGF520	12.5	250	125 A@250 VAC	100	468				○	●	●
SGF520	15	250	150 A@250 VAC	100	675				○	●	●
SGF520	16	250	160 A@250 VAC	100	768				○	●	●
SGF520	20	250	200 A@250 VAC	100	1215				○	●	●

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_N .

○: Pending.

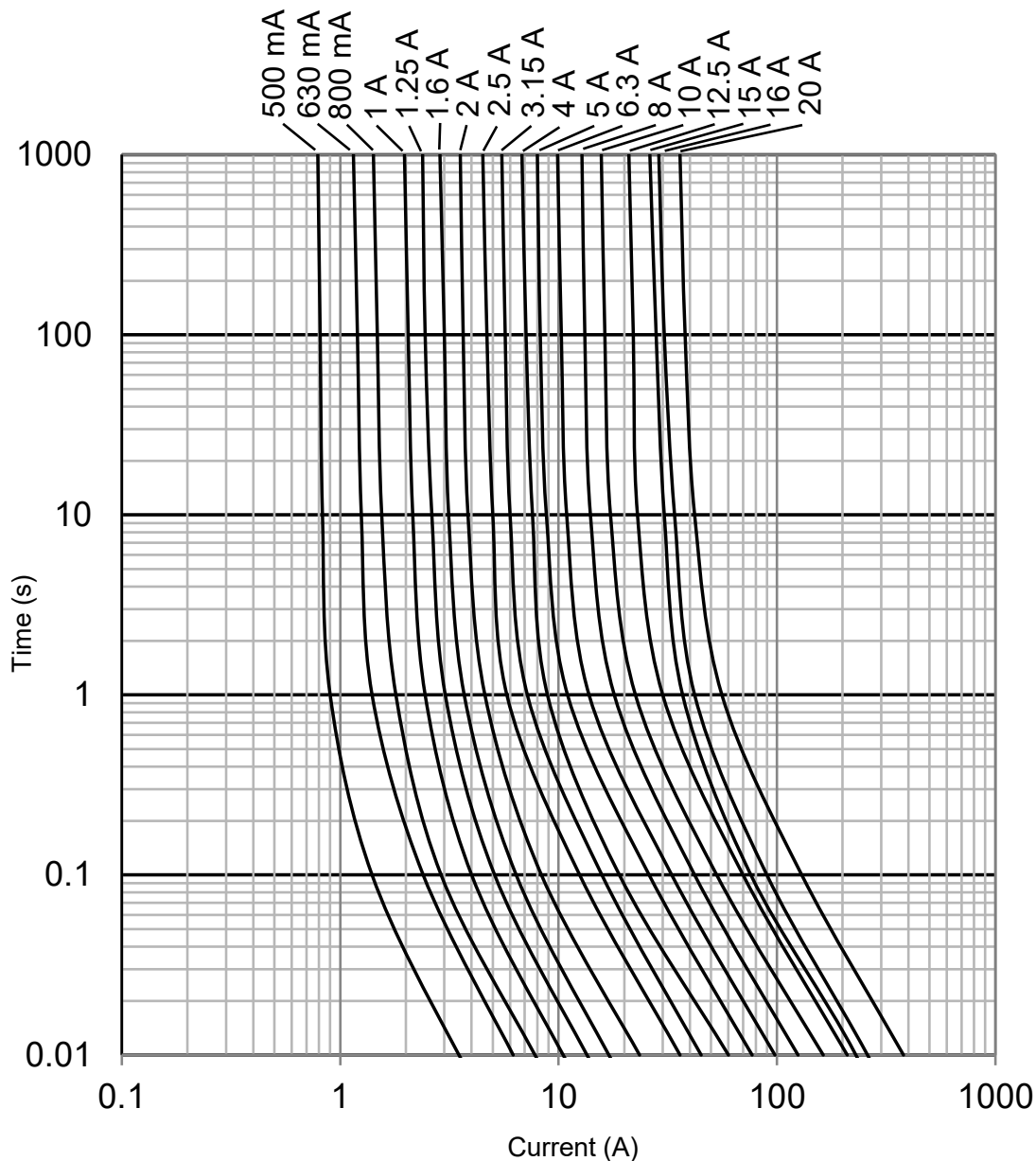
Miniature Fuses (Cartridge Fuse-links)

