



General

- Fast acting, Inrush withstand capability
- Wire-In-Air performance
- Wide range of current rating available
- 6.1mm× 2.5mm square shape surface mount
- Higher temperature profiles
- -55℃~125℃ operating temperature
- Excellent environmental integrity
- Halogen-free

Agency / Certificate Information

Agency	File Number	Ampere Range
	E319512	1A~20A

Application

- Battery pack
- Storage system
- Power supply
- PC & PC peripherals
- Game console
- PC server
- Cooling fan system
- Wireless basestation
- Industrial equipment
- Telecom system
- LCD monitor and modules

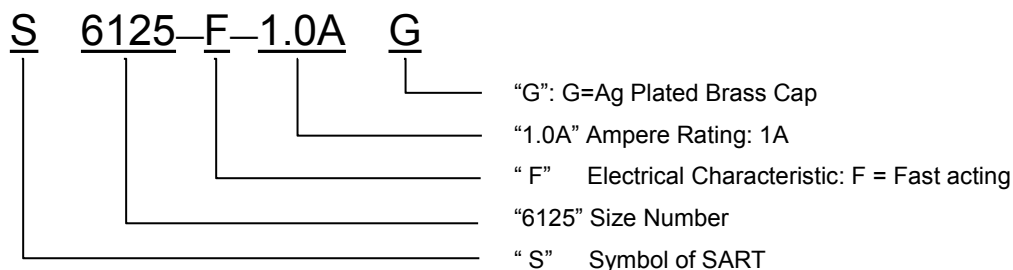
Electrical Specifications

Part Number	Current Rating (A)	Voltage Rating (V)	Interrupting Rating (V)	Typical Cold DCR' (mΩ)	Typical I ² T** (A ² sec)
S6125-F-1.0A G	1	125	UL: 50A 125V AC 50A 160V DC	80.0	0.56
S6125-F-1.25A G	1.25	125		60.0	0.84
S6125-F-1.6A G	1.6	125		38.0	1.23
S6125-F-2.0A G	2	125		30.0	1.34
S6125-F-2.5A G	2.5	125		27.0	1.43
S6125-F-3.0A G	3	125		22.0	1.88
S6125-F-3.15A G	3.15	125		21.0	2.05
S6125-F-4.0A G	4	125		16.0	3.44
S6125-F-5.0A G	5	125		14.0	4.84
S6125-F-6.3A G	6.3	125		10.0	10.55
S6125-F-7.0A G	7	125		9.4	10.58
S6125-F-8.0A G	8	125		7.4	17.62
S6125-F-10.0A G	10	125		5.9	30.30
S6125-F-12.0A G	12	65	200A 86V DC 50A 65V AC 50A 65V DC	4.8	42.22
S6125-F-15.0A G	15	65		3.7	69.75
S6125-F-20.0A G	20	65		3	132.04

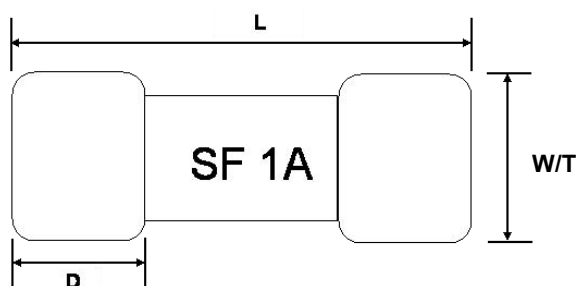
* Measured at ≤10% rated current and 25℃

