



SEA & LAND ELECTRONIC CORP.

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ALPHA-TOP TECHNOLOGY CORP.

www.alpha-top.cn

APPROVAL SHEET

MODEL NO.: SMD1210-110-24V

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP:

DATE

MANUFACTURER:

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Submitted by: Chen
Approved by: YC Lin
DATE: 20-May-24

SEA & LAND ELECTRONIC CORP.



Features

- Surface Mount Devices
- Lead free device
- Size 3.2*2.5mm/0.12*0.10 inch
- Surface Mount packaging for automated assembly

Applications

- Almost anywhere there is a low voltage power supply, up to 30V and a load to be protected, including:
- Computer mother board, Modem.
 - Telecommunication equipments.

SMD1210-110-24V

Alpha-Top (Sea&Land Alliance)

Performance Specification

| Model | Marking | V _{max} (Vdc) | I _{max} (A) | I _{hold} @25°C (A) | I _{trip} @25°C (A) | P _d Max. (W) | Maximum Time To Trip | | Resistance | | Agency Approval | |
|-----------------|---------|---------------------------|-------------------------|-----------------------------------|-----------------------------------|-------------------------------|----------------------|---------------|---------------------------|---------------------------|-----------------|-----|
| | | | | | | | Current (A) | Time (Sec) | R _{i min} (Ω) | R _{1 max} (Ω) | UL | TUV |
| SMD1210-110-24V | αH | 24 | 100 | 1.10 | 2.20 | 0.6 | 8.0 | 0.30 | 0.050 | 0.210 | | |

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_{imin/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 :

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 |
| SMD1210-110-24V | 1.69 | 1.48 | 1.29 | 1.10 | 0.88 | 0.76 | 0.65 | 0.57 | 0.43 |



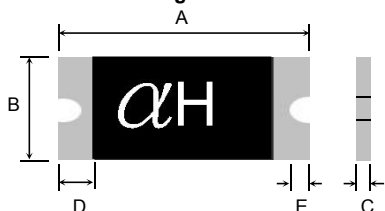
SMD1210-110-24V

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Construction And Dimension (Unit:mm)

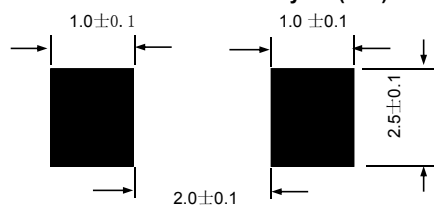
| Model | A | | B | | C | | D | E |
|-----------------|------|------|------|------|------|------|------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Min. |
| SMD1210-110-24V | 3.00 | 3.43 | 2.35 | 2.80 | 0.50 | 1.20 | 0.30 | 0.10 |

Dimensions & Marking



α = Trademark
H = Part identification

Recommended Pad Layout (mm)



