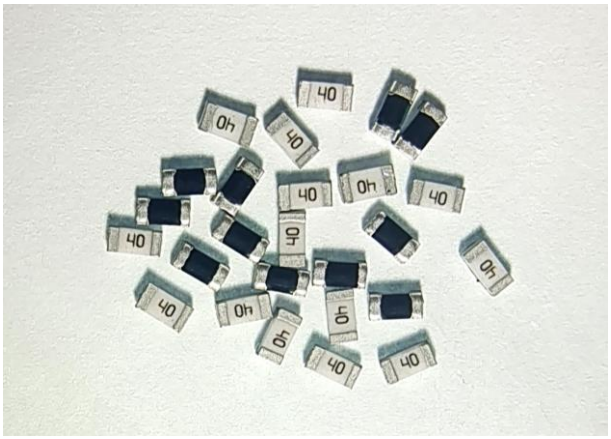


General

- High Current
- 3.1mm× 1.6mm physical size
- Thick film manufacturing method, ceramic substrate, silver fusing element
- -55℃~155℃ operating temperature
- Excellent environmental integrity
- RoHS compliant
- Halogen-free
- Lead free

Agency / Certificate Information

Agency	File Number	Ampere Range
c UL us	E319512	40A/45A

Application

- Battery Systems
- Routers
- PC
- Garden tools/Electric tools
- Unmanned aerial vehicle (UAV)
- Power supplies
- Machinery and equipment
- Portable Energy Storage

Electrical Specifications

Part Number	Marking	Current Rating (A)	Voltage Rating (V)	Interrupting Rating (V)	Typical Cold DCR (mΩ)	Typical I^2T** (A^2sec)
S1206-FG-40.0A	40	40.0	35	200A 35V DC 400A 26V DC	0.8	172.8
S1206-FG-45.0A	45	45.0	35		0.75	223.9

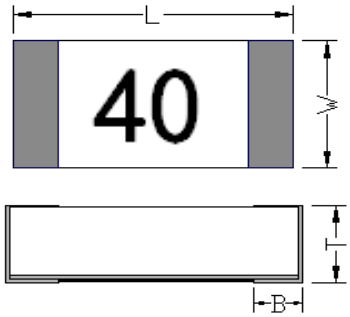
* Measured at≤10% rated current and 25℃
** Melting I^2T at 10 times of rated current

Part Number Information

S 1206–FG–40.0A

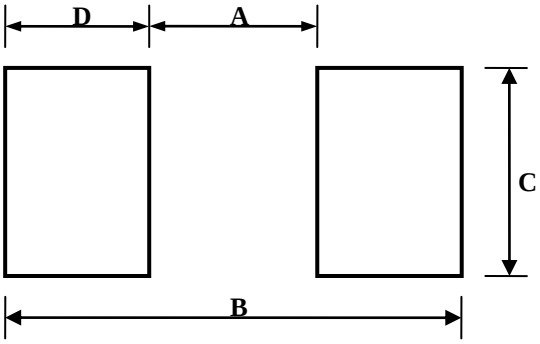
- "40.0A" Ampere Rating: 40A
- " FG" Electrical Characteristic: FG= High Current
- "1206" Size Number
- " S" Symbol of SART

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



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

Materials

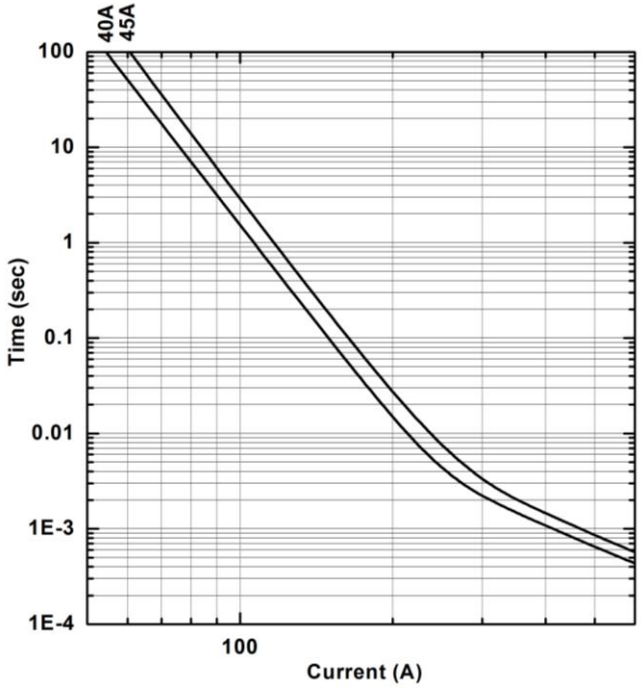
Components	Material
Body	Ceramic
Terminations	Silver over plated with tin (100%)
Element	Silver or Silver/Palladium

