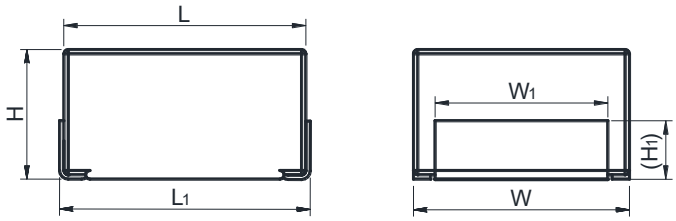
Miniature Fuses

Surface Mount Fuse-links (SMFL)

SCF61011 Series, Ceramic Case

Dimensions (mm)



L	L_1	H	H_1	W	W_1
11.2 ± 1.0	12.0 ± 1.0	6.0 ± 0.5	(2)	10.0 ± 1.0	8.0 ± 0.5

Features

- 6 x 10 x 11.2 mm Surface Mount Package
- Current Rating: 30 A to 125 A
- Voltage Rating: Up to 125 VDC
- Designed to UL248-14
- RoHS and REACH Compliant, Pb Free

Part Numbering System

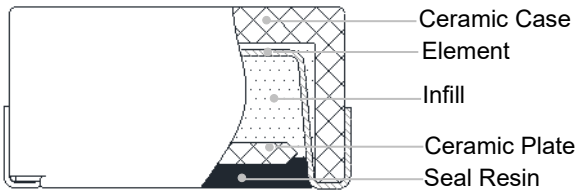
SCF6101160A125V - 001

- Other Options
- Rated Voltage
- Rated Current
- Product Series

Applications

- Servers and Back Planes
- Power Distributions Units (PDUs)
- Power Tools
- Drones
- High-power Battery Systems
- UPS/Routers
- E-Bike

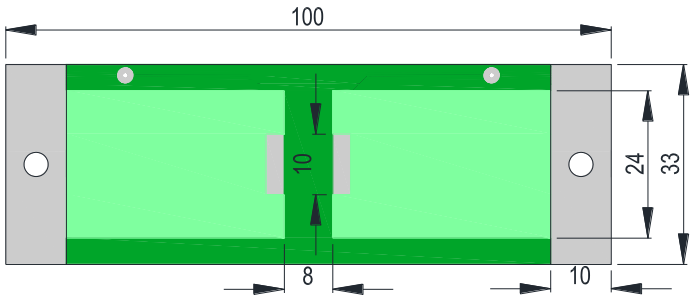
Structure Diagram



Agency Approvals

Agency Symbol	The file No. and certification No. obtained by SETsafe|SETfuse	Ampere Range
c UL us	Pending	30 A - 125 A

Standard Test Board (mm)



Note:

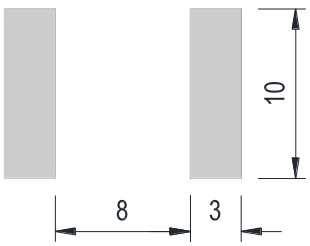
Test Board: 1.6 mm FR4 PCB

Copper Thickness:

0.105 mm (3 oz.) for 30 A – 50 A,

0.210 mm (6 oz.) for 60 A – 125 A

Recommended Pad Layout (mm)



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Specifications

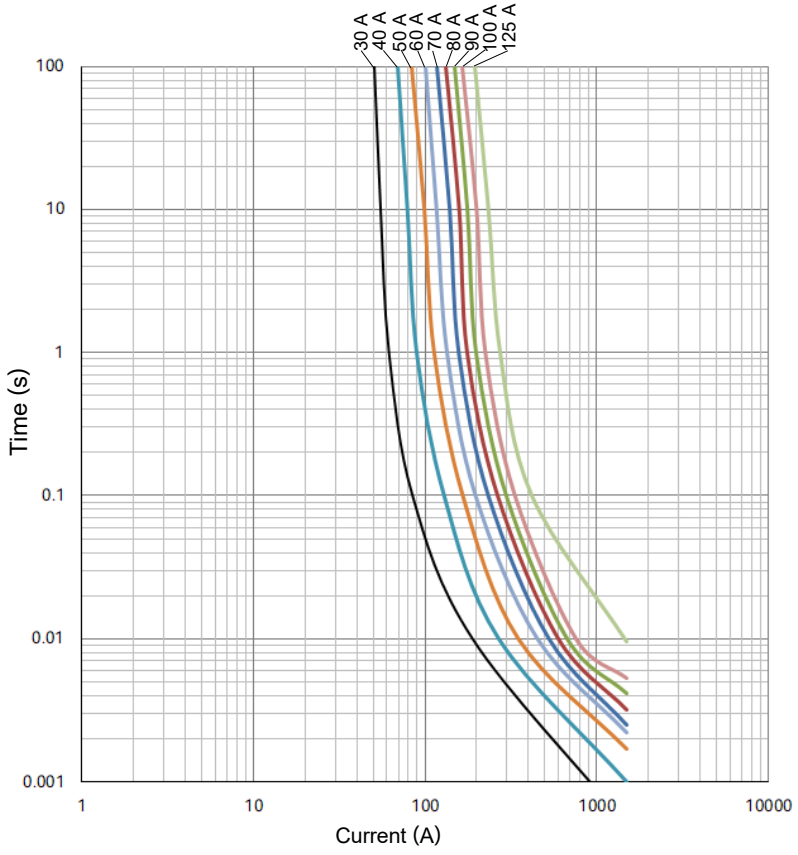
Series	Rated Current (A)	Rated Breaking Capacity	Average Typical Melting I^2t [a] (A²sec)	Voltage Drop mV	Agency Approvals cURus	RoHS REACH Pb Free
SCF61011	30	1000A@125VDC 500A@115DC 1500A@75VDC 6000A@24VDC	420	100	○	●
SCF61011	40		825	100	○	●
SCF61011	50		1,900	100	○	●
SCF61011	60		2,850	100	○	●
SCF61011	70	1000A@100VDC 1500A@75VDC 6000A@24VDC	3,000	100	○	●
SCF61011	80		3,850	100	○	●
SCF61011	90		5,050	100	○	●
SCF61011	100		7,200	100	○	●
SCF61011	125		13,000	110	○	●

