



General

- Slow Blow
- AEC-Q200 Automotive Grade Certified
- 3.1mm× 1.6mm physical size
- Thick film manufacturing method, ceramic substrate, silver fusing element
- -55℃~125℃ operating temperature
- Excellent environmental integrity
- Halogen-free
- Lead free

Agency / Certificate Information

Agency	File Number	Ampere Range
	E319512	8A~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 ² T** (A ² sec)
S1206-FG-8.0A	8	8.0	50	150A 50V DC	8.15	9.6
S1206-FG-10.0A	10	10.0	50		5.55	15.0
S1206-FG-12.0A	12	12.0	50		4.4	28.8
S1206-FG-15.0A	15	15.0	50		3.05	38.2
S1206-FG-20.0A	20	20.0	50	300A 35V DC 200A 50V DC	2.35	72.0
S1206-FG-25.0A	25	25.0	50		1.7	118.7
S1206-FG-30.0A	30	30.0	50		1.3	157.5

* Measured at ≤10% rated current and 25℃; Resistance test on side electrode of protective coating

** Melting I²T at 10 times of rated current

Part Number Information

S 1206-FG-10.0A

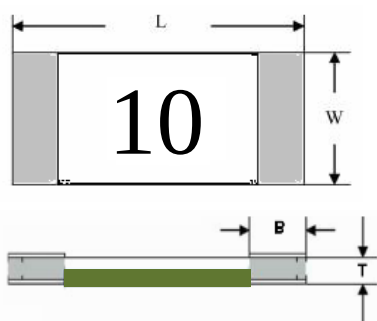
“10.0A” Ampere Rating: 10A

“FG” Electrical Characteristic: FG = Slow Blow for AEC-Q200

“1206” Size Number

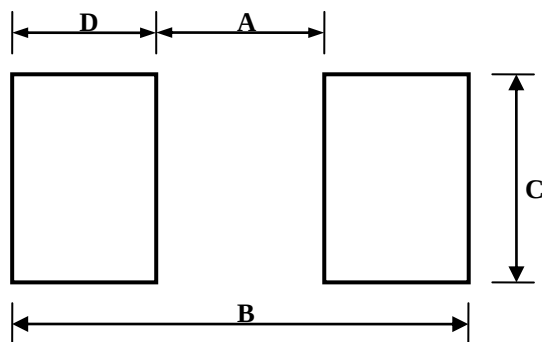
“S” Symbol of SART

Dimensions



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

Recommended Land Patterns



Materials

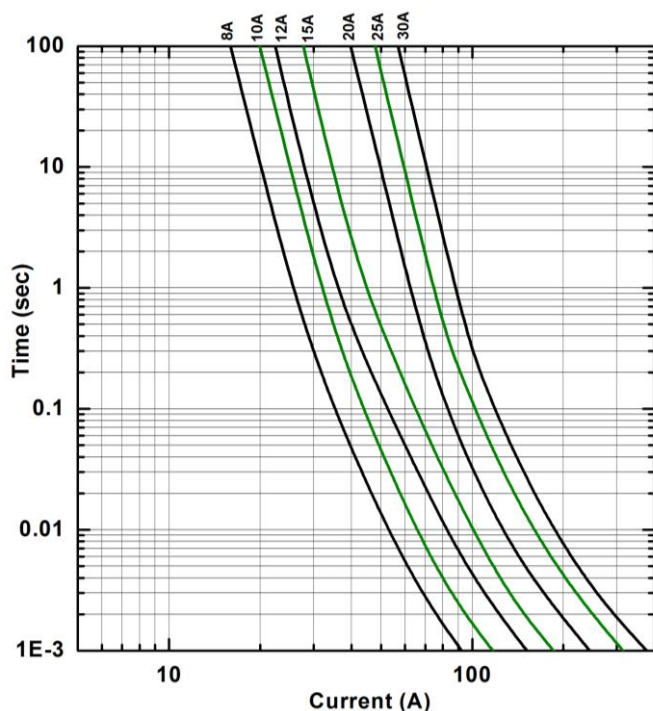
Components	Material
Body	Ceramic
Terminations	Silver over plated with tin (100%)
Element	Silver or Silver/Palladium