Dimensions of Standard Test Board

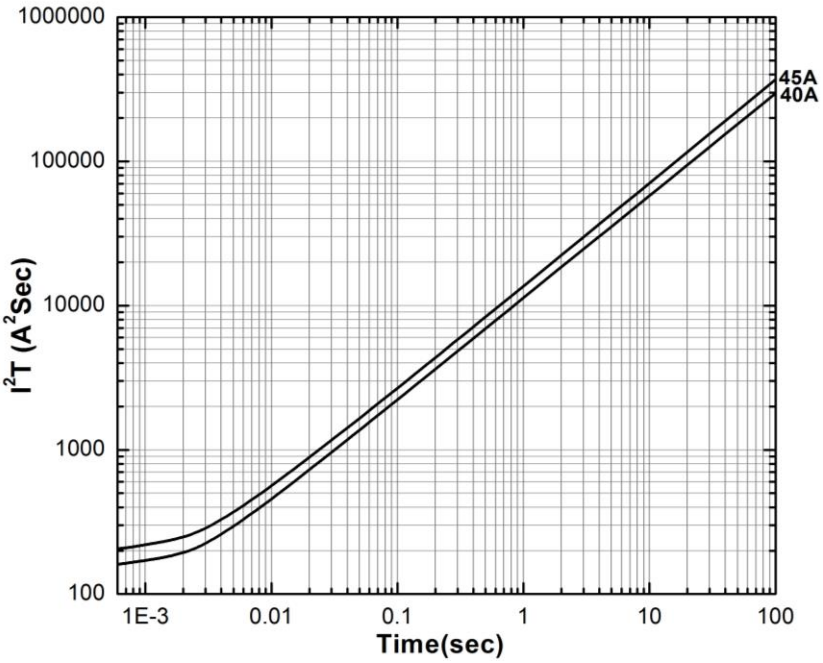
Type	Ampere Rating	Board Thickness (mm)	Copper Layer Thickness (mm)	Copper Trace Width (mm)
S1206-FG	40.0A	1.6	0.175	10.0
	45.0A	1.6	0.175	15.0

Nanjing SART Science &Technology Development Co., ltd.
ADD.:Maqun Science & Technology Park, Qingma Road 6#, Nanjing, China
TEL.:086-25-84354852-8015 FAX.:086-25-83241791 Web.: www.sartfuse.com

Time Current Curve



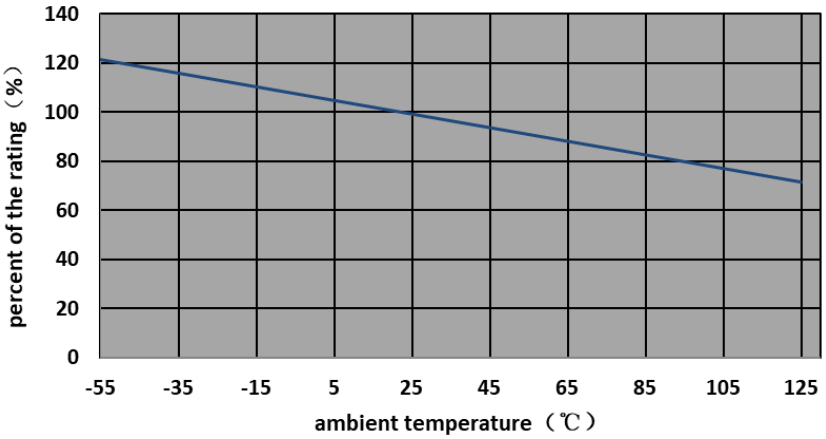
I^2T VS Time Curve



Electrical Characteristics

Type	Ampere Rating	% of Current Rating	Opening Time
S1206-FG	40.0A~45.0A	100	4hours Min.
		350	5sec Max.
		1000	0.5msec Min.