Remark: 1. RoHS and REACH Compliant . 2. "○": Pending. 3. I^2t value is measured at 1,500 A.
For more detailed technical parameters, please consult SET technical support assistance.

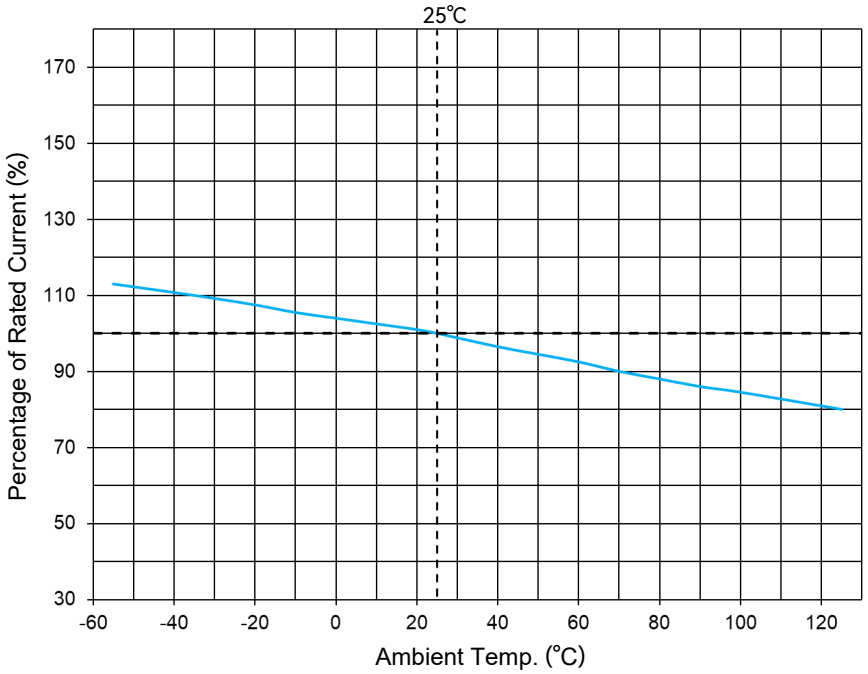
Time/Current Characteristic

% of Ampere Rating	Ampere Rating	Opening Time
100%	30 A - 125 A	1 hours, Min.
200%	30 A - 125 A	60 seconds, Max.

Time Current Curve (For Reference Only)



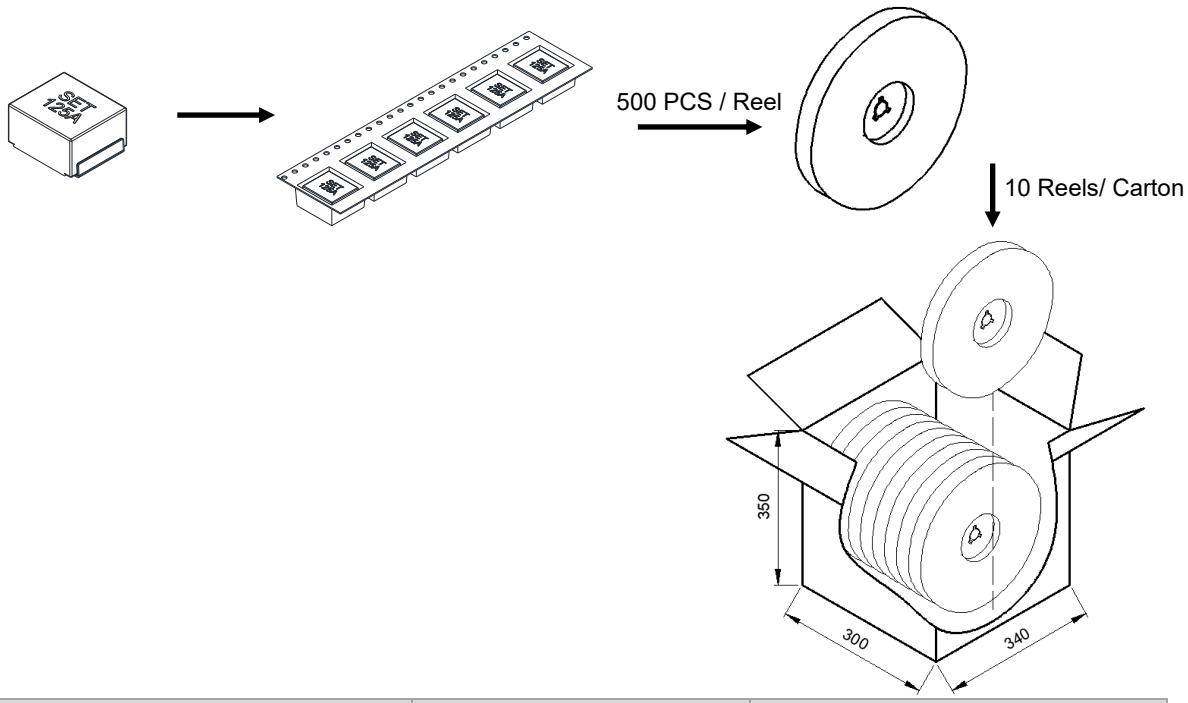
Rated Current Derating Curve（For Reference Only）



