



SEA & LAND ELECTRONIC CORP.

www.sealand-pptc.com



ALPHA-TOP TECHNOLOGY CORP.

www.alpha-top.cn

APPROVAL SHEET

MODEL NO.: SMD030L

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP:

DATE

MANUFACTURER:

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Submitted by: Chen
Approved by: YC Lin
DATE: 9-Apr-24

SEA & LAND ELECTRONIC CORP.



SMD030L

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 _{max} (Vdc) | I _{max} (A) | I _{hold} @25°C (A) | I _{trip} @25°C (A) | P _d Typ. (W) | Maximum Time To Trip | | Resistance | | Agency Approval | |
|---------|---------------------------|-------------------------|-----------------------------------|-----------------------------------|-------------------------------|-------------------------|---------------|--------------------------------------|--------------------------------------|-----------------|-----|
| | | | | | | Current (A) | Time (Sec) | R _i _{min} (Ω) | R _i _{max} (Ω) | UL | TUV |
| SMD030L | 60 | 100 | 0.30 | 0.60 | 1.5 | 1.5 | 3.0 | 0.600 | 4.800 | ✓ | |

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_i_{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)

Regulation/Standard:



2015/863/EU



EN14582

I_{hold} Versus Temperature

| Model | Maximum ambient operating temperature (T _{max}) vs. hold current (I _{hold}) | | | | | | | | |
|---------|---|-------|------|------|------|------|------|------|------|
| | -40°C | -20°C | 0°C | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C |
| SMD030L | 0.45 | 0.40 | 0.35 | 0.30 | 0.25 | 0.23 | 0.20 | 0.17 | 0.14 |



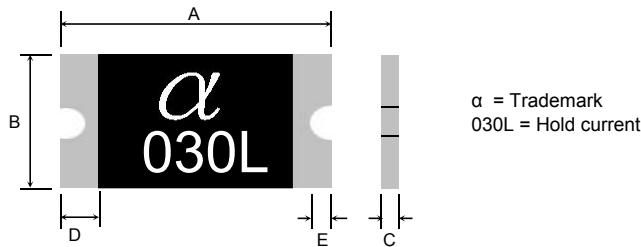
SMD030L

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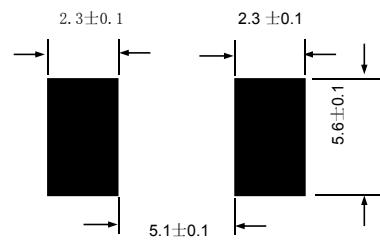
Construction And Dimension (Unit:mm)

| Model | A | B | C | D | E |
|---------|------|------|------|------|------|
| | Min. | Max. | Min. | Max. | Min. |
| SMD030L | 6.73 | 7.98 | 4.80 | 5.44 | 0.60 |

Dimensions & Marking



Recommended Pad Layout (mm)



Termination Pad Characteristics

Terminal pad materials :

Tin-plated Nickel-Copper

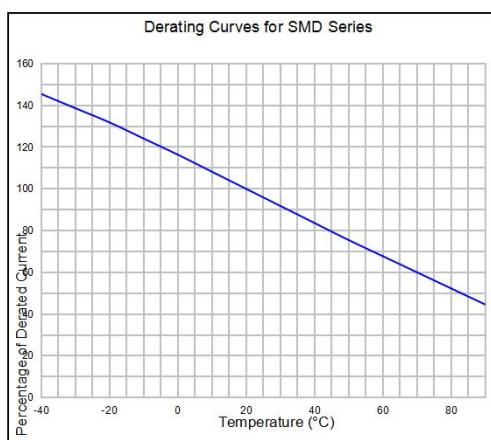
Terminal pad solderability :

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

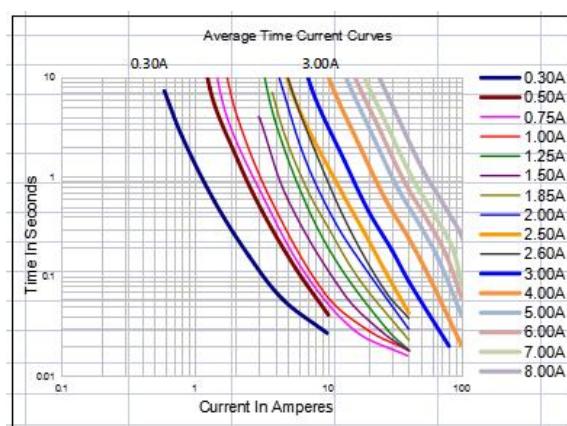
Rework

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:

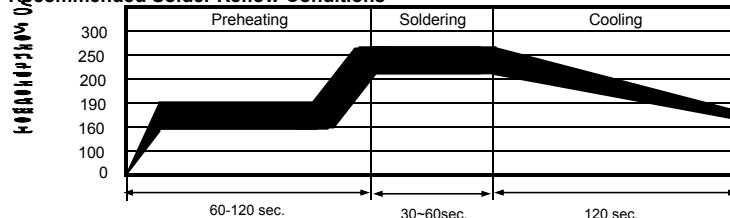
- Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events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

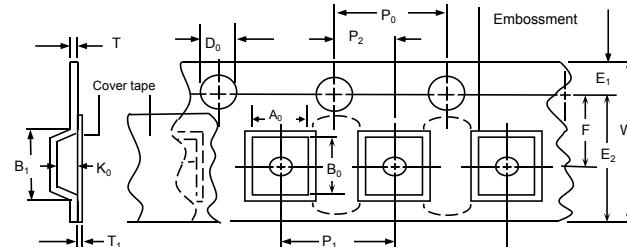
• Devices can be cleaned using standard method and solvents.

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

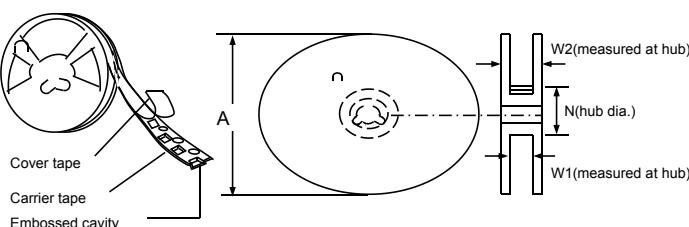
Tape And Reel Specifications (mm)

| Governing Specifications | | EIA 481-2 |
|--------------------------|--|------------------|
| W | | 16.0 ± 0.3 |
| P ₀ | | 4.0 ± 0.10 |
| P ₁ | | 8.0 ± 0.10 |
| P ₂ | | 2.0 ± 0.05 |
| A ₀ | | 5.70 ± 0.10 |
| B ₀ | | 8.00 ± 0.10 |
| B ₁ max. | | 12.1 |
| D ₀ | | 1.5 + 0.1, -0 |
| F | | 7.5 ± 0.05 |
| E ₁ | | 1.75 ± 0.10 |
| E ₂ min. | | 14.25 |
| Tmax. | | 0.6 |
| T ₁ max. | | 0.1 |
| K ₀ | | 0.80 ± 0.1 |
| Leader min. | | 390 |
| Trailer min. | | 160 |
| Reel Dimensions | | |
| A max. | | 178 |
| N min. | | 60 |
| W ₁ | | 16.4 + 2.0, -0.0 |
| W ₂ 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 | 030L | Packaging | Tape & Reel Quantity |
|---|--------------------------|-----------|----------------------|
| Product name Size 7555 mm /2920 inch SMD : surface mount device | Hold Current 0.30A | | 2,000 pcs/reel |

Tape & reel packaging per EIA481-1

Labeling Information

