



SEA & LAND ELECTRONIC CORP.

www.sealand-pptc.com



ALPHA-TOP TECHNOLOGY CORP.

www.alpha-top.cn

APPROVAL SHEET

MODEL NO.: SMD0805-050

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP:

DATE

MANUFACTURER:

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Submitted by: Chen
Approved by: YC Lin
DATE: 26-Feb-25

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,

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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 |
| SMD0805-050 | 5 | 6 | 100 | 0.50 | 1.00 | 0.5 | 8.0 | 0.10 | 0.150 | 0.850 | ✓ | |

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.
I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.
V_{max} = Maximum operating voltage device can withstand without damage at rated current (I_{max}).
I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max}).
P_d = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.
R_{i min}/max = Minimum/Maximum device resistance prior to tripping at 25°C.
R_{1 max} = 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)



2015/863/EU

Regulation/Standard:



EN14582

I_{hold} Versus Temperature

| Model | Maximum ambient operating temperature (T _{mao}) vs. hold current (I _{hold}) | | | | | | | | |
|-------------|---|-------|-------|-------|-------|-------|-------|-------|-------|
| | -40°C | -20°C | 0°C | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C |
| SMD0805-050 | 0.680 | 0.620 | 0.550 | 0.500 | 0.400 | 0.370 | 0.330 | 0.290 | 0.230 |

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

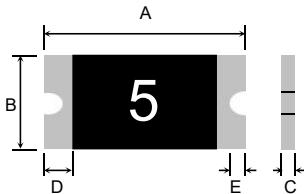
SMD0805-050

Alpha-Top (Sea & Land Alliance)

Construction And Dimension (Unit:mm)

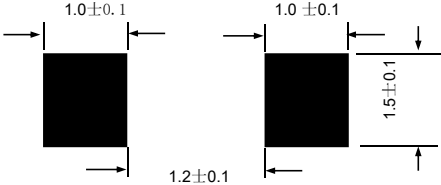
| Model | A | | B | | C | | D | | E | |
|-------------|------|------|------|------|------|------|------|------|------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| SMD0805-050 | 1.90 | 2.20 | 1.20 | 1.50 | 0.50 | 1.10 | 0.20 | 0.40 | 0.10 | 0.20 |

Dimensions & Marking



5 = Part identification

Recommended Pad Layout (mm)



Termination Pad Characteristics

Terminal pad materials:

Tin-plated Nickel-Copper

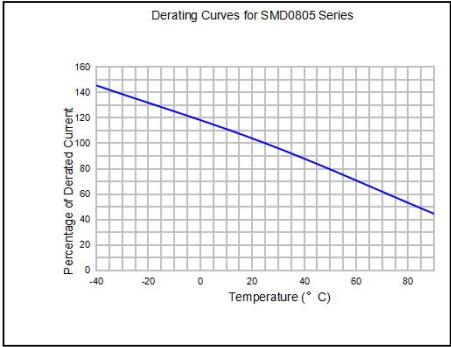
Terminal pad solderability:

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

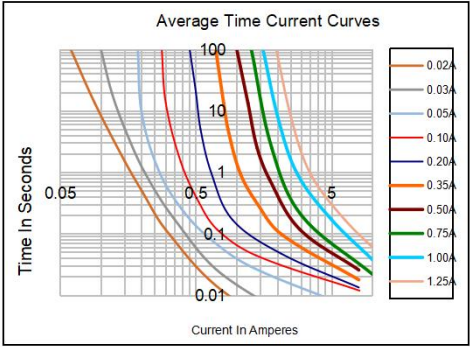
Rework

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

Thermal Derating Curve



Typical Time-To-Trip At 25°C



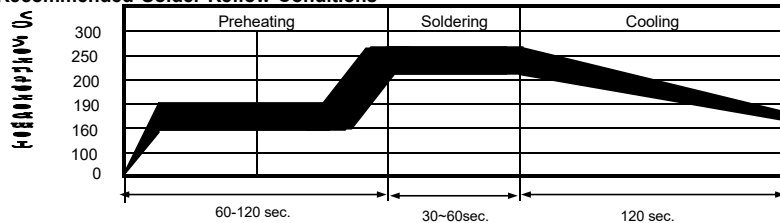
WARNING:

- 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.

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Alpha-Top (Sea & Land Alliance)

Recommended Solder Reflow Conditions

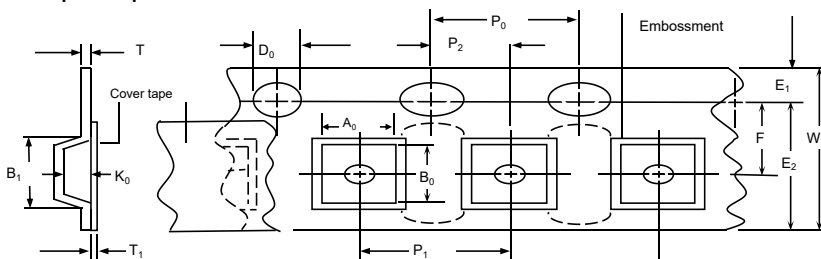


- Recommended reflow methods: IR, vapor phase oven, hot air oven.
 - Devices are not designed to be wave soldered to the bottom side of the board.
 - Recommended maximum paste thickness is 0.25 mm (0.010 inch).
 - Devices can be cleaned using standard method and solvents.
- Note: If reflow temperatures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

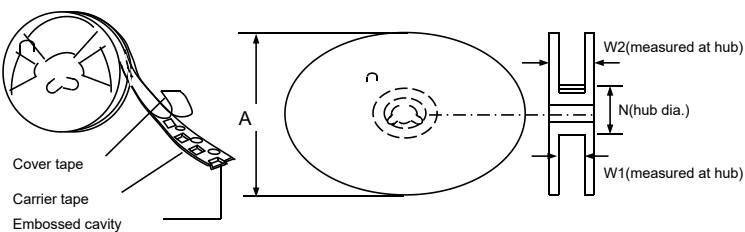
Tape And Reel Specifications (mm)

| 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 | 050 | Packaging | Tape & Reel Quantity |
|---------------------------|---------|-----------|----------------------|
| Product name | Hold | Max | |
| Size 2012 mm / 0805 inch | Current | Voltage | 5,000 pcs/reel |
| SMD: surface mount device | 0.50A | | |

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