



General

- Slow Blow
- 3.10mm× 1.55mm 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	1A~7A
	J50578924	1A~7A

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

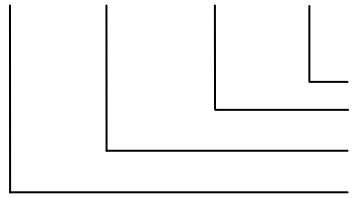
Part Number	Marking	Current Rating (A)	Voltage Rating (V)	Interrupting Rating (V)	Typical Cold DCR* (mΩ)	Typical I ² T** (A ² sec)	
S1206-SD-0.5A	F	0.5	63	50A 63V DC	1000	0.0052	
S1206-SD-0.75A	G	0.75	63		640	0.0615	
S1206-SD-1.0A	H	1.0	63		320	0.245	
S1206-SD-1.5A	K	1.5	63		140	0.294	
S1206-SD-2.0A	N	2.0	63		92	0.788	
S1206-SD-2.5A	O	2.5	63		65	1.149	
S1206-SD-3.0A	P	3.0	63		50A 63V AC	36	2.300
S1206-SD-3.5A	R	3.5	63			30	2.563
S1206-SD-4.0A	S	4.0	63			23	3.667
S1206-SD-5.0A	T	5.0	63			16	4.260
S1206-SD-6.0A	6	6.0	63			12.5	9.848
S1206-SD-7.0A	U	7.0	63			7.0	11.176

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

** Melting I²T at 10 times of rated current

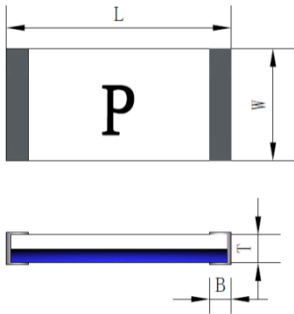
Part Number Information

S 1206-SD-3.0A



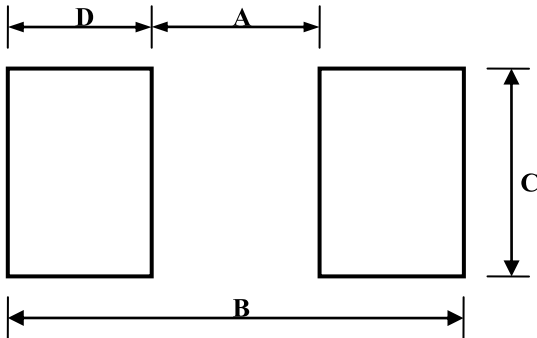
- “3.0A” Ampere Rating: 3A
- “SD” Electrical Characteristic: S = Slow Blow, D = 63V
- “1206” Size Number
- “S” Symbol of SART

Dimensions



Type	L (mm)	W (mm)	T (mm)	B (mm)
S1206-SD	3.10±0.20	1.55±0.20	0.55±0.20	0.50±0.20

