



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.: SMD0805-020-24V

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP:

DATE

MANUFACTURER:

HEAD OFFICE:

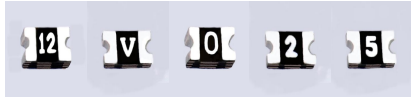
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Submitted by: Chen  
Approved by: YC Lin  
DATE: 11-Nov-22

SEA & LAND ELECTRONIC CORP.



#### 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 drivers, CD-ROMs,

# SMD0805-020-24V

Alpha-Top (Sea & Land Alliance)

#### Performance Specification

Model	Marking	$V_{max}$	$I_{max}$	$I_{hold}$	$I_{trip}$	$P_d$	Maximum Time To Trip		Resistance		Agency Approval	
		(Vdc)	(A)	@25°C (A)	@25°C (A)	Typ. (W)	Current (A)	Time (Sec)	$R_{i_{min}}$ (Ω)	$R_{1max}$ (Ω)	UL	TUV
SMD0805-020-24V	2	24	100	0.20	0.50	0.5	8.0	0.02	0.650	3.500		

**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>imin/max</sub>** = Minimum/Maximum device resistance prior to tripping at 25°C.

**R<sub>1max</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 :

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
SMD0805-020-24V	0.280	0.250	0.230	0.20	0.170	0.140	0.120	0.100	0.070

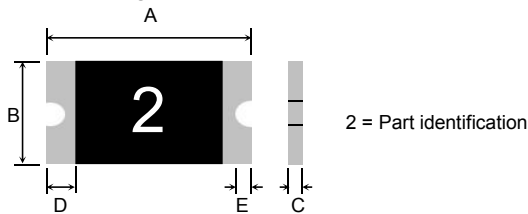
## SMD0805-020-24V

Alpha-Top (Sea & Land Alliance)

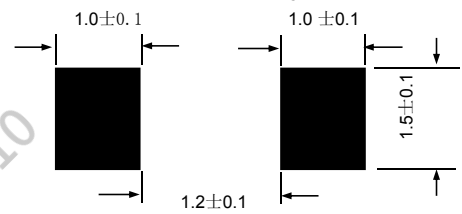
### Construction And Dimension (Unit:mm)

Model	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
SMD0805-020-24V	1.90	2.20	1.20	1.50	0.50	1.20	0.20	0.10		

### Dimensions & Marking



### Recommended Pad Layout (mm)



### Termination Pad Characteristics

Terminal pad materials :

Tin-plated Nickel-Copper

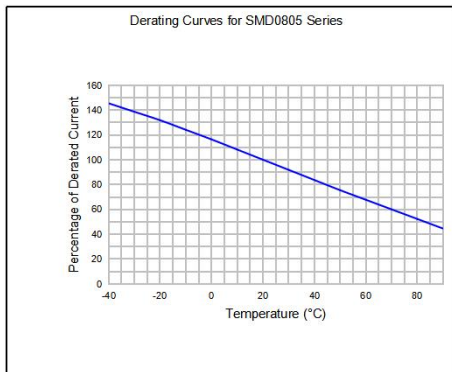
Terminal pad solderability :

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

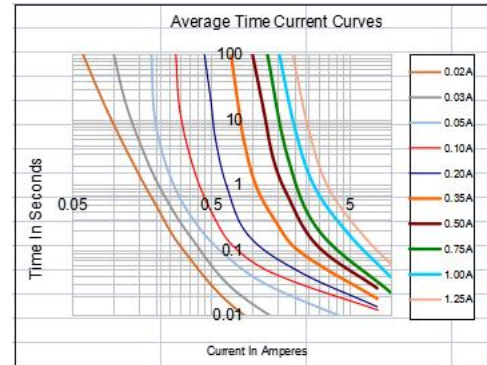
### Rework

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

### Thermal Derating Curve



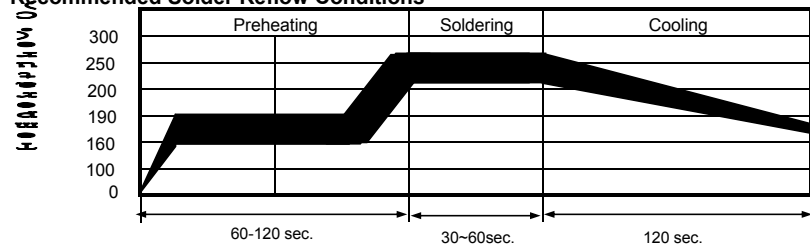
### Typical Time-To-Trip At 25°C



### 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 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 performance of our devices.

### Recommended Solder Reflow Conditions

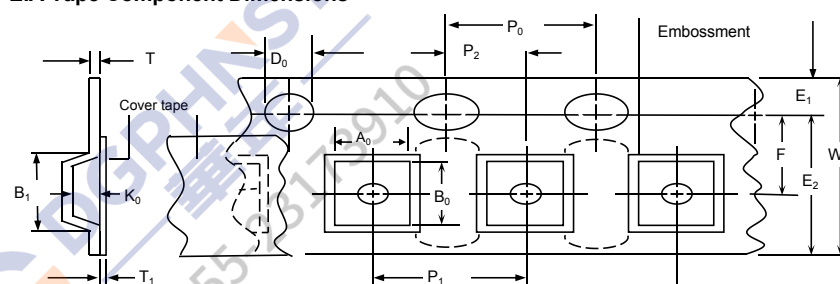


- Recommended reflow methods : IR, vapor phase oven, hot air oven.
  - Devices are not designed to be wave soldered to the bottom side of the board.
  - Recommended maximum paste thickness is 0.25 mm (0.010 inch).
  - Devices can be cleaned using standard method and solvents.
- Note : If reflow temperatures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

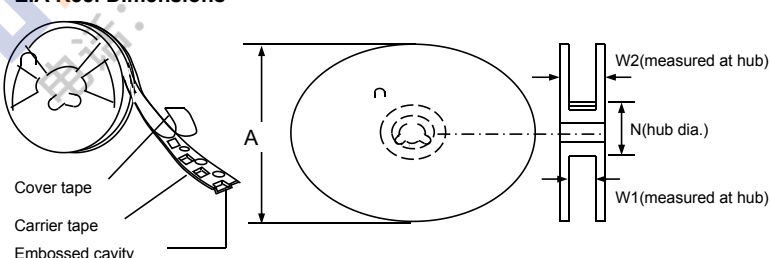
### Tape And Reel Specifications (mm)

Governing Specifications	EIA 481-1
W	8.0 ± 0.3
P0	4.0 ± 0.10
P1	4.0 ± 0.10
P2	2.0 ± 0.05
A0	1.45 ± 0.10
B0	2.30 ± 0.10
B1max.	4.35
D0	1.55 + 0.1, -0
F	3.5 ± 0.05
E1	1.75 ± 0.10
E2min.	6.25
T	0.25
T1max.	0.1
K0	0.74 ± 0.1
Leader min.	390
Trailer min.	160
Reel Dimensions	
A max.	178
N min.	60
W1	9.0 ± 0.5
W2	12.0 ± 0.05

### 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

SMD0805	020-24V	Packaging
Product name	Hold	Tape & Reel Quantity
Size 2012 mm / 0805 inch	Current	5,000 pcs/reel
SMD: surface mount device	0.20A	

Tape & reel packaging per EIA481-1

### Labeling Information

**Sea & Land Electronic Corp.**

Model:

Part no.:

Spec.:

Lot no.:

Q'ty:

倉儲: 密封! 溫度: 18~33°C/濕度: 30~60% A