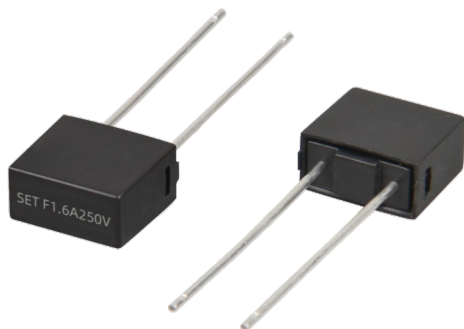
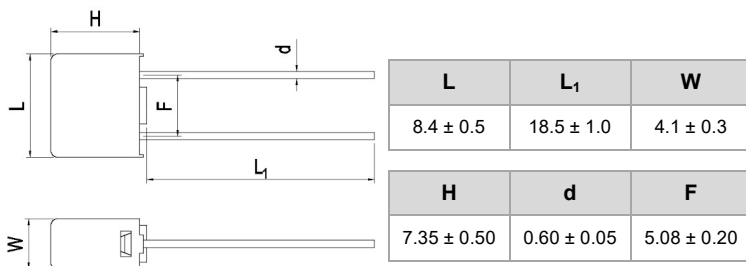


Miniature Fuses (Sub-miniature Fuse-links)

SPF478 Series, Fast-Acting, Plastic Case



Dimensions (mm)



Description

Sub-miniature fuse, Fast-Acting, designed to IEC & UL standards.

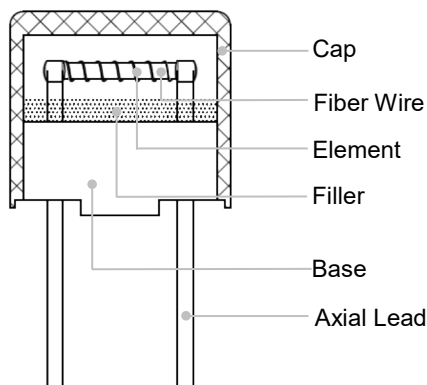
Features

- Miniature Size
- Fast-Acting
- Designed to IEC 60127-3/Sheet3 / GB 9364.3/Sheet3
- Lead-free (Pb-free)
- RoHS & REACH Compliant

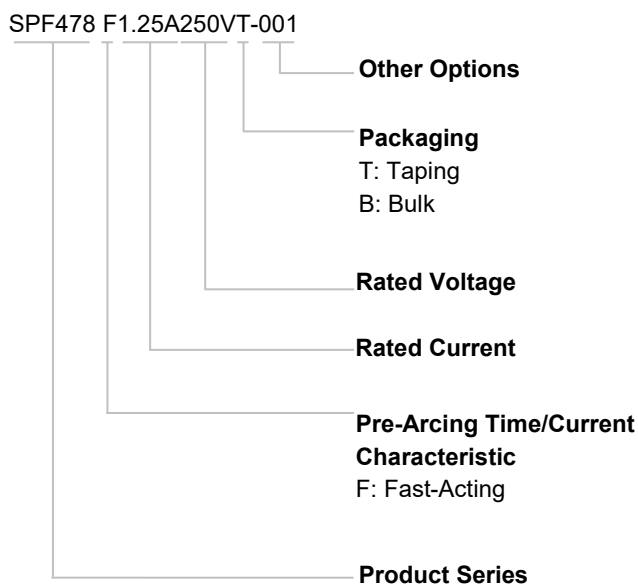
Applications

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

Structure Diagram



Part Numbering System



Agency Approvals

Agency Approvals	Agency File Number	Ampere Range (A)
	Pending	1 to 10
	Pending	1 to 10
	Pending	1 to 10

Miniature Fuses

Miniature Fuses

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

(Sub-miniature Fuse-links)

SPF478 Series, Fast-Acting, Plastic Case

Specifications

Series	Rated Current	Max. Voltage Drop ^a	Average Typical Melting I^2t ^b	Agency Approvals			Environmental	
							RoHS	REACH
	(A)	(mV)	(A ² sec)	CCC	VDE	cURus		
SPF478	1	280	1.4	○	○	○	●	●
SPF478	1.25	280	2.1	○	○	○	●	●
SPF478	1.6	250	3.6	○	○	○	●	●
SPF478	2	240	6.8	○	○	○	●	●
SPF478	2.5	200	11.3	○	○	○	●	●
SPF478	3.15	180	18.9	○	○	○	●	●
SPF478	4	160	27.2	○	○	○	●	●
SPF478	5	150	50	○	○	○	●	●
SPF478	6.3	130	59.5	○	○	○	●	●
SPF478	8	100	103	○	○	○	●	●
SPF478	10	85	170	○	○	○	●	●

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

b: I^2t value is measured at 10 I_N .

