



SEA & LAND ELECTRONIC CORP.

[www.sealand-pptc.com](http://www.sealand-pptc.com)



ALPHA-TOP TECHNOLOGY CORP.

[www.alpha-top.cn](http://www.alpha-top.cn)

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## APPROVAL SHEET

MODEL NO.:

SL1206300-12V

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP:

DATE

MANUFACTURER:

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Submitted by:  
Approved by:  
DATE:

Chen  
YC Lin  
27-Oct-22

SEA & LAND ELECTRONIC CORP.



## SL1206300-12V

### Features

- Surface Mount Devices
- Lead free device
- Size 2.0\*1.2 mm / 0.08\*0.05 inch
- Surface Mount packaging
- for automated assembly

### Applications

- Almost anywhere there is a low voltage power supply, up to 15V and a load to be protected, including:
- Computer mother board, Modem, USB hub
- PDAs & Charger, Analog & digital line card
- Digital cameras, Disk drives, CD-ROMs,

Alpha-Top (Sea & Land Alliance)

### Performance Specification

Model	Marking	V <sub>max</sub> (Vdc)	I <sub>max</sub> (A)	I <sub>hold</sub> @25°C (A)	I <sub>trip</sub> @25°C (A)	P <sub>d</sub> Typ. (W)	Maximum Time To Trip		Resistance		Agency Approval	
							Current (A)	Time (Sec)	R <sub>i</sub> <sub>min</sub> (Ω)	R <sub>i</sub> <sub>max</sub> (Ω)	UL	TUV
SL1206300-12V		12	50	3.00	6.00	1.2	12.0	5.0	0.0030	0.0200	✓	

I<sub>hold</sub> = Hold Current. Maximum current device will not trip in 25°C still air.

I<sub>trip</sub> = Trip Current. Minimum current at which the device will always trip in 25°C still air.

V<sub>max</sub> = Maximum operating voltage device can withstand without damage at rated current (I<sub>max</sub>).

I<sub>max</sub> = Maximum fault current device can withstand without damage at rated voltage (V<sub>max</sub>).

P<sub>d</sub> = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

R<sub>i</sub><sub>min/max</sub> = Minimum/Maximum device resistance prior to tripping at 25°C.

R<sub>i</sub><sub>max</sub> = Maximum device resistance is measured one hour post reflow.

**CAUTION :** Operation beyond the specified ratings may result in damage and possible arcing and flame.

### Environmental Specifications

Test	Conditions
Passive aging	+85°C, 1000 hrs.
Humidity aging	+85°C, 85% R.H. , 168 hours
Thermal shock	+85°C to -40°C, 20 times
Resistance to solvent	MIL-STD-202,Method 215
Vibration	MIL-STD-202,Method 201
Ambient operating conditions : - 40 °C to +85 °C	
Maximum surface temperature of the device in the tripped state is 125 °C	
In case of special use,please contact our engineer	

### Agency Approvals :



E201504(Alpha-Top)/E319079(Sea&Land)

### Regulation/Standard:



2015/863/EU



EN14582

### I<sub>hold</sub> Versus Temperature

Model	Maximum ambient operating temperature (T <sub>mao</sub> ) vs. hold current (I <sub>hold</sub> )								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
SL1206300-12V	4.00	3.50	3.20	3.00	2.50	2.20	2.00	1.70	1.47



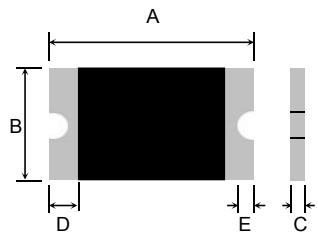
## SL1206300-12V

Alpha-Top (Sea & Land Alliance)

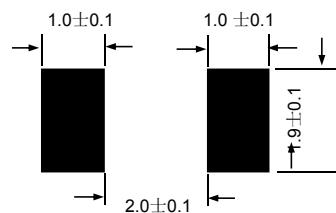
### Construction And Dimension (Unit:mm)

Model	A	B	C	D	E
	Min.	Max.	Min.	Max.	Min.
SL1206300-12V	2.00	3.50	1.20	1.90	0.50
					1.00
				0.30	0.10

