



General

- Fast Acting
- 3.10mm×1.55mm physical size
- Thick film manufacturing method, ceramic substrate, silver fusing element
- -50°C~125°C operating temperature
- Excellent environmental integrity
- RoHS compliant
- Halogen-free

Agency / Certificate Information

Agency		
Agency	File Number	Ampere Range
	JDYX2.E319512	20.0A~30.0A
	JDYX8.E319512	

Application

- Power battery pack
- IPC related equipment and peripherals
- Power battery charge devices
- Power SMPS supply
- High power inverter equipment
- Wireless base station
- Voltage Regulator Module (VRM) Equipment
- DC-DC Converter

Ordering Information

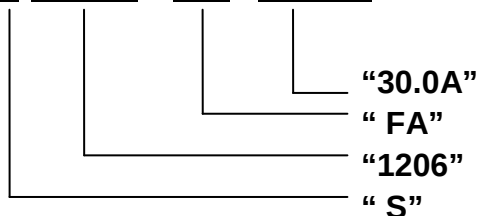
Part Number	Marking	Current Rating (A)	Voltage Rating	Interrupting Rating	Typical Cold DCR [*] (Ω)	Typical I ² T ^{**} (A ² S)
S1206-FA-20.0A	20	20.0	32V DC	300A/32V DC	0.0018	48
S1206-FA-25.0A	25	25.0	32V DC	300A/32V DC	0.0013	70
S1206-FA-30.0A	30	30.0	32V DC	300A/32V DC	0.0011	90

* Measured at ≤10% rated current and 25°C

** Melting I²T at 10 times of rated current

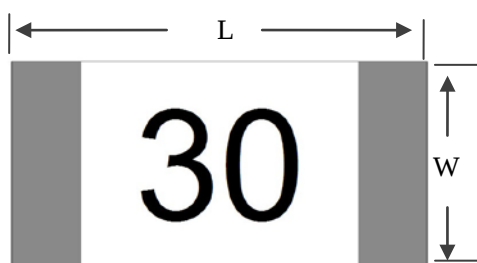
Catalog Symbol

S 1206 – FA – 30.0A

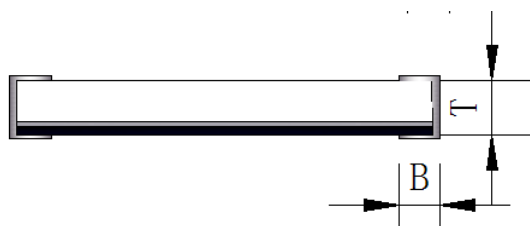


Ampere Rating: 30A
Electrical Characteristic: FA = Fast acting
Size Number
Symbol of SART