Breaking Capacity:

CCC / VDE 35 A @ 250 Vac or 10 I_N @ 250 Vac Whichever is Greater

UL / cUL150 A @ 125 V / 250 V / 300 V / 350 V / 400 V

○: Pending

Miniature Fuses

Miniature Fuses

Miniature Fuses

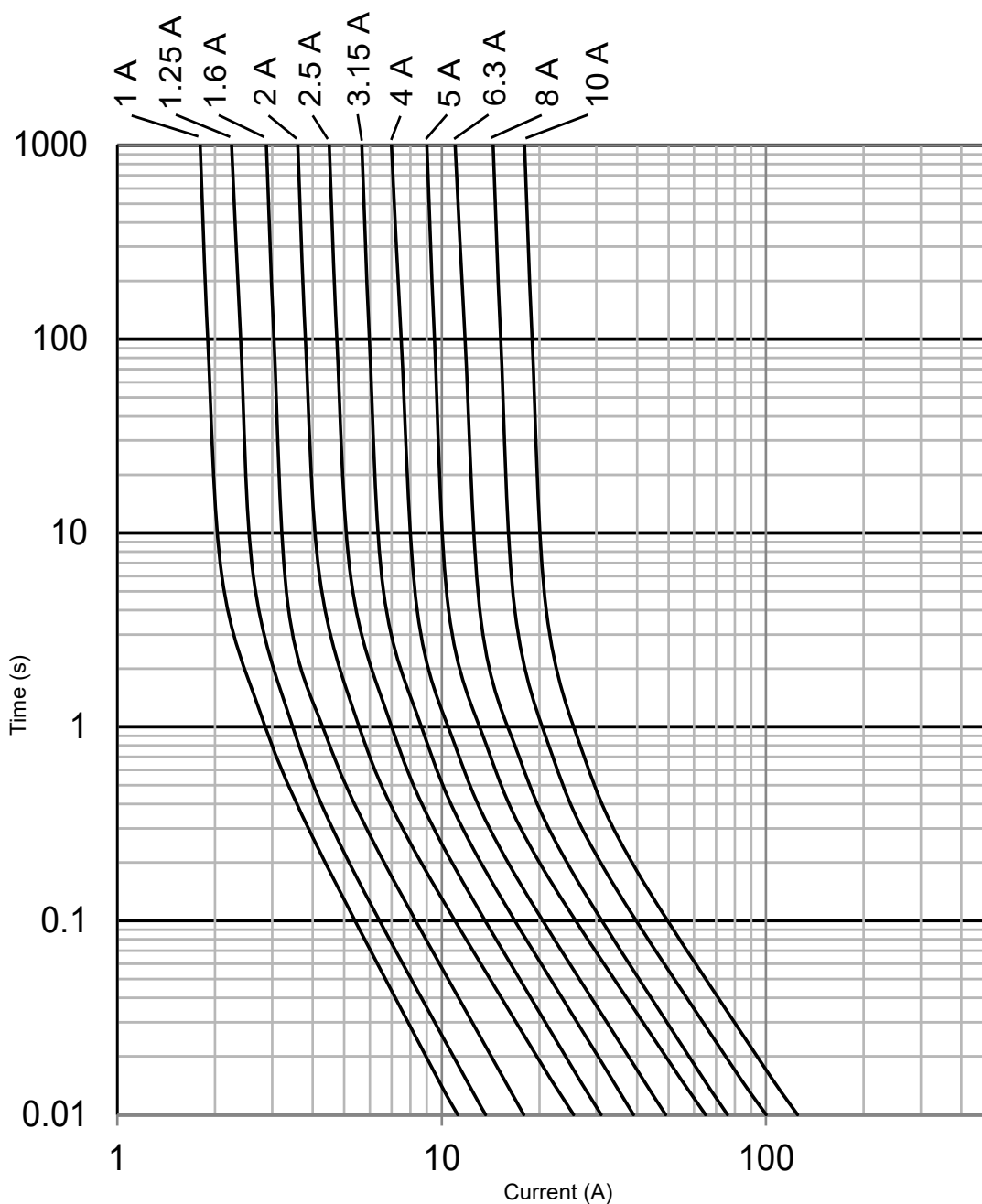
(Sub-miniature Fuse-links)

