



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)

## APPROVAL SHEET

MODEL NO.: SMD200L

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP:

DATE

MANUFACTURER:

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Submitted by:  
Approved by:  
DATE:

Chen  
YC Lin  
10-Apr-24

SEA & LAND ELECTRONIC CORP.



**SMD200L**

**Features**

- Surface Mount Devices
- Lead free device
- Size 7.5\*5.5 mm 0.29\*0.20 inch
- Surface Mount packaging
- for automated assembly

**Applications**

- Almost anywhere there is a low voltage power supply, up to 60V and a load to be protected, including:
- Computer mother board, Modem.
- Telecommunication equipments.

Alpha-Top (Sea & Land Alliance)

**Performance Specification**

Model	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
SMD200L	16	100	2.00	4.00	1.5	8.0	4.5	0.020	0.120	✓	

**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
SMD200L	3.02	2.68	2.34	2.00	1.66	1.50	1.32	1.16	0.90



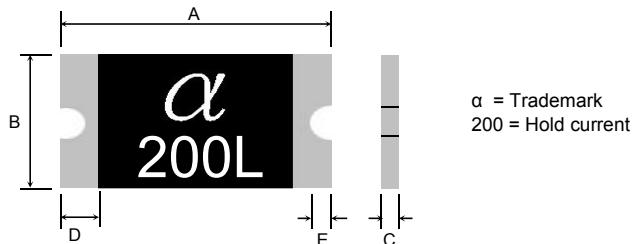
**SMD200L**

Alpha-Top (Sea & Land Alliance)

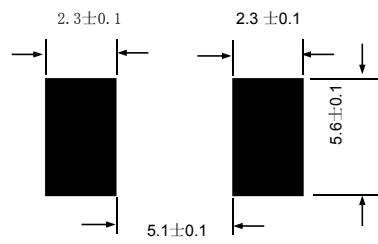
**Construction And Dimension (Unit:mm)**

Model	A		B		C		D		E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
SMD200L	6.73	7.98	4.80	5.44	0.30	0.90	0.30	0.30	0.30

**Dimensions & Marking**



**Recommended Pad Layout (mm)**



**Termination Pad Characteristics**

Terminal pad materials :

Tin-plated Nickel-Copper

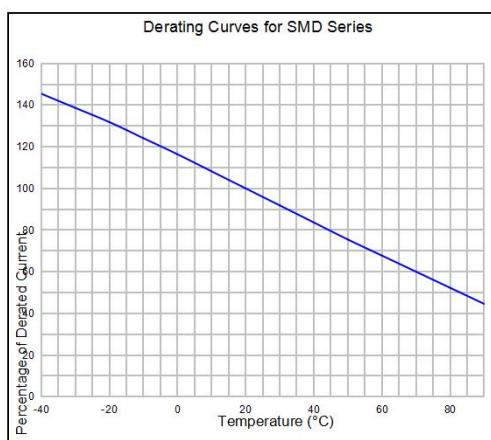
Terminal pad solderability :

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

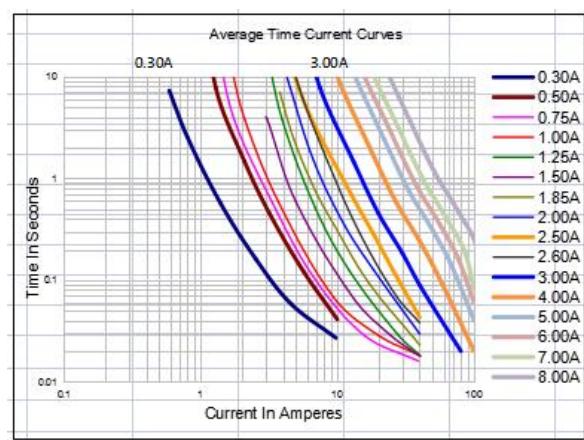
**Rework**

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

**Thermal Derating Curve**



**Typical Time-To-Trip At 25°C**



**WARNING:**

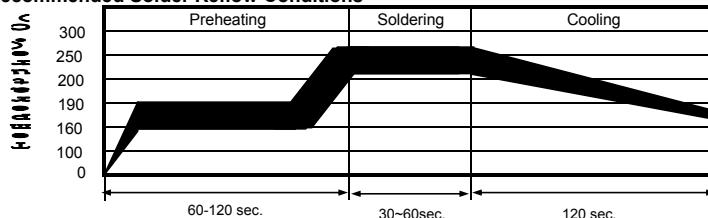
- Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events 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 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 performance of our devices.



**SMD200L**

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**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).

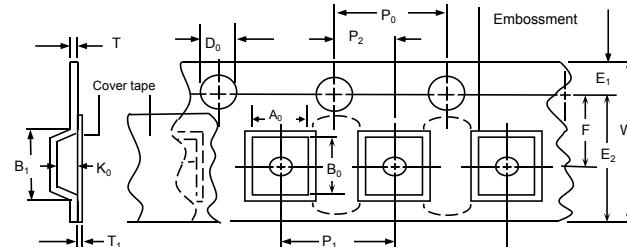
• Devices can be cleaned using standard method and solvents.

Note : If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

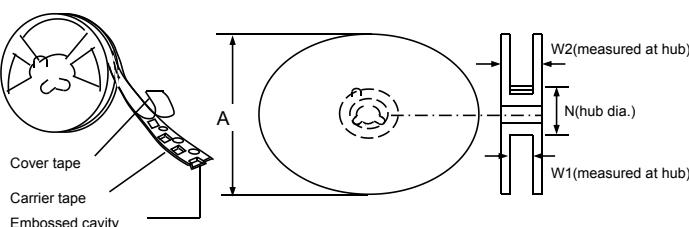
**Tape And Reel Specifications (mm)**

Governing Specifications		EIA 481-2
W		16.0 ± 0.3
P <sub>0</sub>		4.0 ± 0.10
P <sub>1</sub>		8.0 ± 0.10
P <sub>2</sub>		2.0 ± 0.05
A <sub>0</sub>		5.70 ± 0.10
B <sub>0</sub>		8.00 ± 0.10
B <sub>1</sub> max.		12.1
D <sub>0</sub>		1.5 + 0.1, -0
F		7.5 ± 0.05
E <sub>1</sub>		1.75 ± 0.10
E <sub>2</sub> min.		14.25
Tmax.		0.6
T <sub>1</sub> max.		0.1
K <sub>0</sub>		0.80 ± 0.1
Leader min.		390
Trailer min.		160
Reel Dimensions		
A max.		178
N min.		60
W <sub>1</sub>		16.4 + 2.0, -0.0
W <sub>2</sub> max.		22.4

**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**

SMD	200L	Packaging	Tape & Reel Quantity
Product name Size 7555 mm /2920 inch SMD : surface mount device	Hold Current 2.00A		2,000 pcs/reel

Tape & reel packaging per EIA481-1

**Labeling Information**