### Dimensions & Marking



### Recommended Pad Layout (mm)



### Termination Pad Characteristics

Terminal pad materials :

Tin-plated Nickel-Copper

Terminal pad solderability :

Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

### Rework

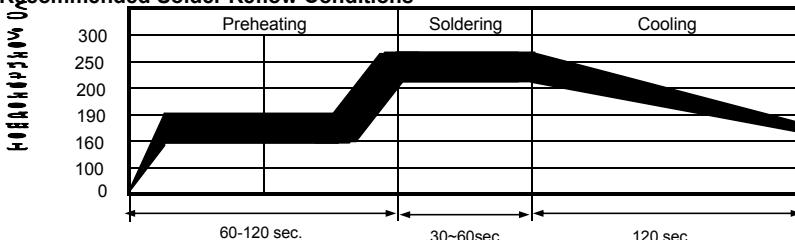
Use standard industry practices, the removal device must be replaced with a fresh one.



### WARNING:

- Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- Use PPTC with a large inductance in circuit will generate a circuit voltage ( $L \frac{di}{dt}$ ) above the rated voltage of the PPTC.
- Avoid impact PPTC device its thermal expansion like placed under pressure or installed in limited space.
- Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices. PPTC SMD can be cleaned by standard methods.
- Requests that customers comply with our recommended solder pad layouts and recommended reflow profile. Improper board layouts or reflow profile could negatively impact solderability.

## Recommended Solder Reflow Conditions

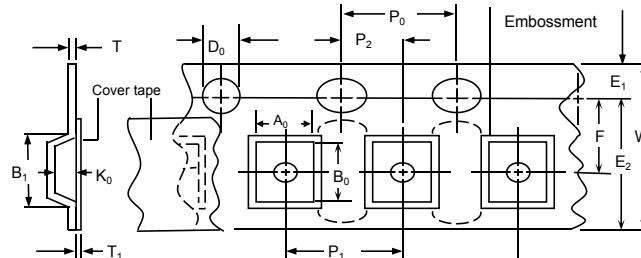


- Recommended reflow methods : IR, vapor phase oven, hot air oven.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25 mm (0.010 inch).
- Devices can be cleaned using standard method and solvents.
- Note : If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

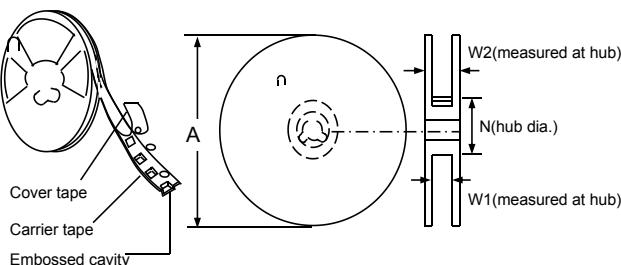
## Tape And Reel Specifications (mm)

Governing Specifications		EIA 481-1
W		8.15 ± 0.3
P0		4.0 ± 0.10
P1		4.0 ± 0.10
P2		2.0 ± 0.05
A0		1.95 ± 0.10
B0		3.45 ± 0.10
B1max.		4.35
D0		1.5 + 0.1, -0
F		3.5 ± 0.05
E1		1.75 ± 0.10
E2min.		6.25
Tmax.		0.6
T1max.		0.1
K0		1.04 ± 0.1
Leader min.		390
Trailer min.		160
Reel Dimensions		
A max.		178
N min.		60
W1		9 ± 0.5
W2		12.6 ± 0.5

## EIA Tape Component Dimensions



## EIA Reel Dimensions



## Storage And Handling

- Storage conditions : 40°C max, 70% R.H.
- Devices may not meet specified performance if storage conditions are exceeded.

## Order Information

SL1206	'300 -12V	Packaging	Tape & Reel Quantity
Product name Size 3216 mm / 1206 inch SL : surface mount device	Hold Current 3.00A	Max Voltage	SL0805075~SL0805300 : 4,000 pcs/reel SL0805350~SL0805800 : 3,000 pcs/reel

Tape &amp; reel packaging per EIA481-1

## Labeling Information