Recommended Land Patterns



Type	A(mm)	B(mm)	C(mm)	D(mm)
S1206-SD	1.50±0.20	4.10±0.60	2.40±0.30	1.30±0.20

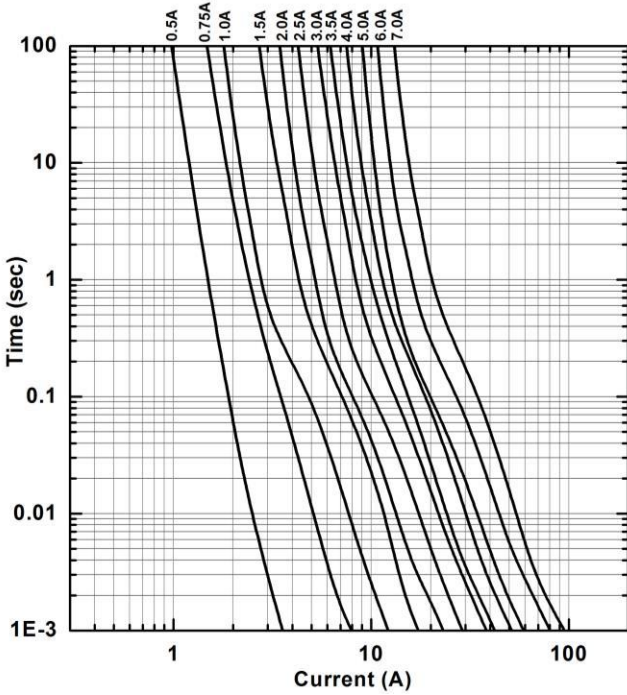
Materials

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

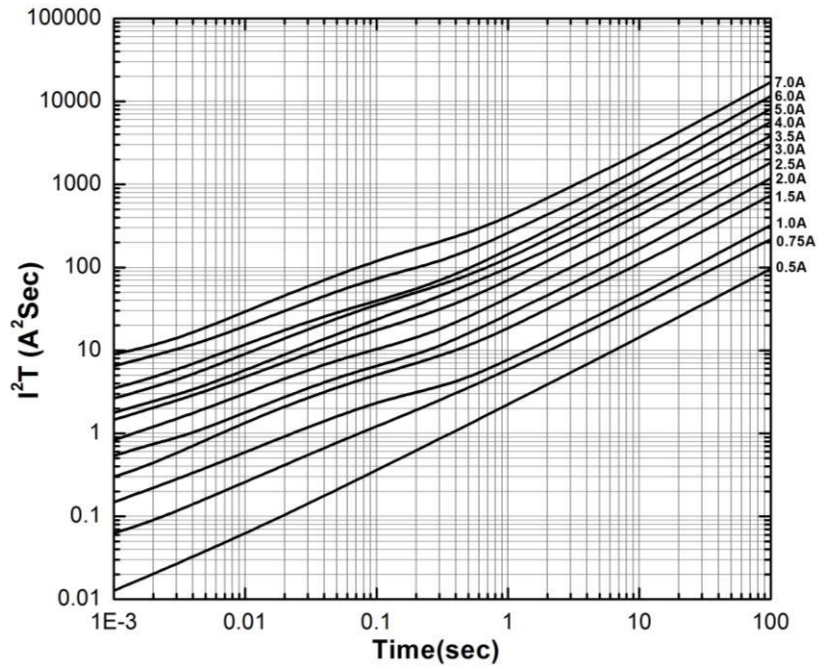
Dimensions of Standard Test Board

Type	Ampere Rating	Board Thickness (mm)	Copper Layer Thickness (mm)	Copper Trace Width (mm)
S1206-SD	0.5A~6.0A	1.6	0.035	5.0
	7.0A	1.6	0.070	7.5

Time Current Curve



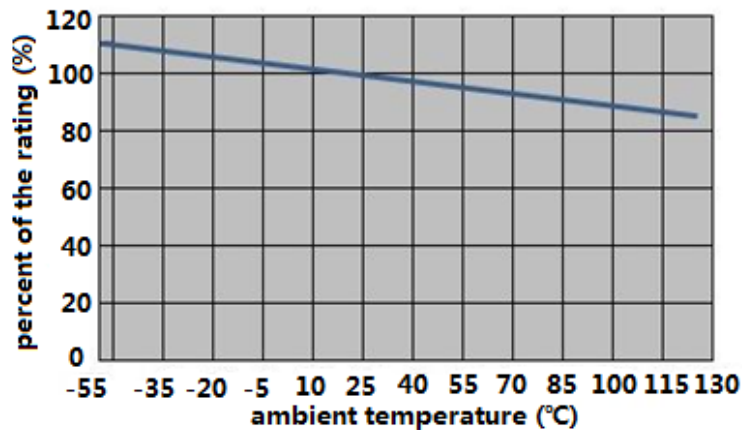
I²T VS Time Curve



Electrical Characteristics

Type	Ampere Rating	% of Current Rating	Opening Time
S1206-SD	0.5A~7.0A	100	4hours Min.
	1.0A~7.0A	200	60sec Max.
	0.5A	250	60sec Max.
	0.75A	250	20sec Max.
	0.5A~0.75A	1000	0.1msec Min.
	1.0A~7.0A	1000	1.0msec Min.