SGF520 Series, Fast Acting, Glass Tube

Opening Time / Current Characteristic

Rated Current (A)	2.1 _{I_N}	2.75 _{I_N}		4 _{I_N}		10 _{I_N}
	Max.	Min.	Max.	Min.	Max.	Max.
0.5 to 6.3	30 minutes	50 ms	2 s	10 ms	300 ms	20 ms
8 to 10	30 minutes	50 ms	2 s	10 ms	400 ms	40 ms
12 to 20	30 minutes	100 ms	6 s	20 ms	600 ms	60 ms

Time Current Curve (For Reference Only)



Miniature Fuses

Miniature Fuses

Reliability Test

No.	Items	Inspection Standards	Standards
1	High Temp. Test	<p>Test Condition: Temperature: (105 ± 2) °C Time: 1000 hours</p> <p>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.</p>	<p>MIL-STD-202(Test Method 108) GJB360B(Test Method 108)</p>
2	High Humidity Test	<p>Test Condition: Temperature: (40 ± 2) °C Humidity: 90% to 95% Time: 96 hours</p> <p>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.</p>	<p>MIL-STD-202(Test Method 103) GJB360B(Test Method 103)</p>
3	Thermal Shock Test	<p>Test Condition: Per Cycle: -40 °C / 30 minutes, 85 °C / 30 minutes Time: 10 Cycles</p> <p>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.</p>	<p>MIL-STD-202(Test Method 107) GJB360B(Test Method 107)</p>

Miniature Fuses

Miniature Fuses

Miniature Fuses (Cartridge Fuse-links)