SPF478 Series, Fast-Acting, Plastic Case

Opening Time / Current Characteristic

Rated Current (A)	2.1I _N	2.75I _N		4I _N		10I _N
	Max.	Min.	Max.	Min.	Max.	Max.
1 to 5	30 minutes	10 ms	3 s	3 ms	300 ms	20 ms
6.3 to 10	30 minutes	50 ms	10 s	5 ms	400 ms	20 ms

Time Current Curve (For Reference Only)



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 (Sub-miniature Fuse-links)

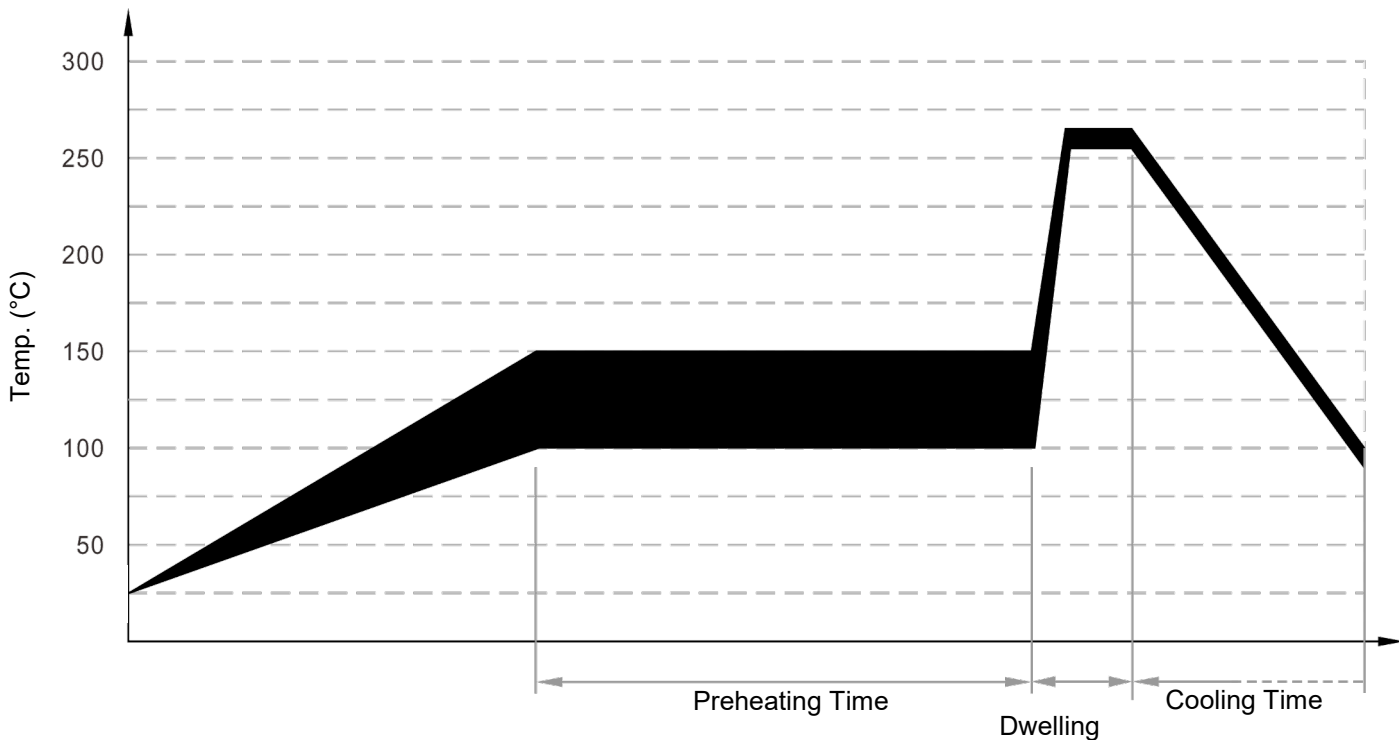
SPF478 Series, Fast-Acting, Plastic Case

