




General

- High 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	0.5A~5A

Application

- Battery pack
- Power supply
- PC & PC peripherals
- PC server
- Wireless basestation
- Industrial equipment
- Telecom system
- LCD monitor and modules
- Medical equipment

Electrical Specifications

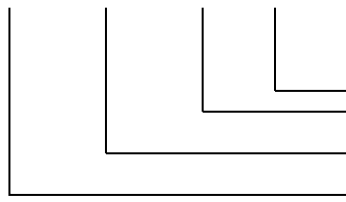
Part Number	Current Rating (A)	Voltage Rating (V)	Interrupting Rating (V)	Typical Cold DCR* (mΩ)	Typical I ² T** (A ² s)
S6125-H-0.5A	0.5	125	UL 50A 125V AC 50A 125V DC	250.0	0.312
S6125-H-1.0A	1	125		115.0	3.12
S6125-H-1.25A	1.25	125		85.0	4.21
S6125-H-1.5A	1.5	125		78.0	4.98
S6125-H-1.6A	1.6	125		68.0	5.85
S6125-H-2.0A	2	125		52.0	7.20
S6125-H-2.5A	2.5	125		36.0	14.05
S6125-H-3.0A	3	125		28.0	16.92
S6125-H-3.15A	3.15	125		24.0	18.68
S6125-H-3.5A	3.5	125		22.0	21.95
S6125-H-4.0A	4	125		20.0	32.80
S6125-H-5.0A	5	125		12.0	37.57

* Measured at ≤10% rated current and 25°C

** Melting I²T at 10 times of rated current

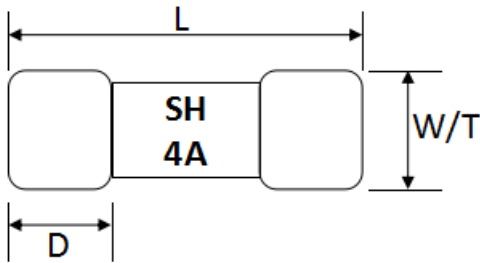
Part Number Information

S 6125 - H - 4.0A



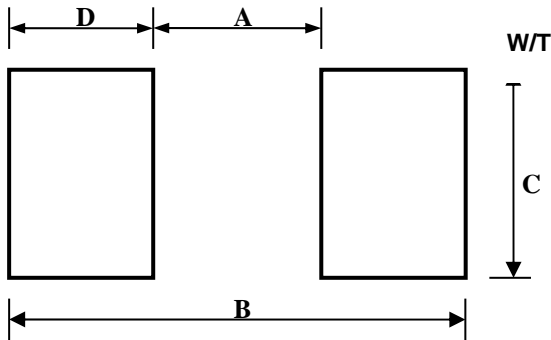
“4.0A” Ampere Rating: 4A
“H” Electrical Characteristic: H=High Inrush
“6125” Size Number
“ S” Symbol of SART

