





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°C~125°C operating temperature
- Excellent environmental integrity
- RoHS compliant
- Halogen-free

Agency / Certificate Information

Agency	File Number	Ampere Range
	E319512	1A~20A
	PSE18021410	1A~5A
	PSE18021408	6.3A~10A

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
- Medical equipment

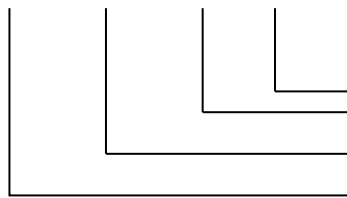
Electrical Specifications

Part Number	Current Rating (A)	Voltage Rating (V)	Interrupting Rating (V)		Typical Cold DCR* (mΩ)	Typical I ² T** (A ² s)
S6125-F-1.0A	1	125	UL: 50A 125V AC 50A 160V DC	CQC/PSE: 100A 100V AC	80.0	0.56
S6125-F-1.25A	1.25	125			60.0	0.84
S6125-F-1.6A	1.6	125			38.0	1.23
S6125-F-2.0A	2	125			30.0	1.34
S6125-F-2.5A	2.5	125		27.0	1.43	
S6125-F-3.0A	3	125		/	22.0	1.88
S6125-F-3.15A	3.15	125		CQC/PSE: 100A 100V AC	21.0	2.05
S6125-F-4.0A	4	125			16.0	3.44
S6125-F-5.0A	5	125			14.0	4.84
S6125-F-6.3A	6.3	125			10.0	10.55
S6125-F-7.0A	7	125			9.4	10.58
S6125-F-8.0A	8	125			7.4	17.62
S6125-F-10.0A	10	125			5.9	30.30
S6125-F-12.0A	12	65		UL: 50A 65V AC 50A 65V DC	4.8	42.22
S6125-F-15.0A	15	65	3.7		69.75	
S6125-F-20.0A	20	65	3		132.04	

* Measured at $\leq 10\%$ rated current and 25°C
** Melting I^2T at 10 times of rated current

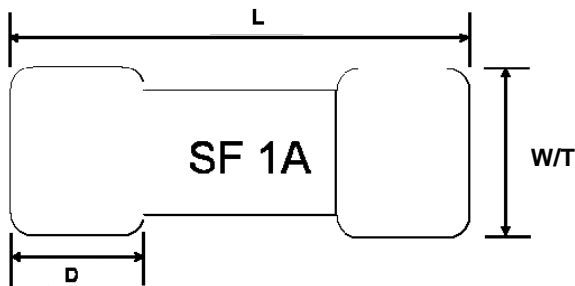
Part Number Information

S 6125-F-1.0A



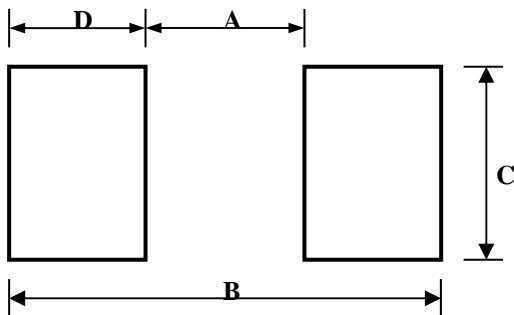
“1.0A” Ampere Rating: 1A
“ F ” Electrical Characteristic: F = Fast acting
“6125” Size Number
“ S ” Symbol of SART

Dimensions



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

Recommended Land Patterns



Dimensions	A(mm)	B(mm)	C(mm)	D(mm)
Spec	3.00 ± 0.30	8.00 ± 0.30	3.00 ± 0.30	2.50 ± 0.30