Note:
Rerating depicted in this curve is in addition to the standard of 25% for continuous operation.
Example: For continuous operation at 50℃, the fuse should be re-rated as: $I=(0.75)*(0.95)*I_N=0.7125I_N$

Packaging Information

All dimensions in mm



Item	Reel	Carton
Q'ty (PCS)	500	5,000
Gross Weight (kg)	9.5 ± 10%	

Note: Packaging specification is according to IEC 60286, part 3.

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 sufficient 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^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. —(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)

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

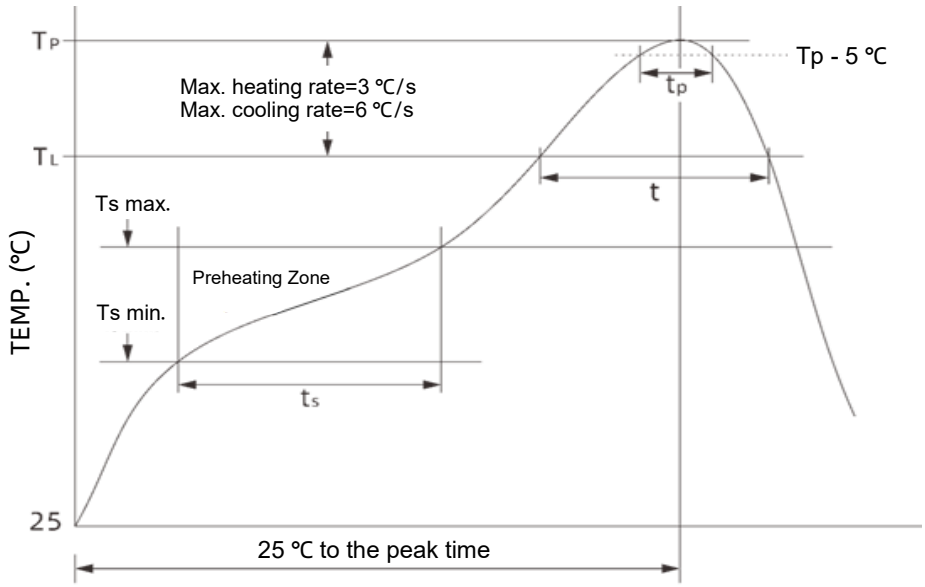
Do not apply mechanical stress to the fuse body during or after the installation.

Installation Position

Do not install the fuse on an assembly that may often subject to severe continuous vibration or with corrosive gases (NH_3, SO_2, Cl_2 etc.).

Soldering Parameters

Reflow soldering Parameters (For Reference Only)



Item	Parameters	Item	Parameters
Preheat_Min. Temp. ($T_{s\ min.}$)	150 ℃	Liquid Phase Time (t)	60 s ~ 150 s
Preheat_Max. Temp. ($T_{s\ max.}$)	200 ℃	Peak Temp. (T_p)	255 ℃ ~ 260 ℃
Time ($T_{s\ min.}$ to $T_{s\ max.}$) (t_s)	60 s ~ 120 s	Duration Of Peak Temp. Within 5 ℃ (t_p)	20 s ~ 40 s
Average Heating Rate ($T_{s\ min.}$ to T_p)	3 ℃/s, Max.	Average Cooling Rate (T_p to $T_{s\ max}$)	6 ℃/s, Max.
Liquid Phase Temperature (T_L)	217 ℃	Time From 25 ° C To Peak Temp.	8 minutes, Max.

Recommended Soldering Parameters

Solder Iron Temp.: (350 ± 5)°C

Soldering Time: 5 seconds, Max.