** Melting I²T at 10 times of rated current

Part Number Information

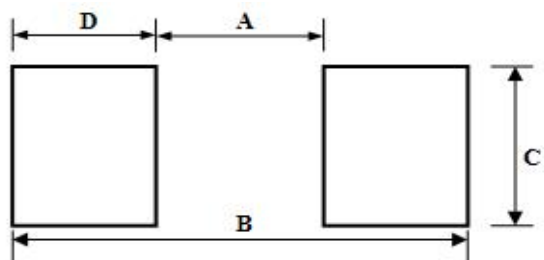


Dimensions



Type	L (mm)	W/ T (mm)	D (mm)
S6125-F	6.10±0.20	2.50±0.10	1.40±0.10

Recommended Land Patterns



Materials

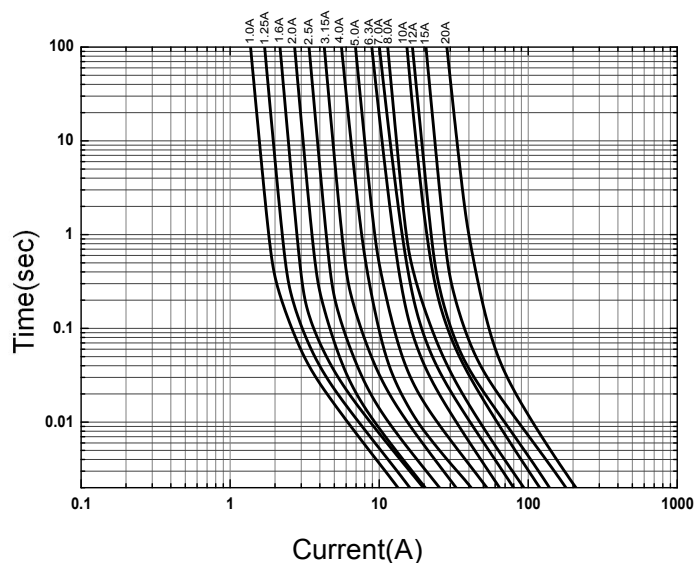
Components	Material
Body	Ceramic
Terminations	Ag Plated Brass Cap
Element	Nickel alloy or Copper Alloy

Type	A(mm)	B(mm)	C(mm)	D(mm)
S6125-F	3.00±0.30	8.00±0.30	3.00±0.30	2.50±0.30

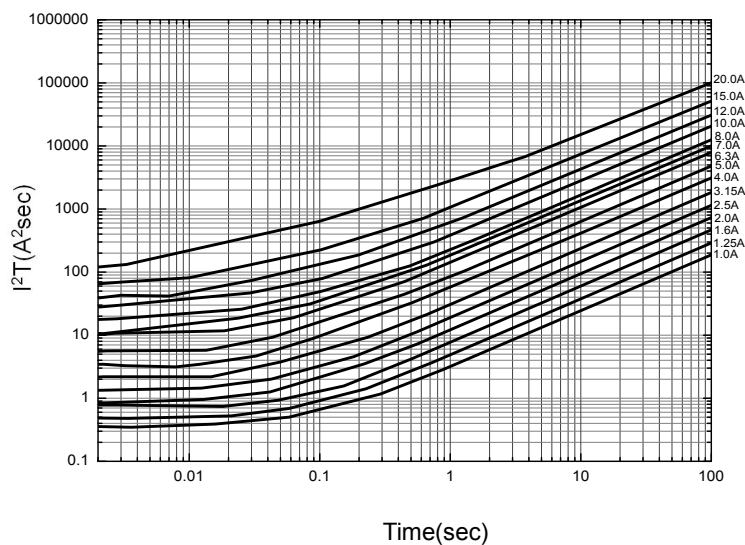
Dimensions of Standard Test Board

Type	Ampere Rating	Board Thickness (mm)	Copper Layer Thickness (mm)	Copper Trace Width (mm)
S6125-F	1A~6.3A	1.6	0.035	5
	7A~10A	1.6	0.070	7.5
	12A~20A	1.6	0.080	10