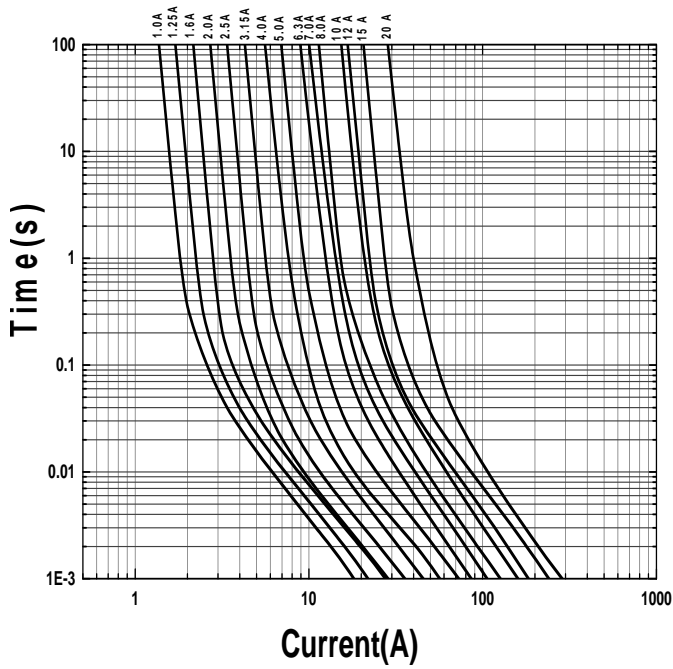
Materials

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

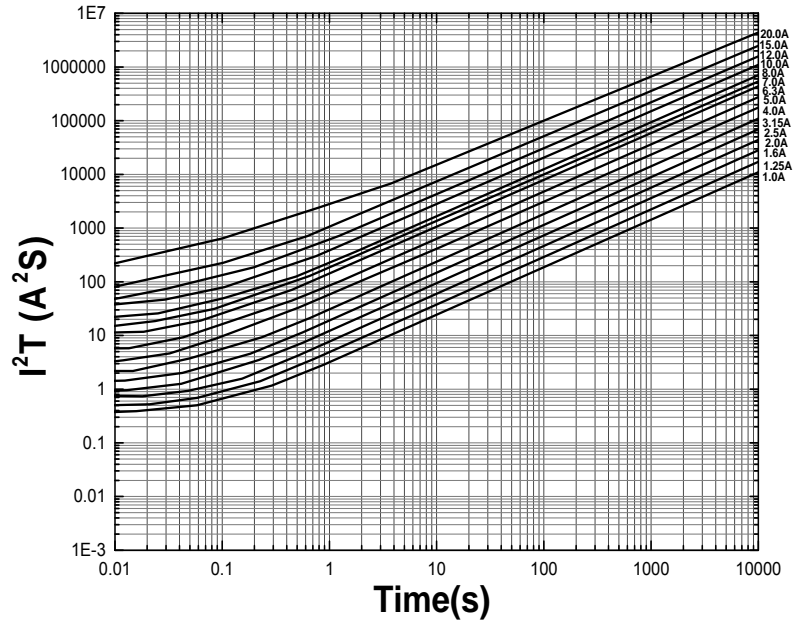
Dimensions of Standard Test Board

Type	Ampere Rating	Board Thickness (mm)	Copper Layer Thickness (mm)	Copper Trace Width (mm)
S6125	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



