


### General

- Fast acting
- 3.1mm× 1.6mm physical size
- Thick film manufacturing method, ceramic substrate, silver fusing element
- -55℃~125℃ operating temperature
- Excellent environmental integrity
- RoHS compliant
- Halogen-free
- Lead free

### Agency / Certificate Information

Agency	File Number	Ampere Range
	E319512	20A~30A

### Application

- Battery pack
- PC related equipment and peripherals (Hard driver, Printer, etc.)
- Digital camera (Digital still camera)
- Game equipment
- LCD monitor, LCD modules
- Wireless base station
- Power supply
- Medical device

### Electrical Specifications

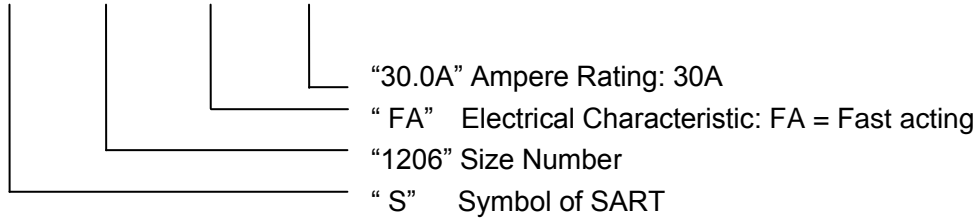
Part Number	Marking	Current Rating (A)	Voltage Rating (V)	Interrupting Rating (V)	Typical Cold DCR* (mΩ)	Typical I <sup>2</sup> T** (A <sup>2</sup> s)
S1206-FA-20.0A	20	20.0	48	300A 32V DC 200A 48V DC	1.7	48
S1206-FA-25.0A	25	25.0	48		1.3	70
S1206-FA-30.0A	30	30.0	48		1.0	90

\* Measured at ≤10% rated current and 25℃

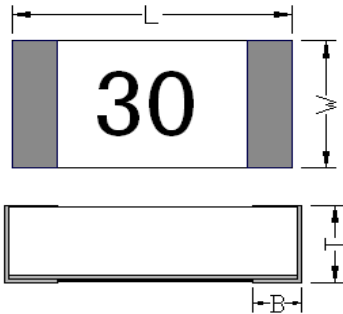
\*\* Melting I<sup>2</sup>T at 10 times of rated current

### Part Number Information

**S 1206-FA-30.0A**

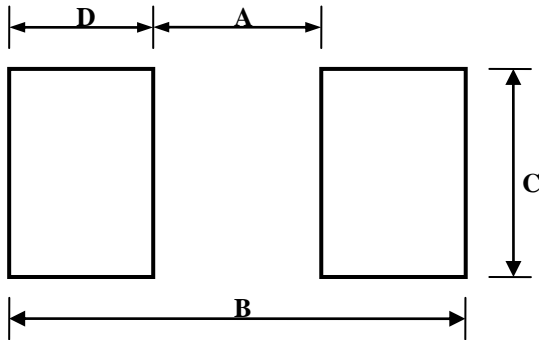


### Dimensions



Type	L (mm)	W (mm)	T (mm)	B (mm)
S1206-FA	3.10±0.20	1.60±0.20	0.80±0.20	0.60±0.20

### Recommended Land Patterns



Dimensions	A(mm)	B(mm)	C(mm)	D(mm)
Spec	2.00±0.30	4.40±0.50	2.40±0.30	1.20±0.30

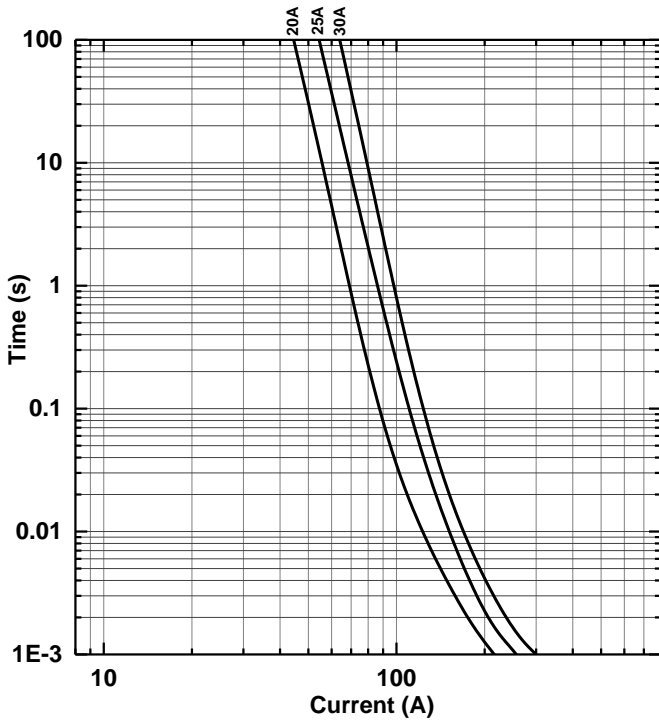
### Materials

Components	Material
Body	Ceramic
Terminations	Silver over plated with tin (100%)
Element	Silver or Silver/Palladium