Time Current Curve



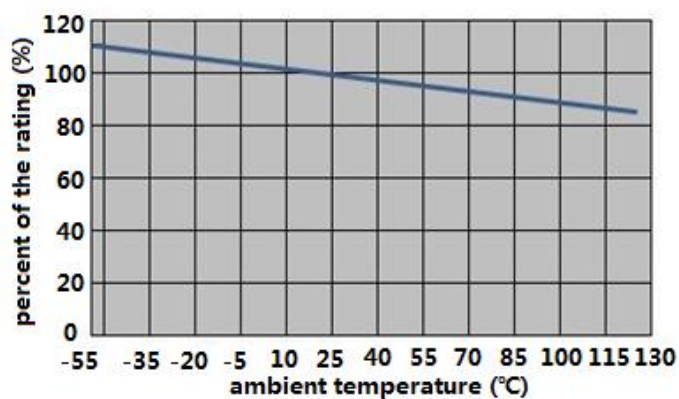
I²T VS Time Curve



Electrical Characteristics

Type	Ampere Rating	% of Current Rating	Opening Time
S6125-F	1A~60A	100	4hours Min.
	1A~10A	200	5sec Max.
	1A~10A	125	1hour Min.
	12A~20A	200	20sec Max.

Temperature Derating Curve



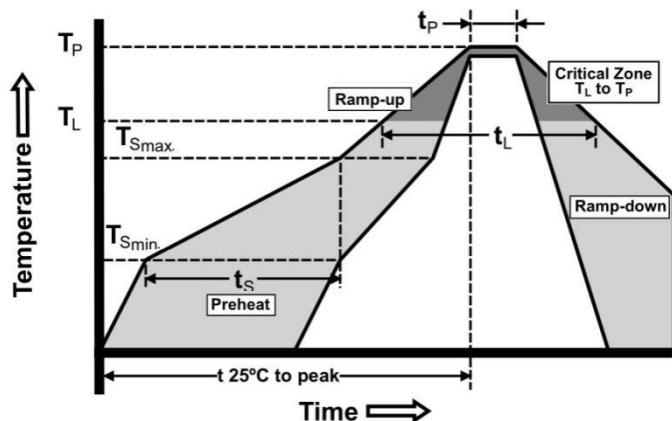
Product Characteristics

Item	Test condition/ Methods	Performance	Standard
Time/Current	100% of current rating	No Fusing, 4hours Min.	UL248-14
	200% of current rating	1A~10A: <5sec 12A~20A: <20sec	SART SPEC
	1000% of current rating	1msec~10msec	IEC60127-4
Voltage Drop	100% of current rating	1A~6.3A: <300mV 7A~10A: <220mV 12A~20A: <150mV	IEC-60127-4
Endurance Test	Repeating 100 cycles of 100% of current rating for 1hour "ON", for 15min "OFF", then following by 1hour of 125% of current rating and testing Temperature rise	$ \Delta R $: <10% 1A~6.3A: ΔT <75℃ 7A~10A: ΔT <95℃	IEC-60127-4
	100% of current rating for 4hours, then testing Temperature rise	$ \Delta R $: <10% 12A~20A: ΔT <105℃	UL248-14
Interrupting Ability	1A~10A: 50A 125V AC&50A 160V 12A~20A: 50A 65VAC&50A 65VDC&200A 86V DC	without permanent arcing, ignition and bursting of fuse link	UL248-14 IEC60127-4
Solderability	240℃±5℃, 3sec±0.5sec	95% coverage Min.	IEC60127-4 IEC60068-2-20 MIL-STD-202
Resistance to Soldering	260℃±5℃, 10sec±0.5sec	$ \Delta R $: <10%	MIL-STD-202 Method 210
High Temperature Operating Life	T=70℃±2℃, 60% of current rating, 96 hours	$ \Delta R $: <10%	MIL-STD-202 Method 108
Humidity (Steady State)	T=40℃±2℃, RH=90%~95%, 1000 hours	$ \Delta R $: <10%	MIL-STD-202 Method 103
Low Temperature Storage	T=-55℃±3℃, 96 hours	$ \Delta R $: <10%	IEC60068-2-1
High Temperature Storage	T=125℃±2℃, 96 hours	$ \Delta R $: <10%	IEC60068-2-2
Salt Spray	5% salt solution, 48 hours	$ \Delta R $: <10%	MIL-STD-202 Method 101
Thermal Shock	100 cycles, -65℃ to +125℃, 30 minutes@each extreme	$ \Delta R $: <(10%R+0.005Ω)	IEC 60068-2-14