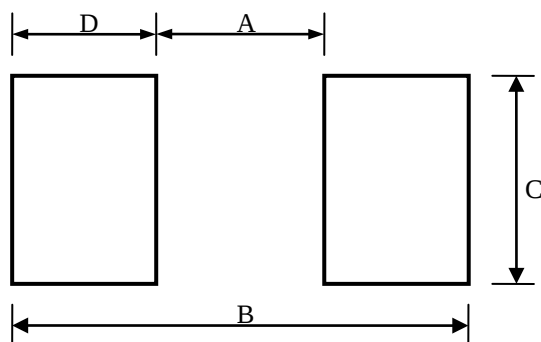
Dimensions



L(mm)	W(mm)	T(mm)	B(mm)
3.10±0.20	1.55±0.20	0.80±0.20	0.65±0.20



Recommended Land Patterns

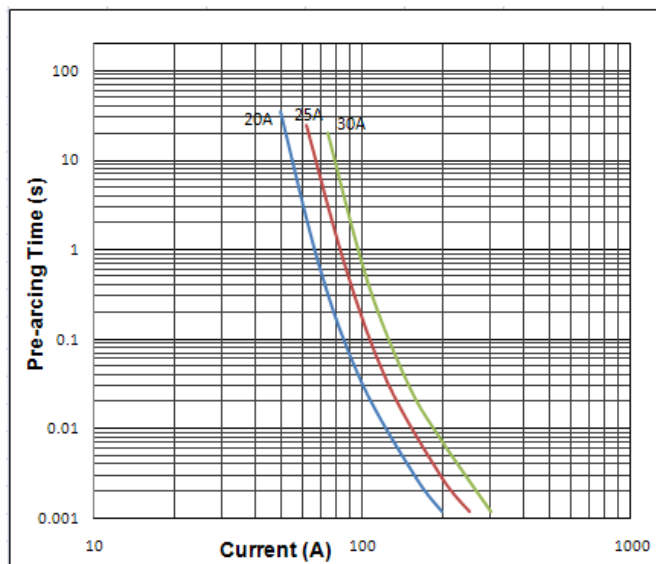


Dimensions	A(mm)	B(mm)	C(mm)	D(mm)
Spec	2.00±0.30	4.40±0.50	2.40±0.30	1.20±0.30

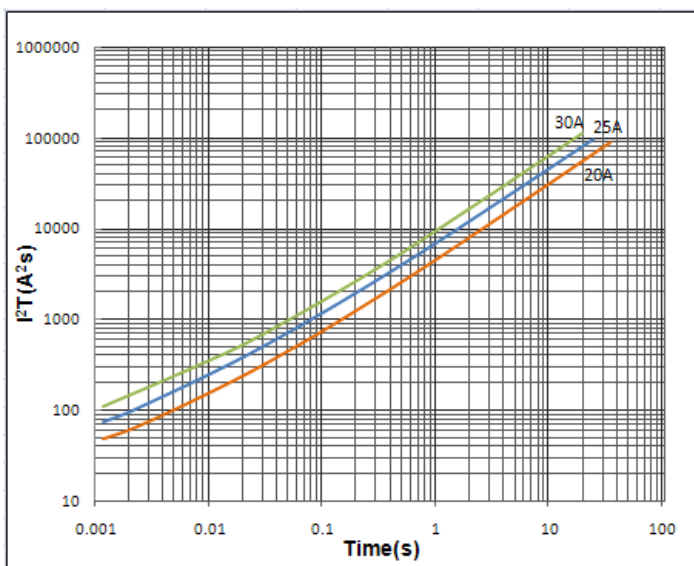
Materials

Components	Material
Substrate	Ceramic
Terminations	Silver over-plated with copper , nickel and tin
Element	Silver

Time Current Curve



I²T vs Time Curve



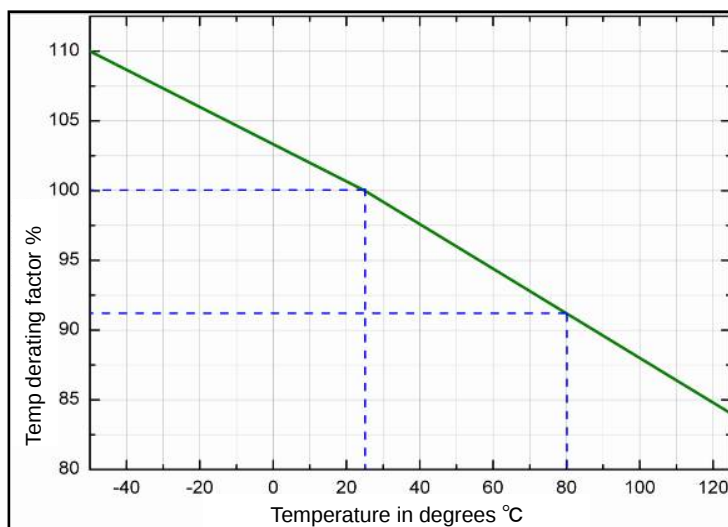
Electrical Characteristics

Ampere Rating	% of Current Rating	Opening Time
20.0A~30.0A	100%	> 4 hours
	350%	≤5 Sec

Temperature Derating Curve

- The current carrying capacity will be affected by ambient temperature which was showed in the figure.
- This current derating curve is for fusing characteristics.

Example,
Work Temp:80°C,
Temp derating factor = 91%
 $I_{\text{actual}} = I_{\text{normal}} / 0.91$



Reliability Test

Item	Test condition/ Methods	Performance	Standard
Voltage Drop	100% In; Temperature in fuse was stabilized	≤60mv; Deviation between the mean value:<15%	IEC 60127-1
Time/Current	100% In	No Fusing;4h Min.	SART File
	350% In ^{***}	Within 5s	
Temperature Rise	100%In ^{***}	ΔT<95℃	IEC60127-1
Interrupting Ability	300A/32V DC	Without permanent arcing, ignition and bursting of fuse link	UL248-14
Solder ability	240℃±5℃,3s±0.5s	95% coverage Min.	IEC60127-4 IEC60068-2-20 MIL-STD-202
Resistance to Soldering	260℃±5℃,10s±0.5s	ΔR <10%; Legible appearance;	MIL-STD-202 IEC60127-4
Bending Test	Distance between holding points: 90mm Bending: 1mm ; time:10s	ΔR <10%; No mechanical damages	IEC 60127-4
High Temperature Operating Life	70℃±2℃, 96h, at 60% In	ΔR <10%; no fusing	MIL-STD-202 Method 108
Low Temperature Storage	-55℃±2℃, 96h	ΔR <10%	IEC60068-2-1
High Temperature Storage	125℃±2℃, 96h	ΔR <10%	IEC60068-2-2
Humidity (steady state)	40℃±2℃, 90%~95%RH, 1000h	ΔR <10%	MIL-STD-202 Method 103
Salt Spray	5% salt solution, 48hexposure	ΔR <10% Legible appearance	MIL-STD-202 Method 101
Thermal Shock	5 cycles between -55℃/+125℃, 60 minutes ; each extreme	ΔR <10% No mechanical damages	IEC 60068-2-14