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

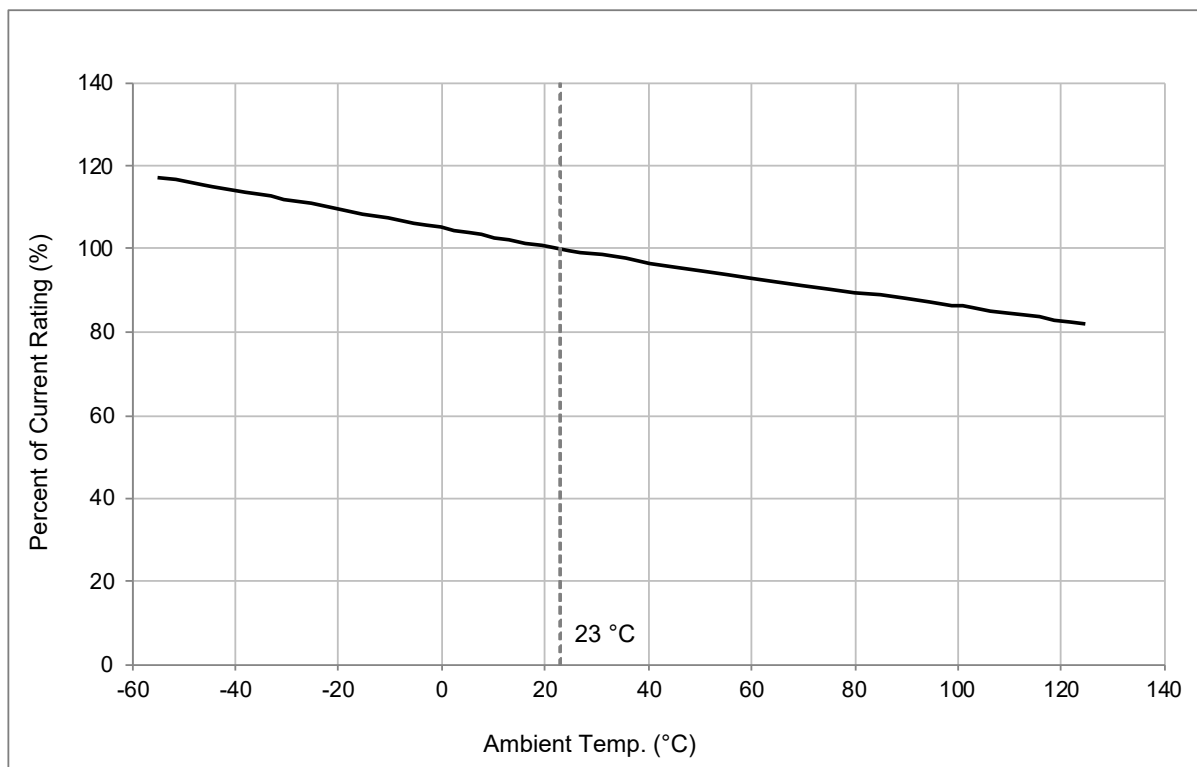
Solder Iron Temp.: (350 ± 5) °C

Heating Time: 5 seconds Max.

