SEA & LAND ELECTRONIC CORP.

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ALPHA-TOP TECHNOLOGY CORP.

APPROVAL SHEET

MODEL NO.： SMD1210-020-60V

CUSTOMER：

CUSTOMER'S APPROVAL：

AUTHORIZED SIGNATURE/STAMP：

DATE

MANUFACTURER:

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Submitted by:	Chung Cheng
Approved by:	YC Lin
DATE:	2-Mar-22

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.

SMD1210-020-60V

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 Current (A)	Maximum Time To Trip Time (Sec)	Resistance Ri_{min} (Ω)	Resistance R1max (Ω)	Agency Approval UL	Agency Approval TUV
SMD1210-020-60V	αC	60	100	0.20	0.40	0.6	8.0	0.02	0.400	5.000		

Ihold = Hold Current. Maximum current device will not trip in 25°C still air.
Itrip = Trip Current. Minimum current at which the device will always trip in 25°C still air.
Vmax = Maximum operating voltage device can withstand without damage at rated current (Imax).
Imax = Maximum fault current device can withstand without damage at rated voltage (Vmax).
Pd = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.
Rimin/max = Minimum/Maximum device resistance prior to tripping at 25°C.
$R1_{max}$ = 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	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	MIL-STD-202,Method 201	No change
Ambient operating conditions : - 40 °C to +85 °C		
Maximum surface temperature of the device in the tripped state is 125 °C		

AGENCY APPROVALS :

Regulation/Standard: Pb RoHS **2015/863/EU**

HF **EN14582**

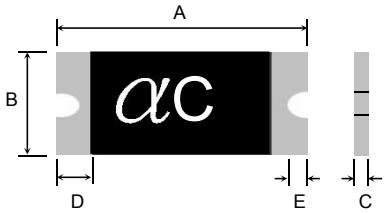
I_{hold} Versus Temperature

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
SMD1210-020-60V	0.29	0.26	0.22	0.20	0.16	0.14	0.13	0.11	0.08

Construction And Dimension (Unit:mm)

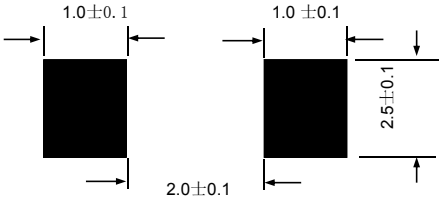
Model	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
SMD1210-020-60V	3.00	3.43	2.35	2.80	0.40	0.90	0.30	0.10

Dimensions & Marking



α = Trademark
C = Part identification

Recommended Pad Layout (mm)



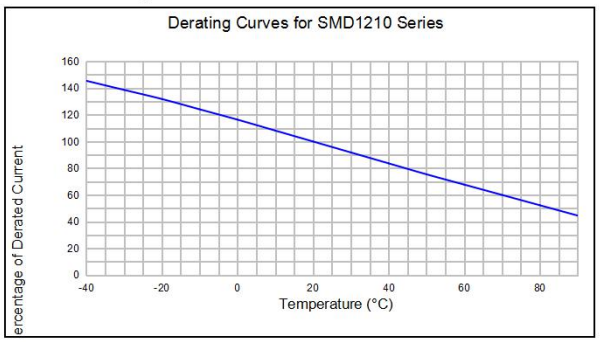
Termination Pad Characteristics

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

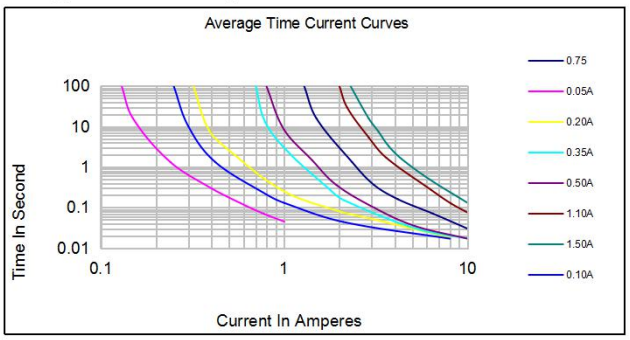
Rework

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

Thermal Derating Curve



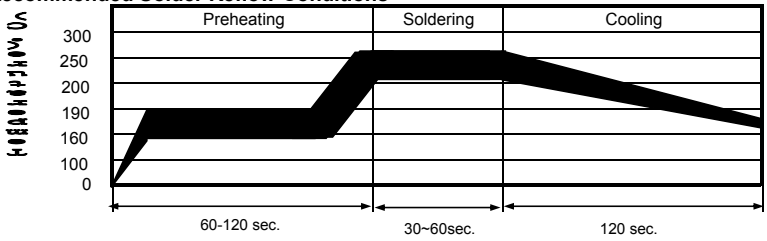
Typical Time-To-Trip At 25°C



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.