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

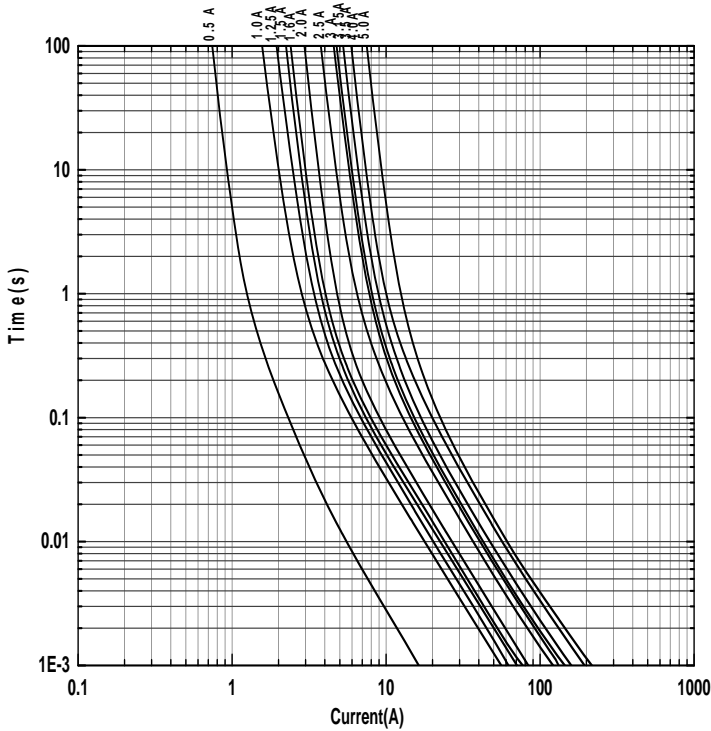
Materials

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

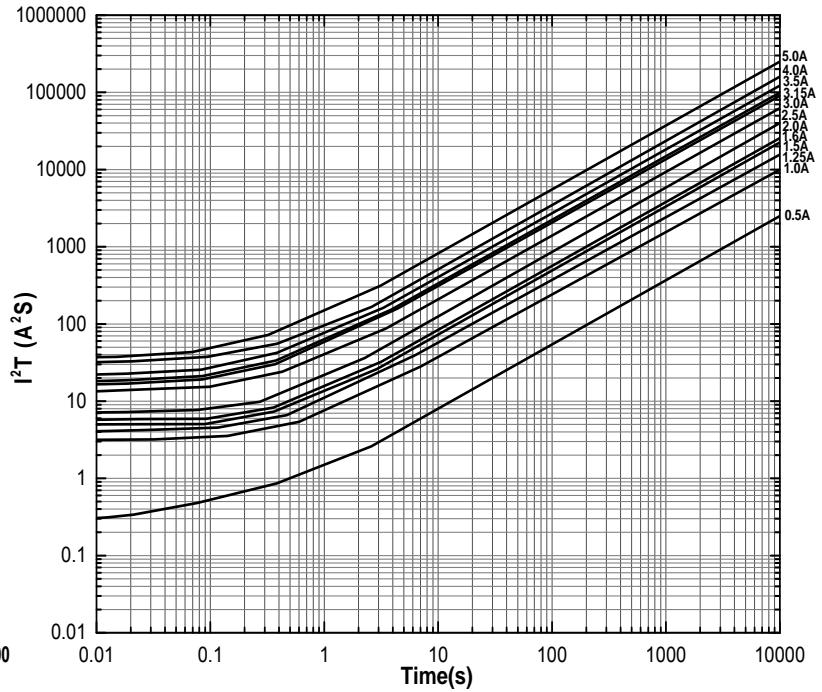
Dimensions of Standard Test Board

Type	Ampere Rating	Board Thickness (mm)	Copper Layer Thickness (mm)	Copper Trace Width (mm)
S6125	0.5A~5A	1.6	0.035	5

Time Current Curve



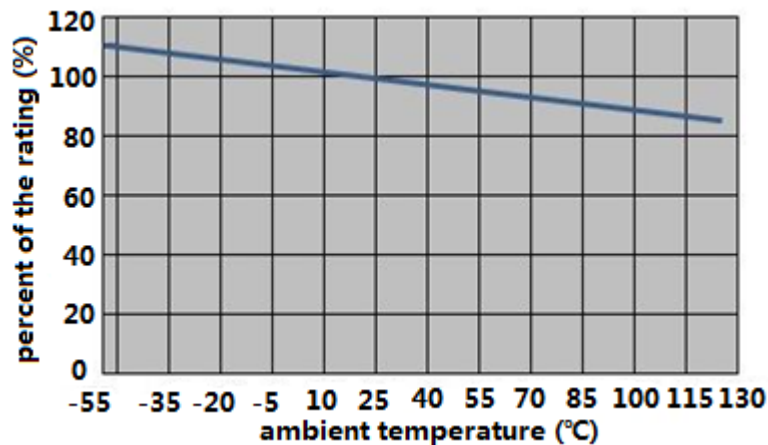
I²T VS Time Curve



Electrical Characteristics

Type	Ampere Rating	% of Current Rating	Opening Time
S6125	0.5A~5A	100	4hours Min.
	0.5A~5A	200	120sec Max.