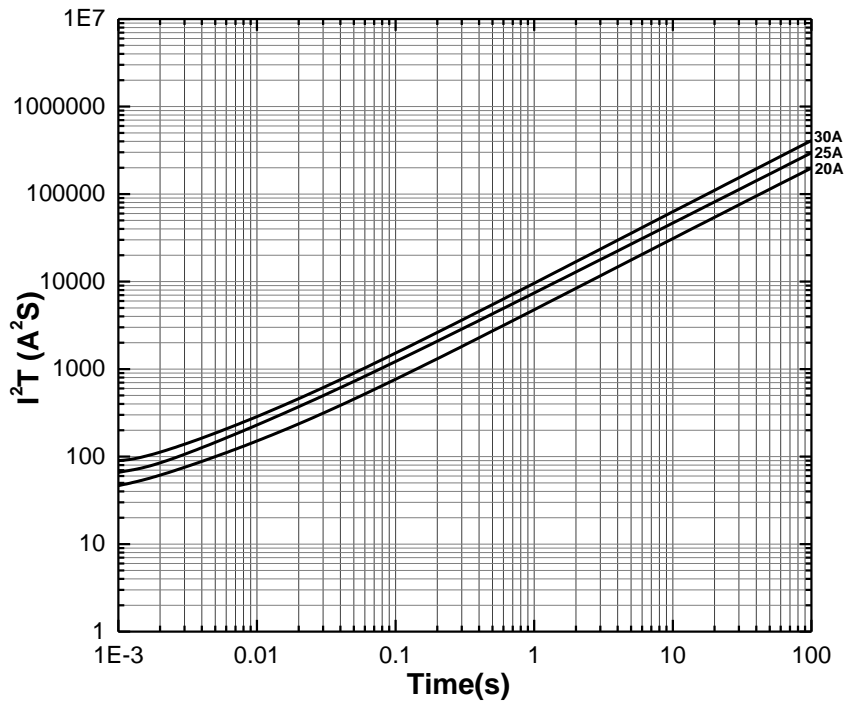
### Dimensions of Standard Test Board

Type	Ampere Rating	Board Thickness (mm)	Copper Layer Thickness (mm)	Copper Trace Width (mm)
S1206-FA	20.0A~30.0A	1.6	0.175	10.0

**Time Current Curve**



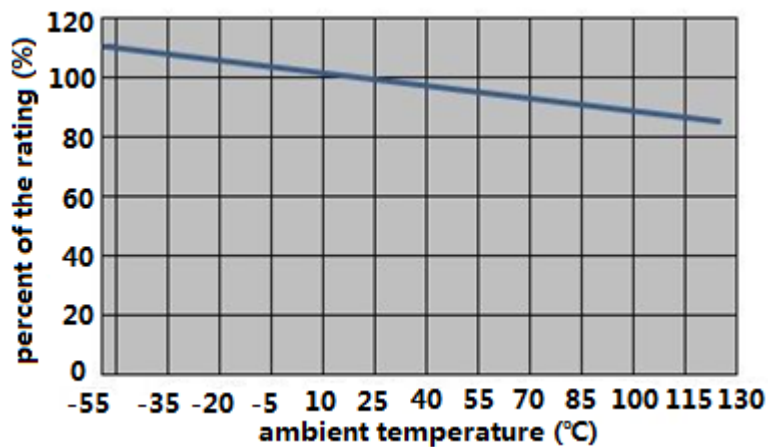
**I<sup>2</sup>T VS Time Curve**



**Electrical Characteristics**

Type	Ampere Rating	% of Current Rating	Opening Time
S1206-FA	20.0A~30.0A	100	>4hours
	20.0A~30.0A	350	≤5sec