Temperature Derating Curve

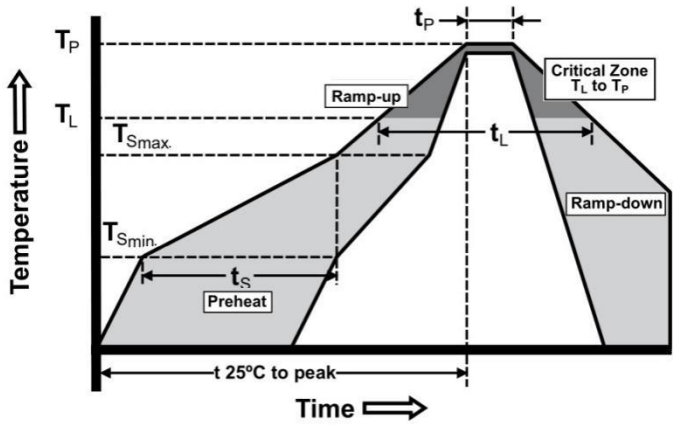


Product Characteristics

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	△T＜95℃	IEC-60127-4
Interrupting Ability	200A 35V DC 400A 26V 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	|△R|:＜10% Legible appearance	MIL-STD-202 Method 210
Bending Test	Distance between holding points: 90mm Bending: 2mm, time: 10sec	|△R|:＜10% No mechanical damages	IEC60127-4
Long Operating life	T=25℃,80%In for 1000 hours	|△U|:＜20%	SART SPEC.
High Temperature Operating Life	T=70℃±2℃, 60%In, 96hours	|△R|: ＜10%; No fusing	MIL-STD-202 Method 108
Humidity (Steady State)	T=85℃±2℃, 85%RH, 1000hours	|△R|: ＜10%	MIL-STD-202 Method 103
Low Temperature Storage	T=-55℃±3℃，96hours	|△R|: ＜10%	IEC60068-2-1
High Temperature Storage	T=155℃±2℃，96hours	|△R|: ＜10%	IEC60068-2-2
Salt Spray	5% salt solution，96hours	|△R|: ＜10% Legible appearance	MIL-STD-202 Method 101
Thermal Shock	100 cycles between -65℃/+125℃ 60 minutes, each extreme	|△R|: ＜10% No mechanical damages	MIL-STD-202 Method 107
Mechanical shock	Pulse acceleration:15000m^2/sec, 0.5msec,half-sine shock time: 6 msec,stock number:18 times	|△R|: ＜10%	MIL-STD-202 Method 213
High frequency vibration	Vibration direction: Vibration direction: X / Y / Z three directions time: 10Hz ~ 2000Hz, 20 cycles per direction, 240min / direction	|△R|: ＜10%	MIL-STD-202 Method 204D

Recommended Solder Curve

1. Infrared Reflow:
   - Temperature: 260℃
   - Time:20sec Max.
   - Recommend Reflow profile



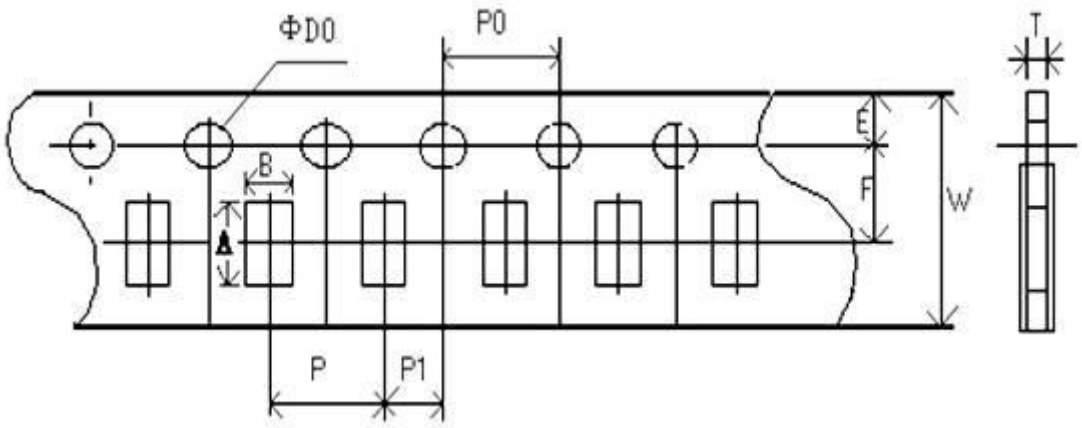
Profile Feature	Pb-Free Assembly
Average Ramp-up Rate(Ts_{max} to Tp)	3℃/sec Max.
Preheat Temperature Min.(Ts_{min}) Temperature Max.(Ts_{max}) Time(Ts_{min} to Ts_{max})	150℃ 200℃ 60sec~120sec
Peak Temperature(Tp)	260℃
Time within 5℃ of actual Peak Temperature(tp)	20sec
Melting tin time(t_L)	60sec~150sec
Ramp-down Rate	6℃/sec Max.
Time 25℃ to peak Temperature	8minutes Max.

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

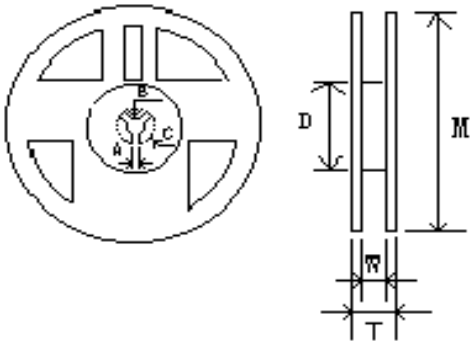
3.Hand Soldering
   - Temperature: 350℃
   - Time: 5secMax.

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±0.05	2.0±0.05	8.00±0.10	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	1.55±0.05	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