^{***} Fuse mounted on board with 5-oz Cu trace

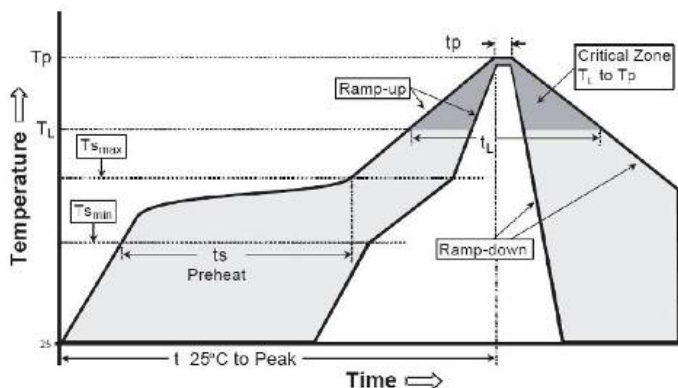
Recommended Solder Curve

1.Infrared Reflow:

Temperature : 260°C

Time : 5sec Max.

Recommend Reflow profile



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate($T_{s_{max}}$ to T_p)	3°C/s Max.
Preheat Temperature Min($T_{s_{min}}$) Temperature Max($T_{s_{max}}$) Time($T_{s_{min}}$ to $T_{s_{max}}$)	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/s Max.
Time 25°C to Peak Temperature	8 minutes Max.

2.Wave soldering

Reservoir Temperature : 260°C

Time in Reservoir : 10sec Max.

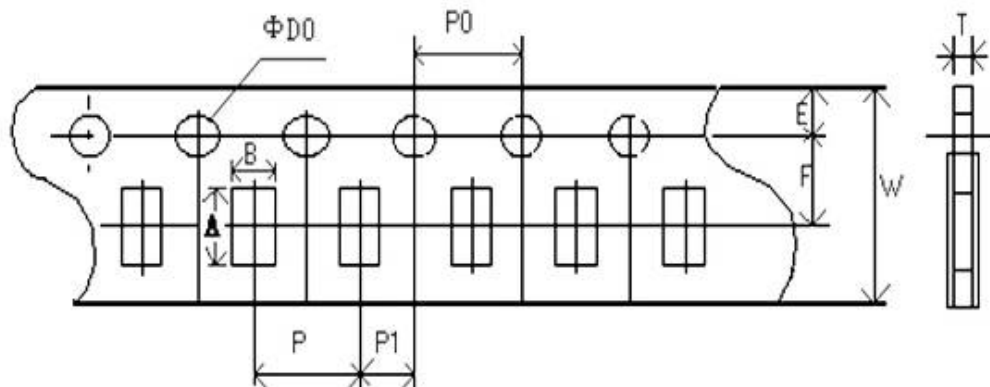
3.Hand Soldering

Temperature : 350°C

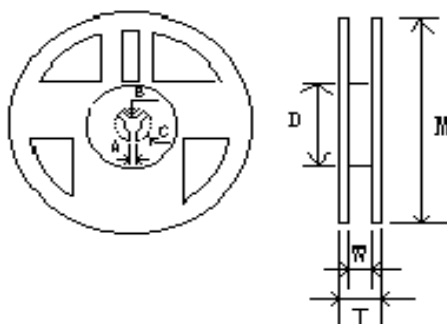
Time : 5sec Max.

Packaging

5,000 pieces of fuses in paper taper and reeled on a 178mm(7 inch) reel



Type	A(mm)	B(mm)	W(mm)	F(mm)	E(mm)
Spec	3.50±0.20	1.90±0.20	8.00±0.20	3.50±0.05	1.75±0.10
Type	P	P0	P1	D0	T
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	178.0±2.0	9.5±1.0	12.5±1.5	2.0±0.5	13.0±0.5	21.0±0.5	58.0±2.0

Storage

- The ambient temperature shall be between 5℃~30℃.
- The relative humidity recommended for storage is between 25%~60%.
- 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.