Temperature Derating Curve

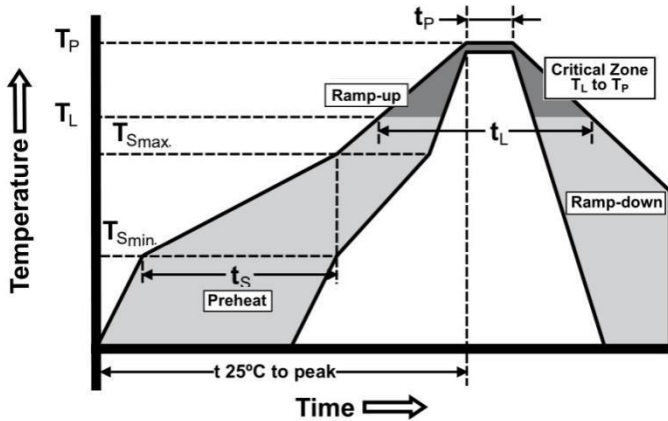


Product Characteristics

Item	Test condition/ Methods	Performance	Standard
Time/Current	100% of current rating	No Fusing, 4hours Min.	UL248-14
	200% of current rating	1.0A~7.0A: ≤60sec	SART SPEC.
	250% of current rating	0.5A: ≤60sec 0.75A: ≤20sec	
	1000% of current rating	0.5A~0.75A: >0.1msec 1.0A~7.0A: >1.0msec	IEC60127-4
Voltage Drop	100% of current rating	Deviation between the mean value: <15%	IEC60127-4
Temperature Rise	100% of current rating	$\Delta T < 75^{\circ}\text{C}$	IEC60127-4
Endurance Test	100 cycles of 1In for 1h "ON", for 15min "OFF", then following by 1h of 125%In	$ \Delta R < 10\%$	IEC60127-4
Interrupting Ability	50A 63V DC 50A 63V AC	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 MIL-STD-202 Method 208
Resistance to Soldering	$260^{\circ}\text{C} \pm 5^{\circ}\text{C}$, 10sec ± 0.5 sec	$ \Delta R < 10\%$ Legible appearance	MIL-STD-202 Method 210
Bending Test	Distance between holding points: 90mm Bending: 1mm, time: 10sec	$ \Delta R < 10\%$ No mechanical damages	IEC60127-4
High Temperature Operating Life	$T = 70^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 60%In, 96hours	$ \Delta R < 10\%$; No fusing	MIL-STD-202 Method 108
Humidity (Steady State)	$T = 40^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 90%~95%RH, 1000hours	$ \Delta R < 10\%$	MIL-STD-202 Method 103
Low Temperature Storage	$T = -55^{\circ}\text{C} \pm 3^{\circ}\text{C}$, 96hours	$ \Delta R < 10\%$	IEC60068-2-1
High Temperature Storage	$T = 125^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 96hours	$ \Delta R < 10\%$	IEC60068-2-2
Salt Spray	5% salt solution, 48hours	$ \Delta R < 10\%$ Legible appearance	MIL-STD-202 Method 101
Thermal Shock	100 cycles between $-65^{\circ}\text{C}/+125^{\circ}\text{C}$ 60 minutes, each extreme	$ \Delta R < 10\%$ No mechanical damages	MIL-STD-202 Method 107

Recommended Solder Curve

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



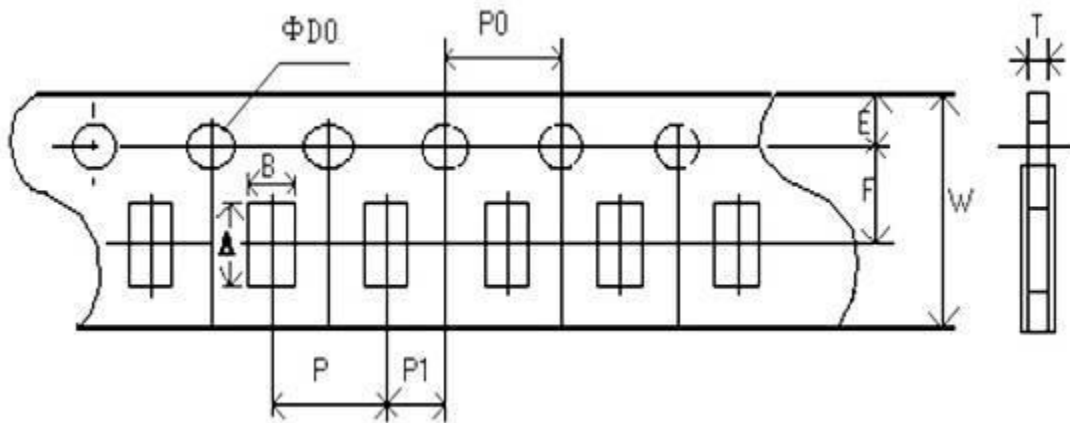
Profile Feature	Pb-Free Assembly
Average Ramp-up Rate(T_{Smax} to T_P)	3°C/sec Max.
Preheat Temperature Min.(T_{Smin}) Temperature Max.(T_{Smax}) Time(T_{Smin} to T_{Smax})	150°C 200°C 60sec~120sec
Peak Temperature(T_P)	260°C
Time within 5°C of actual Peak Temperature(T_P)	20sec
Melting tin time(T_L)	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.

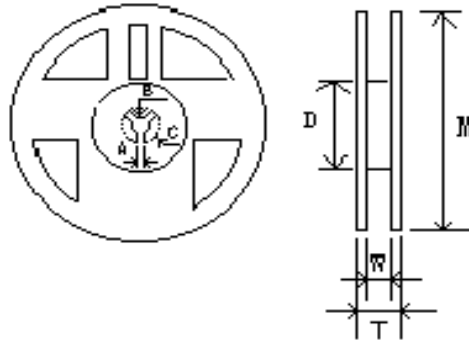
3. Hand Soldering
- Temperature: 350°C
 - Time: 5secMax.

Packaging

- 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)
S1206-SD	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-SD	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	0.75±0.10



Type	M(mm)	W(mm)	T(mm)	A(mm)	B(mm)	C(mm)	D(mm)
S1206-SD	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