




## 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

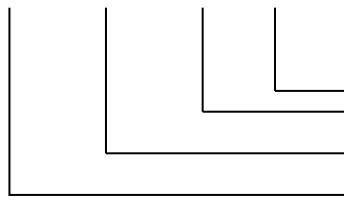
Part Number	Current Rating (A)	Voltage Rating (V)	Interrupting Rating (V)	Typical Cold DCR* (mΩ)	Typical I <sup>2</sup> T** (A <sup>2</sup> s)
S6125-H-0.5A	0.5	125	UL 50A 125V AC 50A 125V DC	250.0	0.312
S6125-H-1.0A	1	125		115.0	3.12
S6125-H-1.25A	1.25	125		85.0	4.21
S6125-H-1.5A	1.5	125		78.0	4.98
S6125-H-1.6A	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 I<sup>2</sup>T at 10 times of rated current

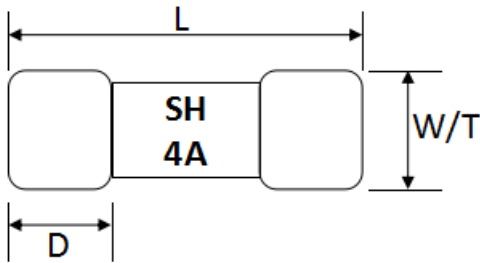
### Part Number Information

S 6125 - H - 4.0A



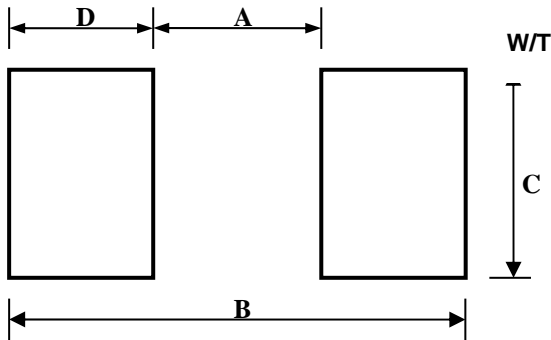
“4.0A” Ampere Rating: 4A  
“H” Electrical Characteristic: H=High Inrush  
“6125” Size Number  
“S” Symbol of SART