Recommended Solder Curve

1. Infrared Reflow:

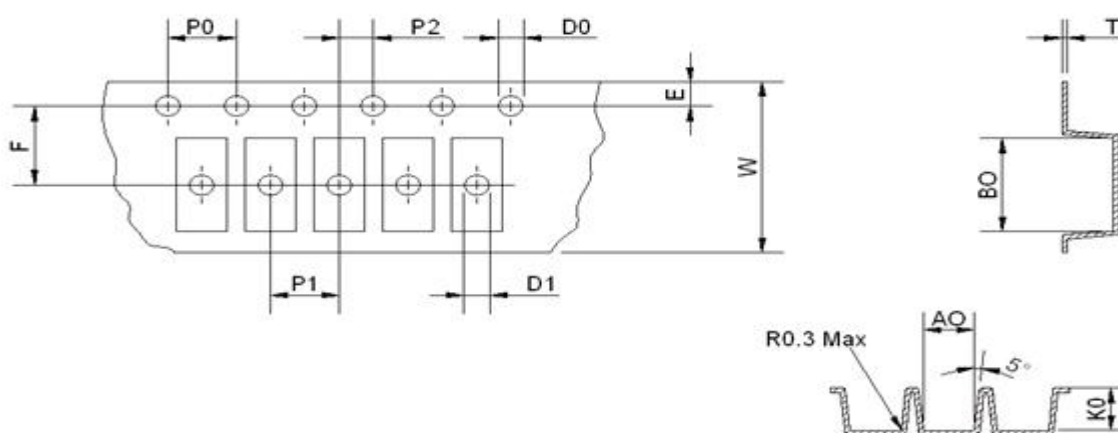
- Temperature: 260°C
- Time: 20sec Max.
- Recommend Reflow profile



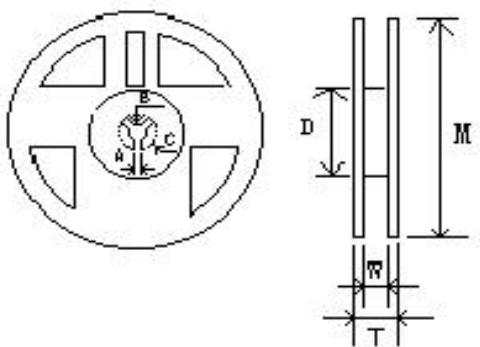
Profile Feature	Pb-Free Assembly
Average Ramp-up Rate(T_{Smax} to T_P)	3°C/sec Max.
Preheat Temperature Min. (T_{Smin}) Temperature Max. (T_{Smax}) Time (T_{Smin} to T_{Smax})	150°C 200°C 60sec~120sec
Peak Temperature(T_P)	260°C
Time within 5°C of actual Peak Temperature(t_P)	20sec
Temperature (T_L)	217°C
Melting tin time(t_L)	60sec~150sec
Ramp-down Rate	6°C/sec Max.
Time 25°C to peak Temperature	8min Max.

Packaging

- 1000 pieces of fuses in emboss taper and reeled on a 178mm(7 inch) reel.



Type	A0(mm)	B0(mm)	K0(mm)	P0(mm)	P1(mm)	P2(mm)
S6125-F	2.70±0.10	6.40±0.10	2.70±0.10	4.00±0.10	4.00±0.10	2.00±0.10
Type	E(mm)	F(mm)	D0(mm)	D1(mm)	W(mm)	T(mm)
S6125-F	1.75±0.10	5.50±0.10	1.50±0.10	1.50±0.25	12.00±0.15	0.25±0.05



Type	M(mm)	W(mm)	T(mm)	A(mm)	B(mm)	C(mm)	D(mm)
S6125-F	178.00±2.00	12.50±1.00	14.50±1.50	2.00±0.50	13.00±0.50	21.00±0.50	58.00±2.00

Storage

- The ambient temperature recommended for storage shall be between 5℃~30℃.
- The relative humidity recommended for storage shall be between 25%RH~60%RH.
- Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use.
- The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.