Recommended Solder Reflow Conditions



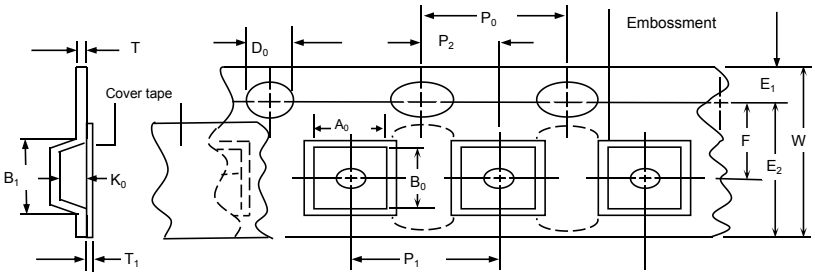
- Recommended reflow methods：IR, vapor phase oven, hot air oven.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25 mm (0.010 inch).
- Devices can be cleaned using standard method and solvents.

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

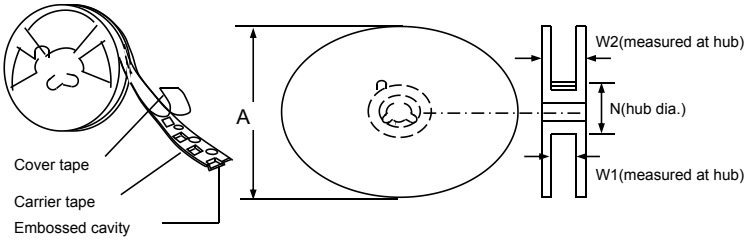
Tape And Reel Specifications (mm)

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	2.90± 0.20
B0	3.65± 0.20
B1max.	4.35
D0	1.5± 0.10
F	3.5 ± 0.10
E1	1.75 ± 0.10
E2min.	6
Tmax.	0.3
T1max.	0.06
K0	1.00 ± 0.1
Leader min.	390
Trailer min.	160
Reel Dimensions	
A max.	180
N min.	50
W1	9.00 ±2.00
W2max.	15

EIA Tape Component Dimensions



EIA Reel Dimensions



Storage And Handling

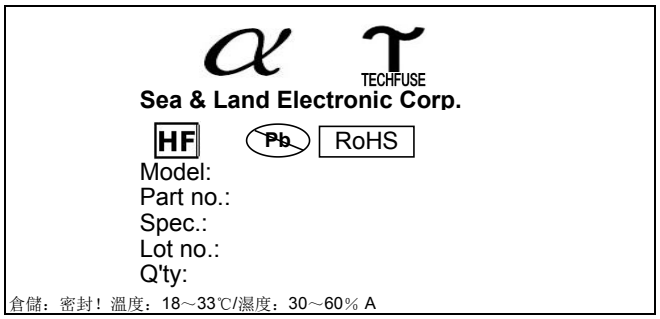
- Storage conditions：40°C max, 70% R.H.
- Devices may not meet specified performance if storage conditions are exceeded.

Order Information

SMD1210	020-60V	Packaging Tape & Reel Quantity
Product name	Hold	
Size 3225 mm / 1210 inch	Current	4,500 pcs/reel
SMD：surface mount device	0.20A	

Tape & reel packaging per EIA481-1

Labeling Information



Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

Sea & Land Electronic:

R30-800 R60-135 SMD0805-020-30V SMD1210-110-13.2V R30-135 SMD2018-200 mSMD260-24V SMD1210-035 SL1206260 SL1210600 nSMD-005 SL1040-220M SL1206230 R60-005 SMD0805-020-13.2V SMD0805-125 SMD2018-075 nSMD020-30V SMD1210-005-60V SMD1210-050-30V mSMD400 SL0805300 R16-1200 R16-1400 R16-1500 SL0630-150M SL0630-2R2M R60-010 SMD500L-13.2V SMD0805-100