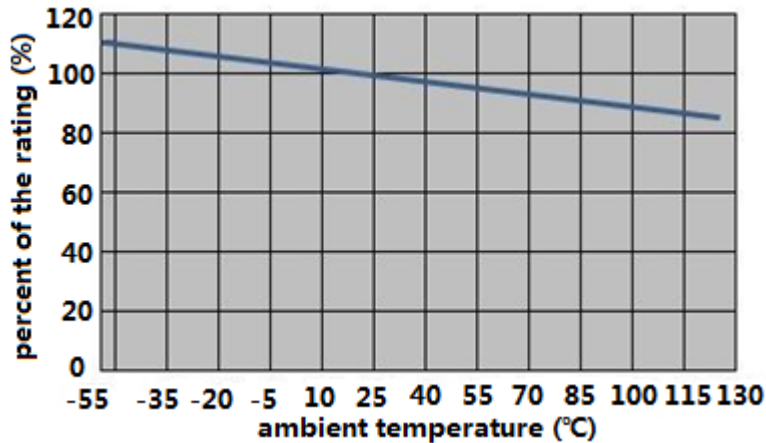
I²T VS Time Curve



Electrical Characteristics

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

Temperature Derating Curve



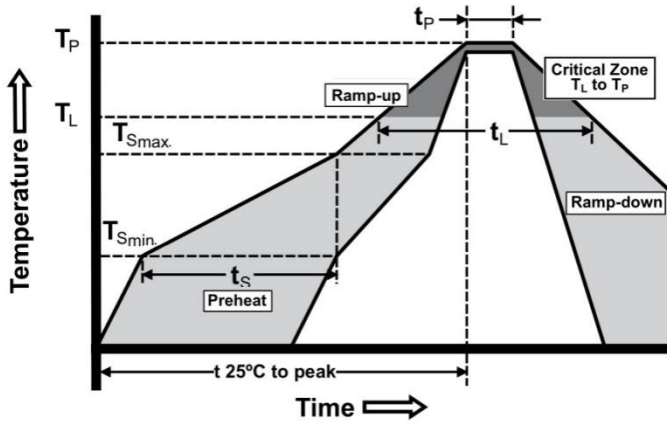
Product Characteristics

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	1ms~10ms	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	ΔR : <10% 1A~6.3A: ΔT<75℃ 7A~10A: ΔT <95℃	IEC-60127-4
	100% of current rating for 4hours, then testing Temperature rise	ΔR : <10% 12A~20A: ΔT <105℃	UL248-14
Interrupting Ability	1A~10A: 50A 125V AC 50A 160V DC 100A 100V AC 12A~20A: 50A 65VAC 50A 65VDC	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	ΔR : <10%	MIL-STD-202 Method 210
High Temperature Operating Life	T=70℃±2℃, 60% of current rating, 96 hours	ΔR : <10%	MIL-STD-202 Method 108
Humidity (Steady State)	T=40℃±2℃, RH=90%~95%, 1000 hours	ΔR : <10%	MIL-STD-202 Method 103
Low Temperature Storage	T=-55℃±3℃, 96 hours	ΔR : <10%	IEC60068-2-1
High Temperature Storage	T=125℃±2℃, 96 hours	ΔR : <10%	IEC60068-2-2
Salt Spray	5% salt solution, 48 hours	ΔR : <10%	MIL-STD-202 Method 101
Thermal Shock	100 cycles,-65℃ to +125℃,30 minutes@each extreme	ΔR : <(10%R+0.005Ω)	IEC 60068-2-14

Recommended Solder Curve

1. Infrared Reflow:

- Temperature: 260°C
- Time: 5sec 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)	5sec
Melting tin time(T_L)	20sec~40sec
Ramp-down Rate	6°C/sec Max.
Time 25°C to peak Temperature	8min Max.

2. Wave soldering

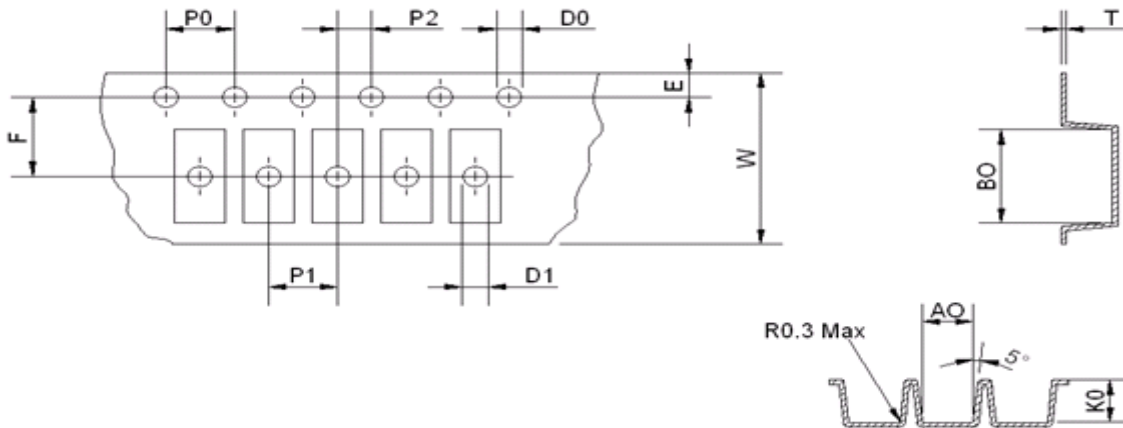
- Reservoir Temperature: 260°C
- Time in Reservoir: 10sec Max.

3. Hand Soldering

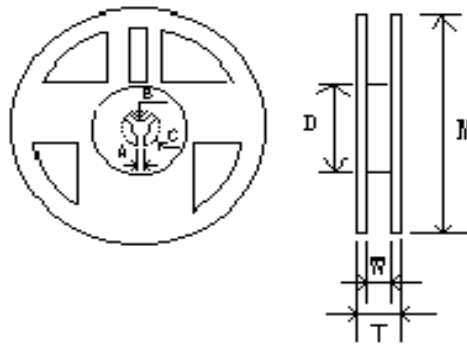
- Temperature: 300°C
- Time: 2sec Max.
- Soldering iron avoid touch Brass Cap.

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)
Spec	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)
Spec	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)
Spec	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°C~30°C.
- 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.

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