**Temperature Derating Curve**

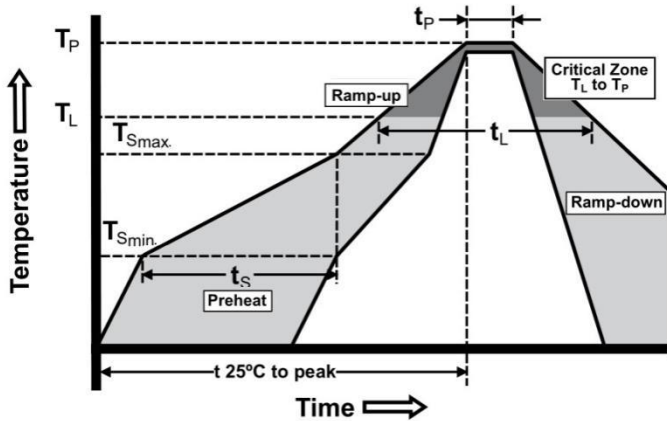


## Product Characteristics

Item	Test condition/ Methods	Performance	Standard
Time/Current	100% of current rating	No Fusing, 4hours Min.	UL248-14
	350% of current rating	≤5sec	SART SPEC.
Voltage Drop	100% of current rating	Deviation between the mean value: <15%	IEC-60127-4
Temperature Rise	100% of current rating	ΔT<95℃	IEC-60127-4
Interrupting Ability	300A 32V DC 200A 48V 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 MIL-STD-202 Method 208
Resistance to Soldering	260℃±5℃, 10sec±0.5sec	ΔR :<10% Legible appearance	MIL-STD-202 Method 210
Bending Test	Distance between holding points: 90mm Bending: 1mm, time: 10s	ΔR :<10% No mechanical damages	IEC60127-4
High Temperature Operating Life	T=70℃±2℃, 60%In, 96hours	ΔR : <10%; No fusing	MIL-STD-202 Method 108
Humidity (Steady State)	T=40℃±2℃, 90%~95%RH, 1000hours	ΔR : <10%	MIL-STD-202 Method 103
Low Temperature Storage	T=-55℃±3℃, 96hours	ΔR : <10%	IEC60068-2-1
High Temperature Storage	T=125℃±2℃, 96hours	ΔR : <10%	IEC60068-2-2
Salt Spray	5% salt solution, 48hours	ΔR : <10% Legible appearance	MIL-STD-202 Method 101
Thermal Shock	100 cycles between -65℃/+125℃ 60 minutes, each extreme	ΔR : <10% No mechanical damages	MIL-STD-202 Method 107

## Recommended Solder Curve

1. Infrared Reflow:
- Temperature: 260°C
  - Time: 5sec Max.
  - Recommend Reflow profile



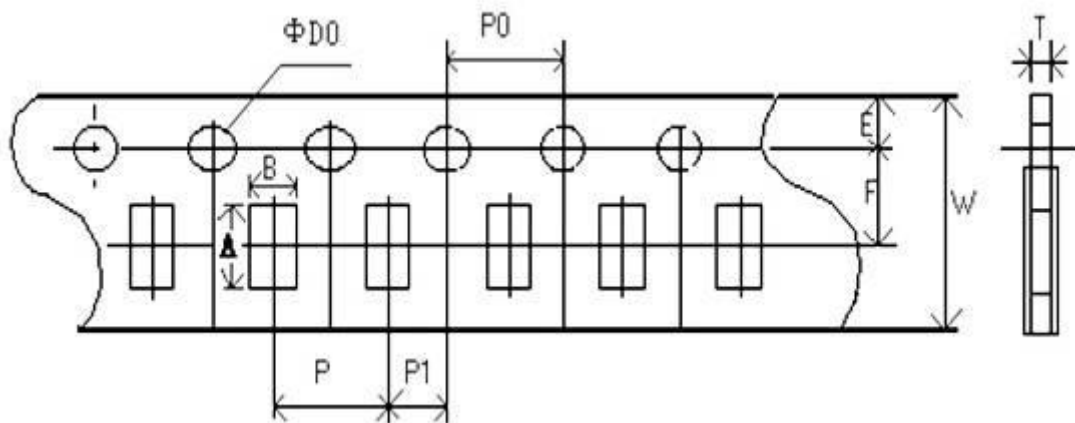
Profile Feature	Pb-Free Assembly
Average Ramp-up Rate( $T_{smax}$ to $T_p$ )	3°C/sec Max.
Preheat Temperature Min. ( $T_{smin}$ ) Temperature Max. ( $T_{smax}$ ) Time ( $T_{smin}$ to $T_{smax}$ )	150°C 200°C 60sec~120sec
Peak Temperature ( $T_p$ )	260°C
Time within 5°C of actual Peak Temperature ( $T_p$ )	5sec
Melting tin time ( $T_L$ )	20sec~30sec
Ramp-down Rate	6°C/sec Max.
Time 25°C to peak Temperature	8minutes Max.

2. Wave soldering
- Reservoir Temperature: 260°C
  - Time in Reservoir: 10secMax.

3. Hand Soldering
- Temperature: 350°C
  - Time: 5secMax.

## Packaging

- 5000 pieces of fuses in emboss taper and reeled on a 178mm(7 inch) reel.



Type	A(mm)	B(mm)	W(mm)	E(mm)	F(mm)
Spec	3.50±0.20	1.90±0.20	8.00±0.20	1.75±0.10	3.50±0.05
Type	P(mm)	P0(mm)	P1(mm)	D0(mm)	T(mm)
Spec	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	0.91±0.10



Type	M(mm)	W(mm)	T(mm)	A(mm)	B(mm)	C(mm)	D(mm)
Spec	178.00±2.00	9.50±1.00	12.50±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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