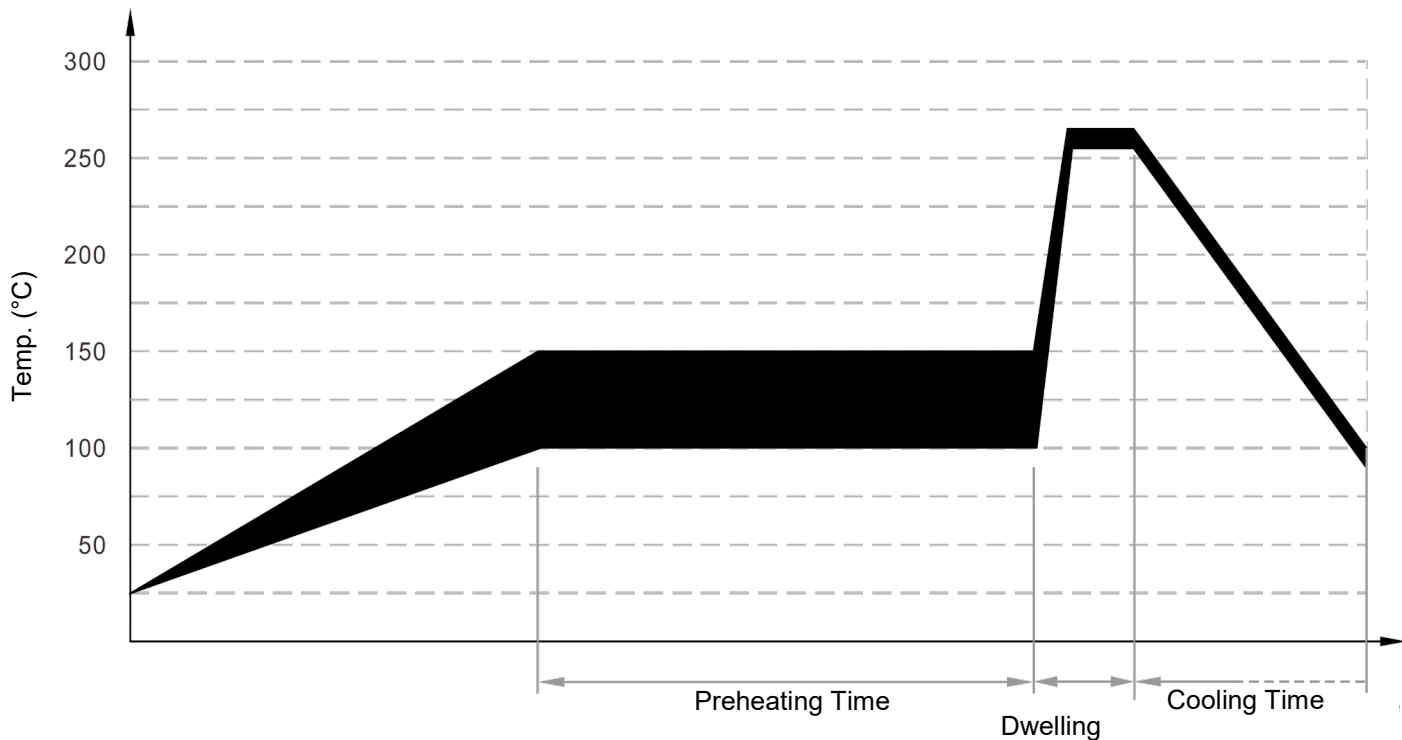
SGF520 Series, Fast Acting, Glass Tube

Installation

Mechanical stress

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

Wave soldering Parameters (For Reference Only)