Type	A(mm)	B(mm)	C(mm)	D(mm)
S1206-FG	1.60±0.10	3.80±0.10	2.20±0.10	1.10±0.10

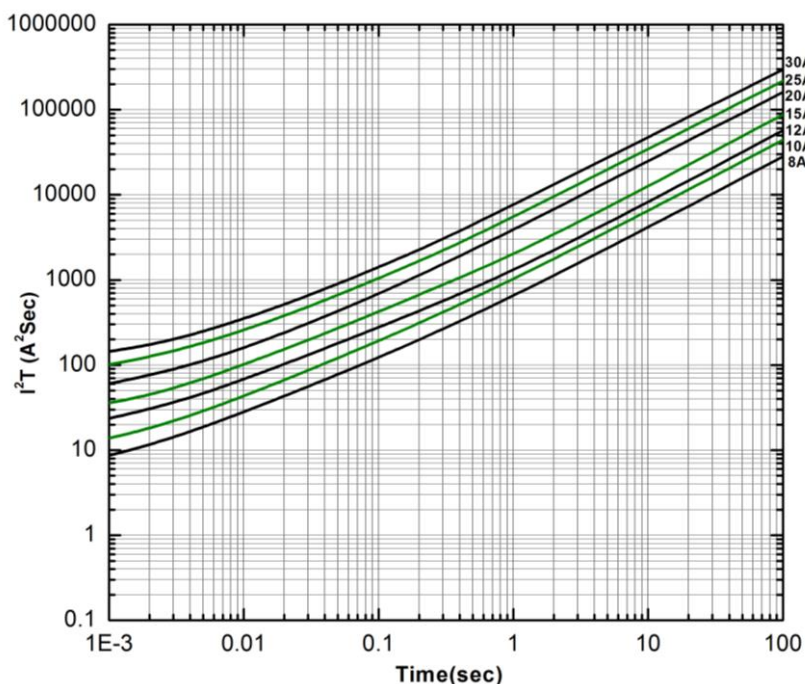
Dimensions of Standard Test Board

Type	Ampere Rating	Board Thickness (mm)	Copper Layer Thickness (mm)	Copper Trace Width (mm)
S1206-FG	8.0~10.0A	1.6	0.070	7.5
	12.0A~15.0A	1.6	0.080	10.0
	20.0A~30.0A	1.6	0.175	10.0

Time Current Curve



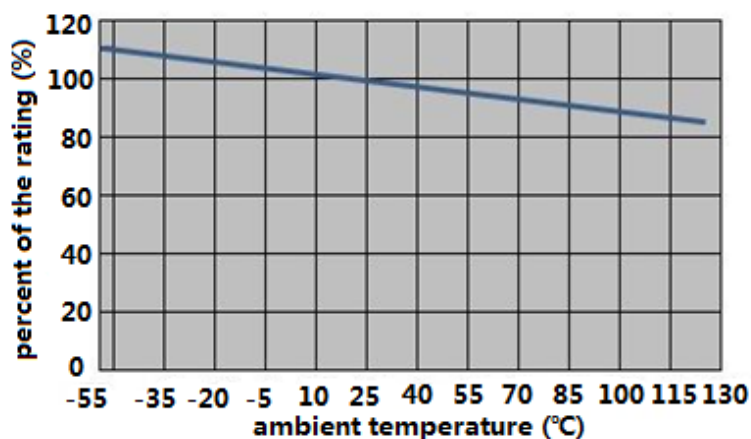
I²T VS Time Curve



Electrical Characteristics

Type	Ampere Rating	% of Current Rating	Opening Time
S1206-FG	8.0~30.0A	100	4hours Min.
	8.0~30.0A	350	5sec Max.
	8.0~30.0A	1000	0.5msec Min.