### 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

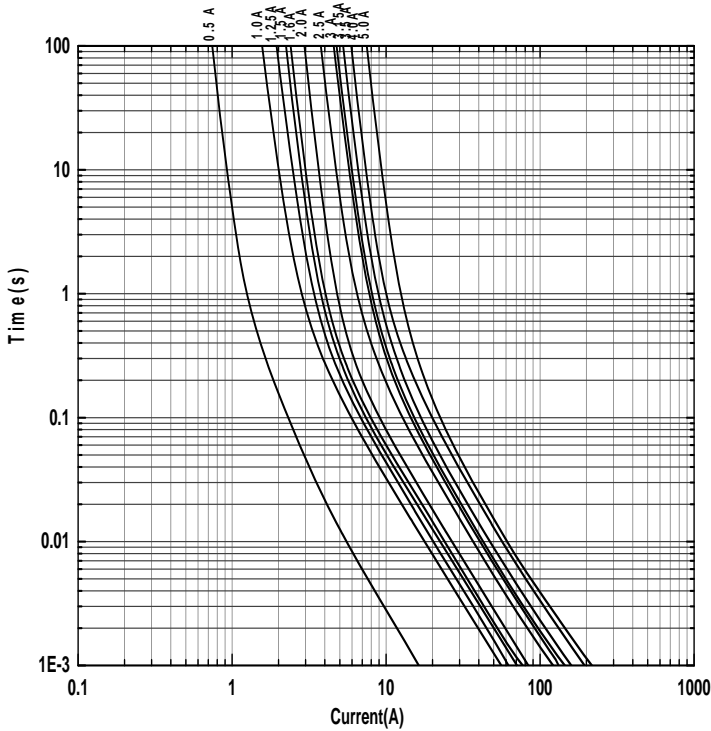
### Materials

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

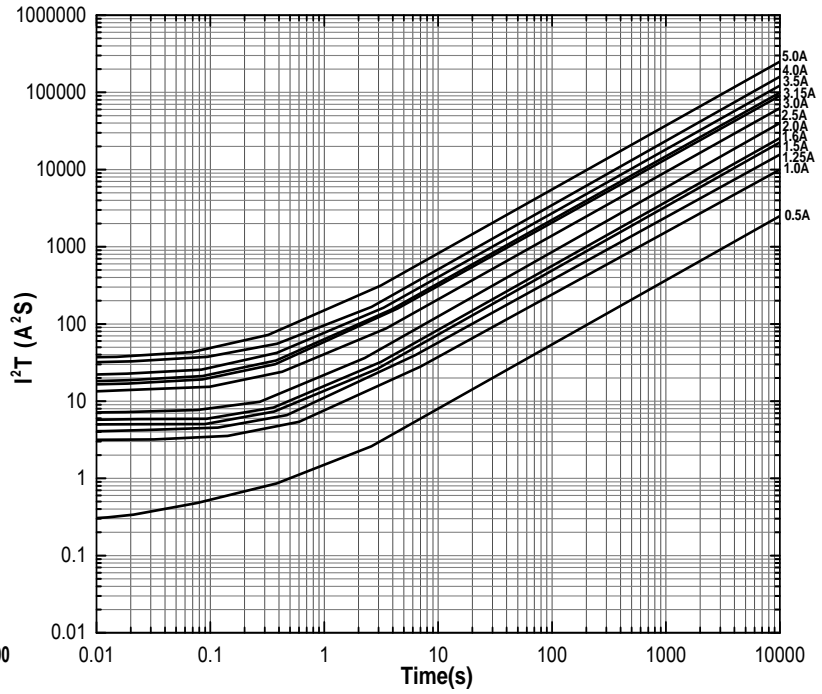
### Dimensions of Standard Test Board

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



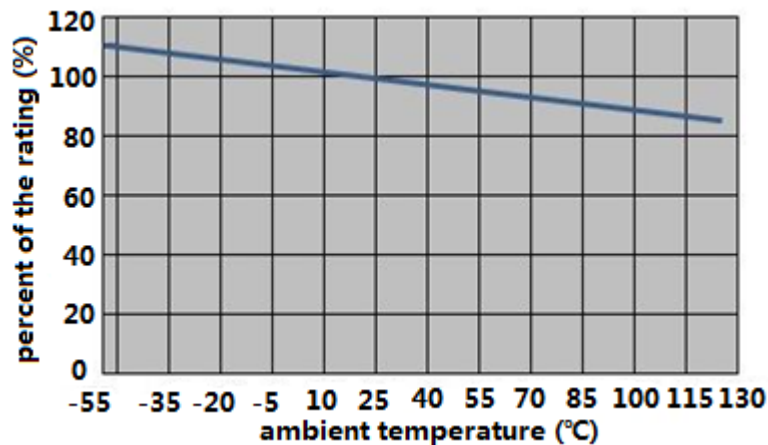
### I<sup>2</sup>T VS Time Curve



### 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



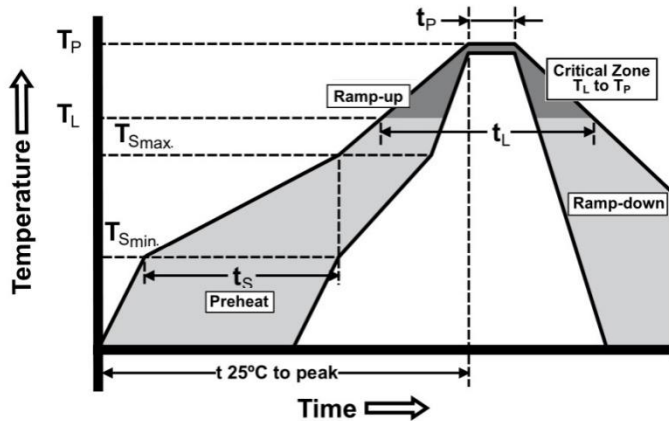
## Product Characteristics

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 $\pm 0.5$ 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 $\pm 0.5$ 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, $-65^\circ\text{C}$ 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. ( $T_{Smin}$ ) 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

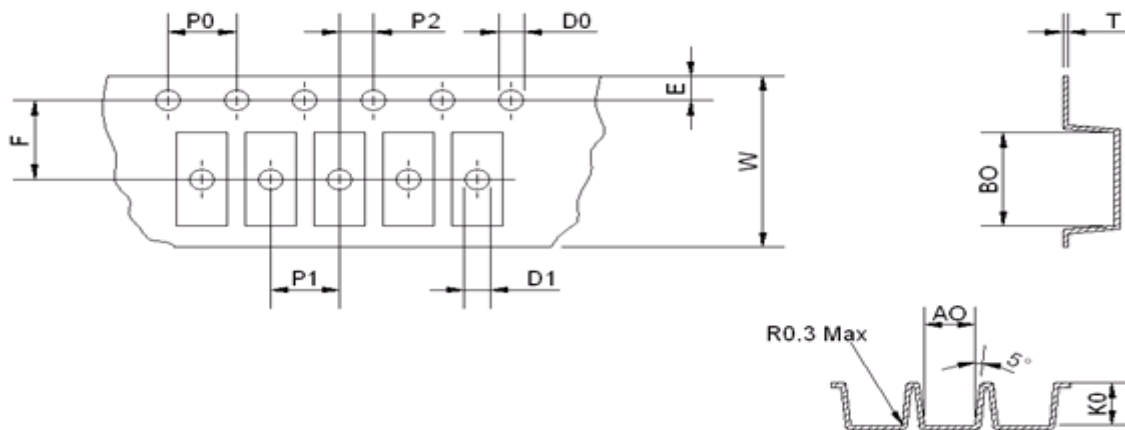
- Reservoir Temperature: 260°C
- Time in Reservoir: 10sec Max.

### 3. Hand Soldering

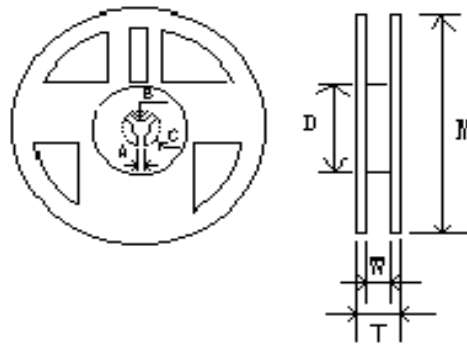
- Temperature: 300°C
- Time: 2sec Max.
- Soldering iron avoid touch Brass Cap.

## 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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