Item	Temp. (°C)	Time (s)
Preheating	100 to 150	60 to 180
Dwelling	260 ± 5	2 to 5

Recommended Hand-Soldering Parameters

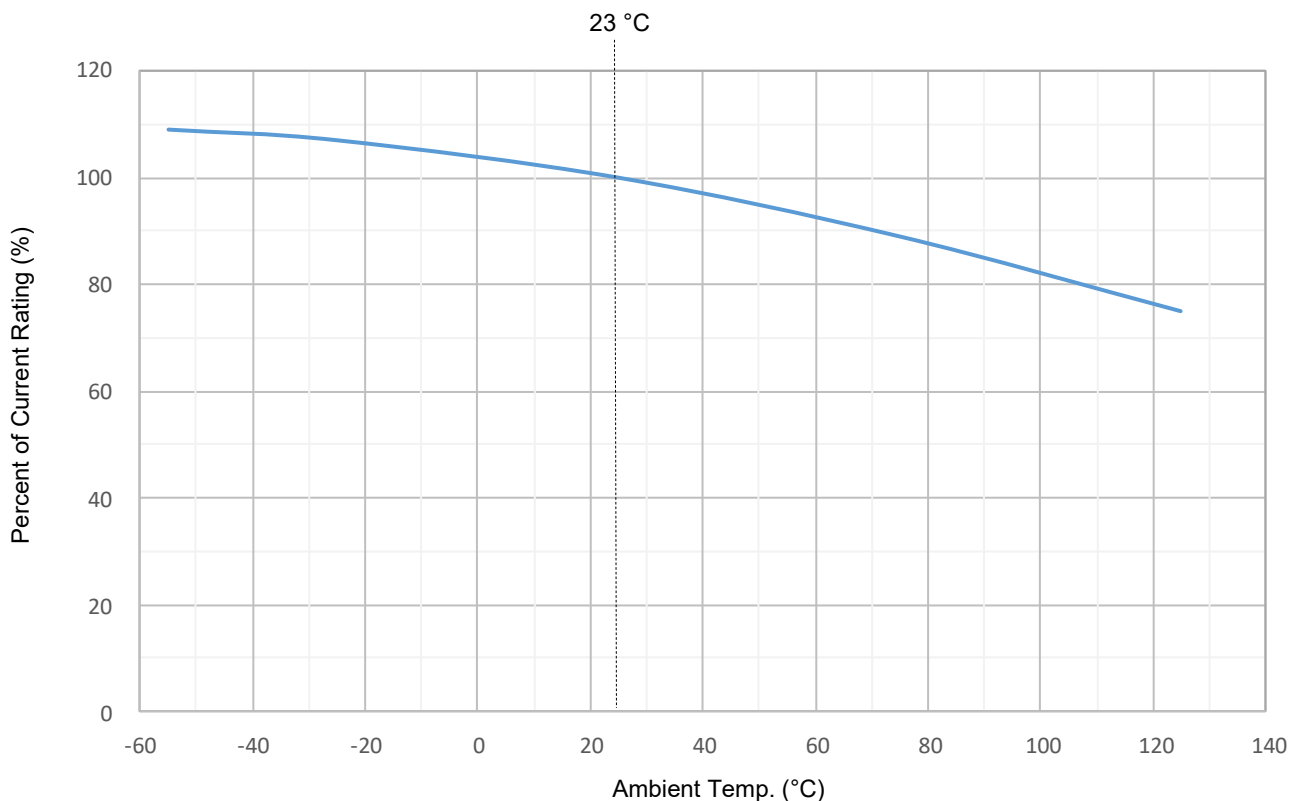
Solder Iron Temp.: (350 ± 5) °C

Heating Time: 5 seconds Max.

Miniature Fuses (Cartridge Fuse-links)

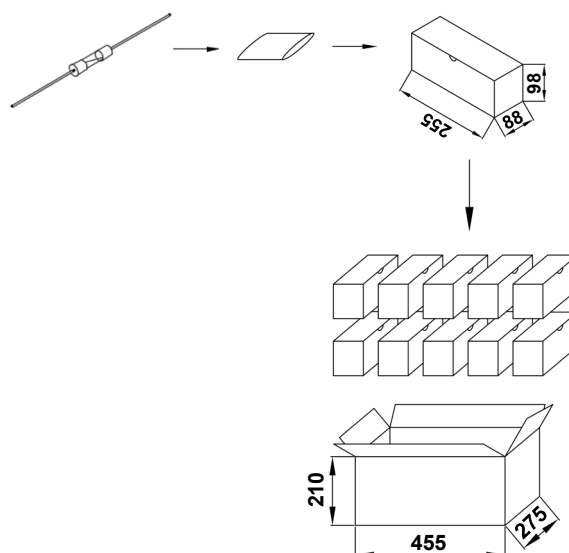
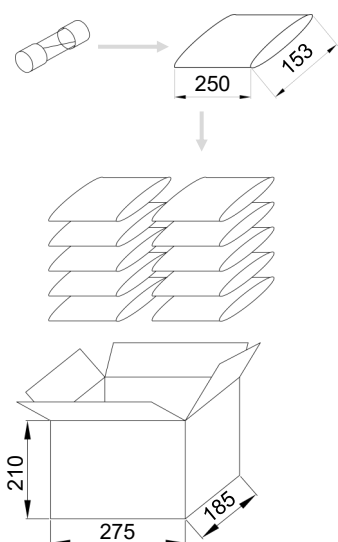
SGF520 Series, Fast Acting, Glass Tube

Temperature Derating Curve



Packaging Information

All dimensions in mm



Cartridge Type		
Item	PE Bag	Carton
Quantity (PCS)	1,000	10,000
Gross Weight (kg)		8.0 × (1±10%)

Axial Lead Type			
Item	PE Bag	Box	Carton
Quantity (PCS)	400	800	8,000
Gross Weight (kg)		9.0 × (1±10%)	



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

Replacement

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

Storage

Please store the fuse in the environment 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.