Temperature Derating Curve



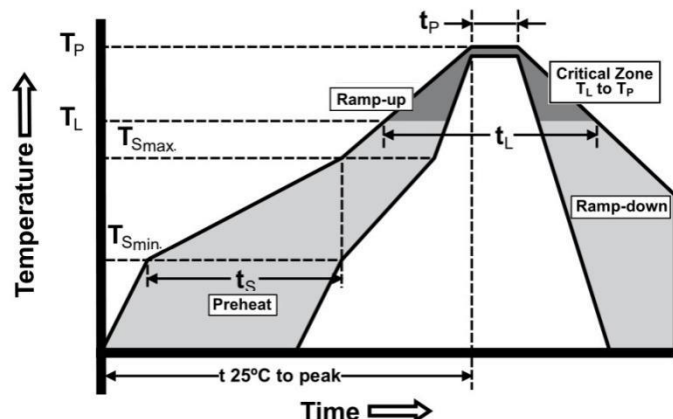
Product Characteristics

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.
	1000% of current rating	≥0.5msec	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	8~15A: 150A 50V DC	without permanent arcing, ignition and bursting of fuse link	UL248-14 IEC60127-4
	20~30: 200A 50V DC 300A 35V DC		
Solderability	235℃±5℃, 5sec±0.5sec	95% coverage Min.	J-STD-002
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: 2mm, time: 60sec	ΔR :<10% No mechanical damages	ACE-Q200-005
High Temperature Operating Life	T=125℃±2℃, 60%In, 1000hours	ΔR : <10%; No fusing	MIL-STD-202 Method 108
Humidity (Steady State)	T=85℃±2℃, 85%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℃, 1000hours	ΔR : <10%	MIL-STD-202
Salt Spray	5% salt solution, 96hours	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	JESD22 Method JA-104
Moisture Resistance	10 cycles between the specified humidity 24 hours, each cycles	ΔR : <10%	MIL-STD-202
Terminal Strength	Side thrust: 17.7N, time: 60sec	ΔR : <10%	AEC-Q200-006
Mechanical shock	Pulse acceleration:1000m ² /sec time: 6 msec stock number:18 times	ΔR : <10%	MIL-STD-202 Method 213
Vibration High Frequency	Frequency: 10Hz~2000Hz, Displacement amplitude: 0.75mm, Acceleration: 150m ² /sec,time: 12 hours	ΔR : <10%	MIL-STD-202 Method 204

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
Melting tin time (t_L)	60sec~150sec
Ramp-down Rate	6°C/sec Max.
Time 25°C to peak Temperature	8minutes Max.

2. Wave soldering

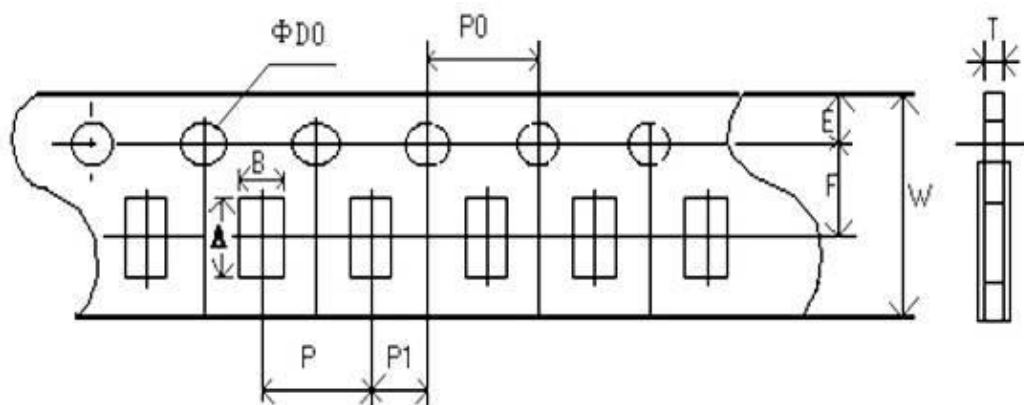
- Reservoir Temperature: 260°C
- Time in Reservoir: 10secMax.

3. Hand Soldering

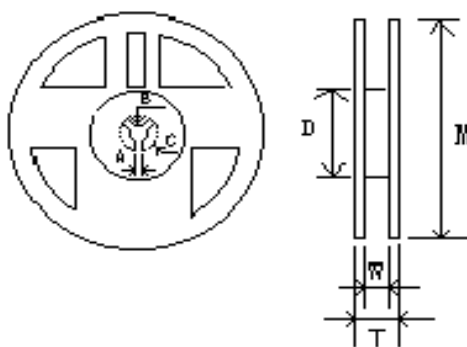
- Temperature: 350°C
- Time: 5secMax.

Packaging

- 4000 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)
S1206-FG	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)
S1206-FG	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	1.05±0.10



Type	M(mm)	W(mm)	T(mm)	A(mm)	B(mm)	C(mm)	D(mm)
S1206-FG	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℃~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