



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.: SMD0805-010-60V

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP:

DATE

MANUFACTURER:

HEAD OFFICE:

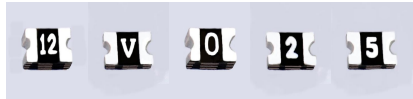
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Submitted by: Chen  
Approved by: YC Lin  
DATE: 13-Dec-22

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,

# SMD0805-010-60V

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 |
| SMD0805-010-60V | 1       | 60        | 100       | 0.10       | 0.30       | 0.5      | 0.5                  | 1.50       | 1.000             | 6.000          | ✓               |     |

**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 ( $I_{max}$ ).

**I<sub>max</sub>** = Maximum fault current device can withstand without damage at rated voltage ( $V_{max}$ ).

**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 :



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  |
| SMD0805-010-60V | 0.140   | 0.120 | 0.110 | 0.10 | 0.080 | 0.070 | 0.060 | 0.050 | 0.030 |



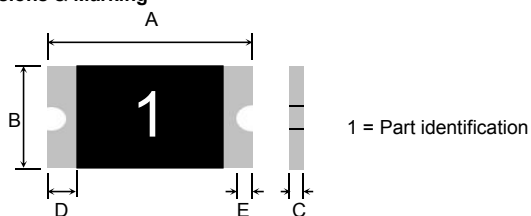
## SMD0805-010-60V

Alpha-Top (Sea & Land Alliance)

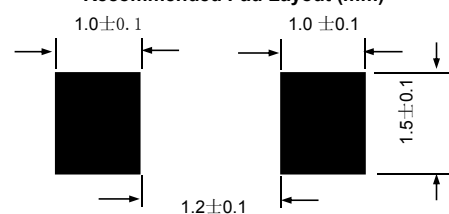
### Construction And Dimension (Unit:mm)

| Model           | A    |      | B    |      | C    |      | D    |      | E    |      |
|-----------------|------|------|------|------|------|------|------|------|------|------|
|                 | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| SMD0805-010-60V | 1.90 | 2.20 | 1.20 | 1.50 | 0.60 | 1.50 | 0.20 | 0.20 | 0.10 | 0.10 |

### Dimensions & Marking



### Recommended Pad Layout (mm)



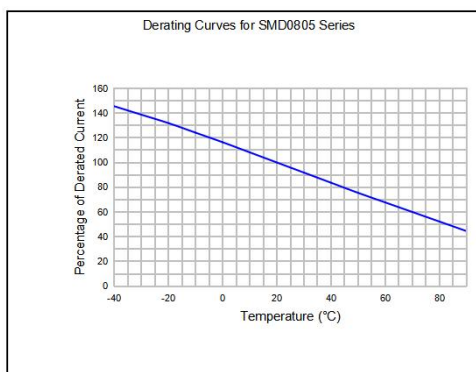
### Termination Pad Characteristics

Terminal pad materials : Tin-plated Nickel-Copper  
Terminal pad solderability : Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

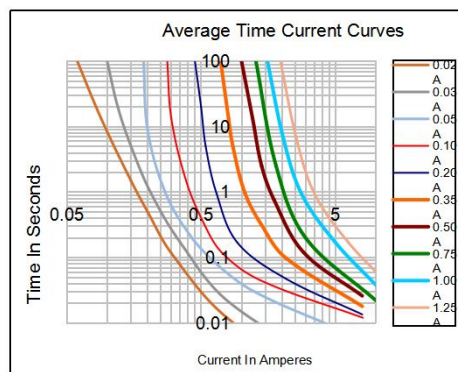
### Rework

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

### Thermal Derating Curve



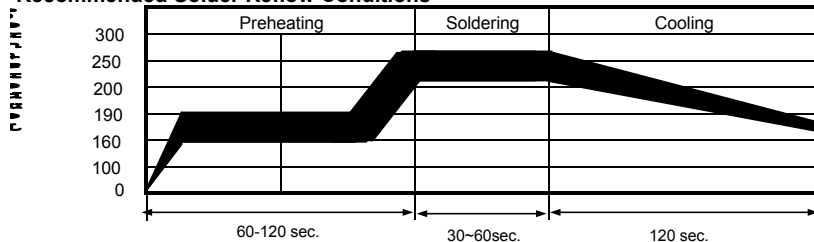
### Typical Time-To-Trip At 25°C



### 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

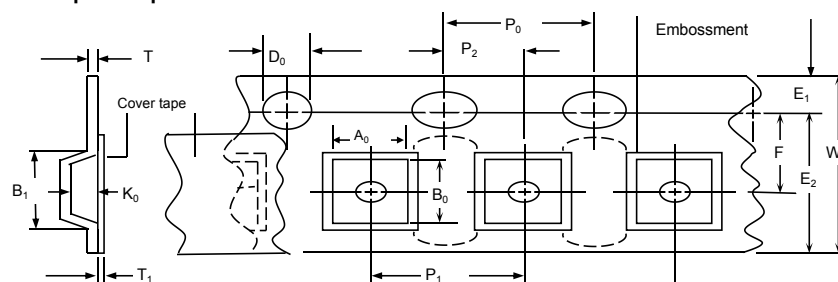


- Recommended reflow methods : IR, vapor phase oven, hot air oven.
  - Devices are not designed to be wave soldered to the bottom side of the board.
  - Recommended maximum paste thickness is 0.25 mm (0.010 inch).
  - Devices can be cleaned using standard method and solvents.
- Note : If reflow temperatures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

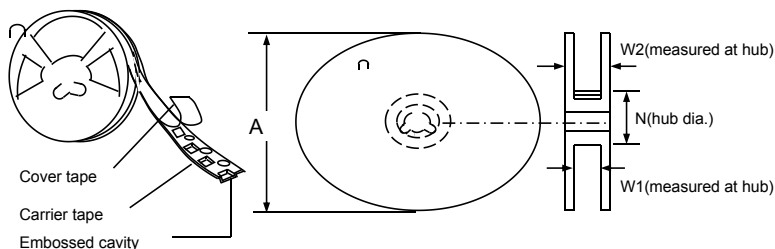
## Tape And Reel Specifications (mm)

| 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                   | 010-60V | Packaging | Tape & Reel Quantity |
|---------------------------|---------|-----------|----------------------|
| Product name              | Hold    |           |                      |
| Size 2012 mm / 0805 inch  | Current |           |                      |
| SMD: surface mount device | 0.10A   |           | 4.000 pcs/reel       |

Tape &amp; 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