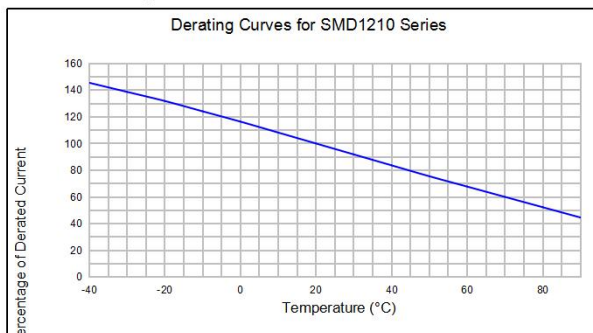
Termination Pad Characteristics

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

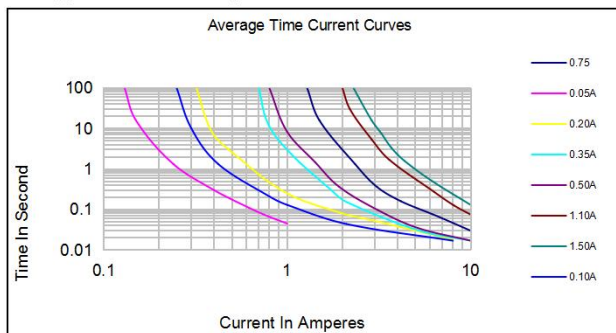
Rework

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

Thermal Derating Curve



Typical Time-To-Trip At 25°C



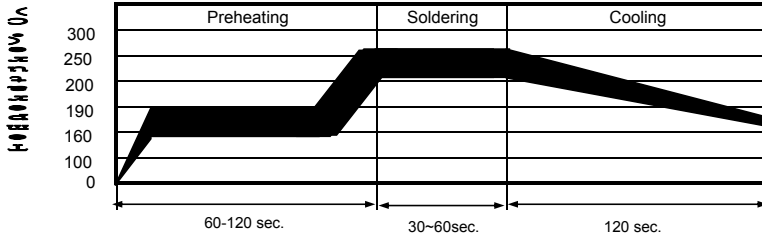
WARNING:

- 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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Recommended Solder Reflow Conditions

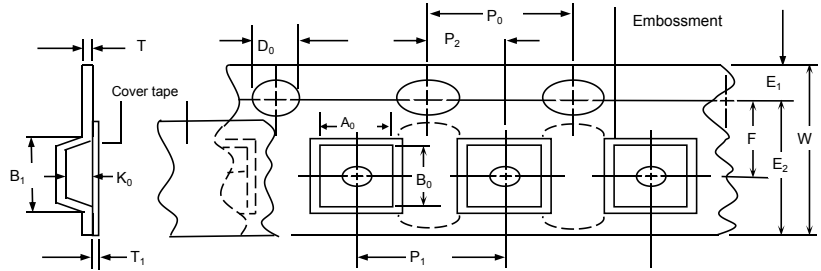


- Recommended reflow methods : IR, vapor phase oven, hot air oven.
 - Devices are not designed to be wave soldered to the bottom side of the board.
 - Recommended maximum paste thickness is 0.25 mm (0.010 inch).
 - Devices can be cleaned using standard method and solvents.
- Note : If reflow temperatures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

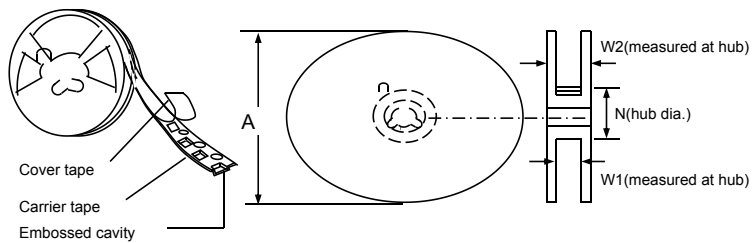
Tape And Reel Specifications (mm)

| Governing Specifications | EIA 481-2 |
|--------------------------|-----------------|
| W | 8.0 ± 0.20 |
| P0 | 4.0 ± 0.10 |
| P1 | 4.0 ± 0.10 |
| P2 | 2.0 ± 0.10 |
| A0 | 2.82 ± 0.10 |
| B0 | 3.52 ± 0.10 |
| B1max. | 4.35 |
| D0 | 1.5 + 0.1, -0.0 |
| F | 7.5 ± 0.05 |
| E1 | 1.75 ± 0.10 |
| E2min. | 6.25 |
| Tmax. | 0.6 |
| T1max. | 0.1 |
| K0 | 0.90 ± 0.1 |
| Leader min. | 390 |
| Trailer min. | 160 |
| Reel Dimensions | |
| A max. | 178 |
| N min. | 50 |
| W1 | 8.4 + 1.5, -0.0 |
| W2max. | 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

| SMD1210 | 110-24V | Packaging | Tape & Reel Quantity |
|----------------------------|---------|-----------|----------------------|
| Product name | Hold | | |
| Size 3225 mm / 1210 inch | Current | | 4,500 pcs/reel |
| SMD : surface mount device | 1.10A | | |

Tape & reel packaging per EIA481-1

Labeling Information

Sea & Land Electronic Corp.

HF (Pb) RoHS

Model:
Part no.:
Spec.:
Lot no.:
Q'ty:

倉儲: 密封! 溫度: 18~33°C/濕度: 30~60% A

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