Miniature Fuses (Sub-miniature Fuse-links)

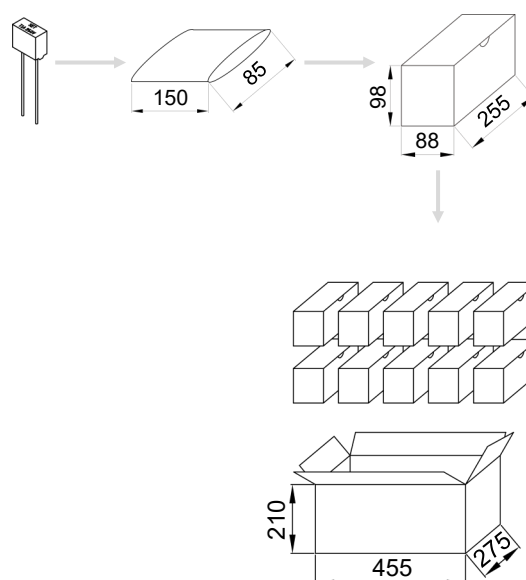
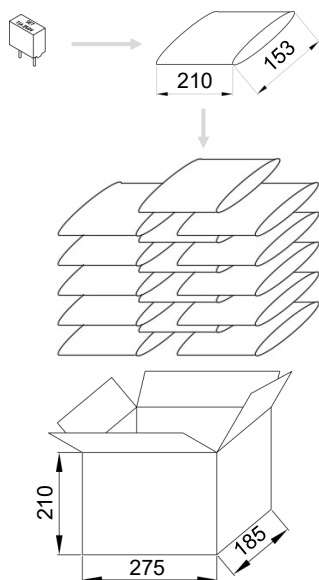
SPF478 Series, Fast-Acting, Plastic Case

Temperature Derating Curve



Packaging Information

All dimensions in mm



Bulk Short Leads (≤ 6.0 mm)		
Item	PE Bag	Carton
Quantity (PCS)	1,000	15,000
Gross Weight (kg)	4.6 × (1±10%)	

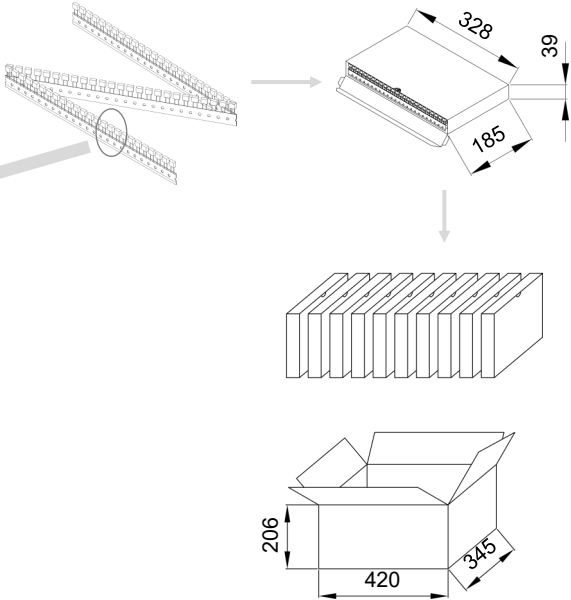
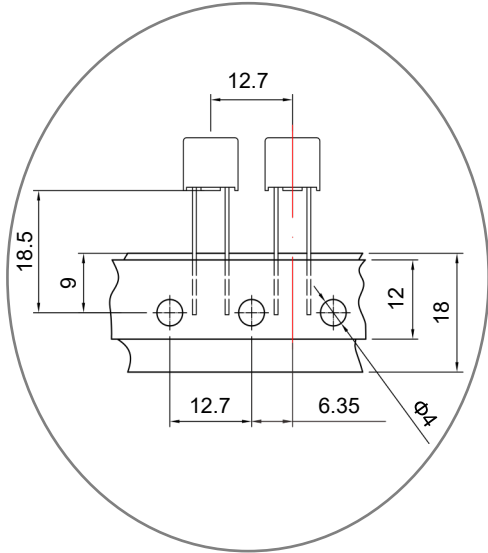
Bulk Long Leads (≥ 18.5 mm)			
Item	PE Bag	Box	Carton
Quantity (PCS)	1,000	2,000	15,000
Gross Weight (kg)	7.8 × (1±10%)		

Miniature Fuses (Sub-miniature Fuse-links)

SPF478 Series, Fast-Acting, Plastic Case

Packaging Information

All dimensions in mm



Item	Taping	
	Box	Carton
Quantity (PCS)	1,000	10,000
Gross Weight (kg)	6.0 × (1±10%)	

Miniature Fuses

Miniature Fuses



ATTENTION

Inspection

Cold Resistance Test

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

Usage

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