Temperature Derating Curve



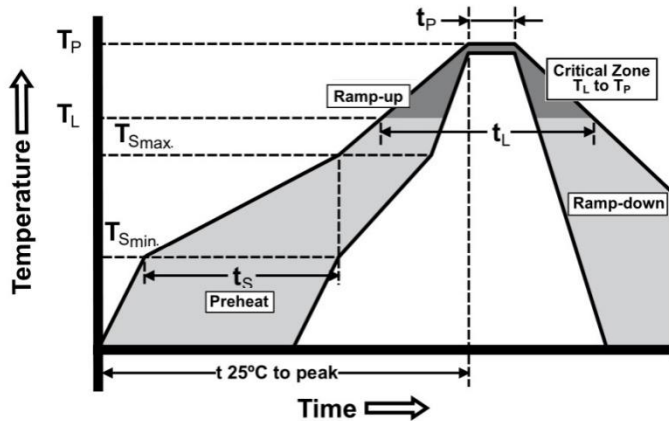
Product Characteristics

Item	Test condition/ Methods	Performance	Standard
Time/Current	100% of current rating	No Fusing, 4hours Min.	UL248-14
	200% of current rating	< 120sec	SART SPEC
	1000% of current rating	>10ms	IEC60127-4
Voltage Drop	100% of current rating	<300mV	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\%$ $\Delta T < 75^\circ\text{C}$	IEC-60127-4
Interrupting Ability	50A 125V AC 50A 125V DC	without permanent arcing, ignition and bursting of fuse link	UL248-14 IEC60127-4
Solderability	$240^\circ\text{C} \pm 5^\circ\text{C}$, 3sec ± 0.5 sec	95% coverage Min.	IEC60127-4 IEC60068-2-20; MIL-STD-202
Resistance to Soldering	$260^\circ\text{C} \pm 5^\circ\text{C}$, 10sec ± 0.5 sec	$ \Delta R < 10\%$	MIL-STD-202 Method 210
High Temperature Operating Life	$T = 70^\circ\text{C} \pm 2^\circ\text{C}$, 60% of current rating, 96 hours	$ \Delta R < 10\%$	MIL-STD-202 Method 108
Humidity (Steady State)	$T = 40^\circ\text{C} \pm 2^\circ\text{C}$, RH=90%~95%, 1000 hours	$ \Delta R < 10\%$	MIL-STD-202 Method 103
Low Temperature Storage	$T = -55^\circ\text{C} \pm 3^\circ\text{C}$, 96 hours	$ \Delta R < 10\%$	IEC60068-2-1
High Temperature Storage	$T = 125^\circ\text{C} \pm 2^\circ\text{C}$, 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°C to $+125^\circ\text{C}$, 30 minutes@each extreme	$ \Delta R < (10\%R + 0.005\Omega)$	IEC 60068-2-14

Recommended Solder Curve

1. Infrared Reflow:

- Temperature: 260°C
- Time: 5sec Max.
- Thickness of solder paste: 0.2mm 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})	150°C
Preheat Temperature Max. (T_{smax})	200°C
Preheat Time (T_{smin} to T_{smax})	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

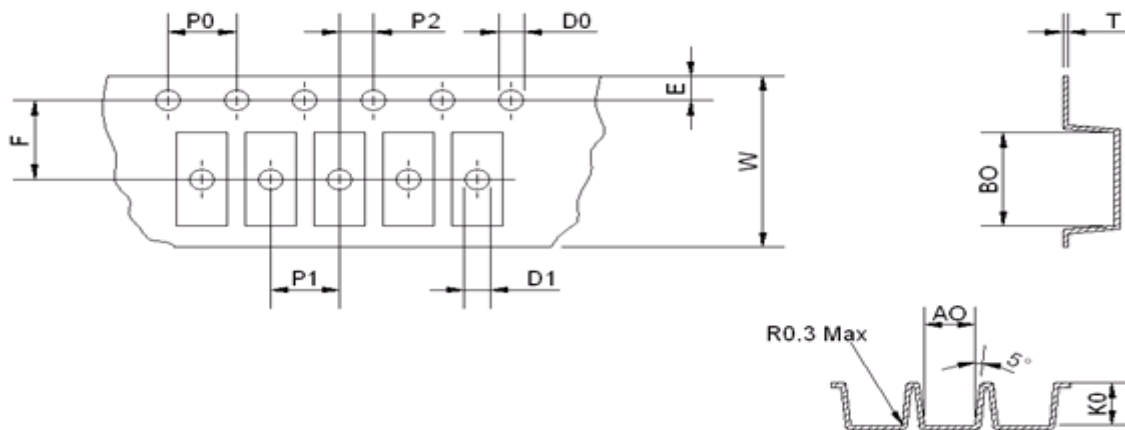
- Reservoir Temperature: 260°C
- Time in Reservoir: 10sec Max.

3. Hand Soldering

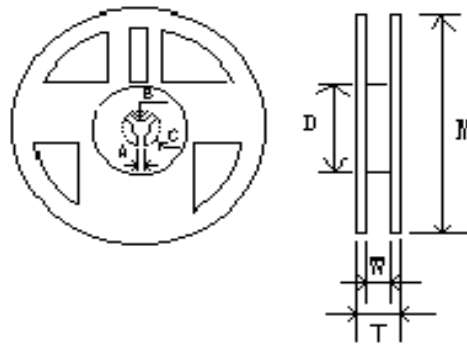
- Temperature: 300°C
- Time: 2sec Max.
- Soldering iron avoid touch Brass Cap.

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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