



SEA & LAND ELECTRONIC CORP.

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ALPHA-TOP TECHNOLOGY CORP.

[WWW.ALPHA-TOP.CN](http://WWW.ALPHA-TOP.CN)

## APPROVAL SHEET

MODEL NO.: R60-050

CUSTOMER:

CUSTOMER'S APPROVAL:

AUTHORIZED SIGNATURE/STAMP:

DATE

MANUFACTURER:

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Submitted by: Chen  
Approved by: YC Lin  
DATE: 16-Mar-22



**R60-050**

#### Features

- Radial Leaded Devices
- Cured, flame retardant epoxy polymer  
insulating material meets  
UL 94V-0 requirements
- Bulk packaging, or tape and reel  
available on most models

#### Applications

- Almost anywhere there is a low voltage  
power supply, up to 60V and a load to be  
protected, including:
- Industrial controls
- Automotive electronics
- Medical products

Alpha-Top (Sea & Land Alliance)

#### Electrical Properties

| Model   | $V_{max}$ | $I_{max}$ | $I_{hold}$ | $I_{trip}$ | $P_d$       | Maximum Time<br>To Trip |               | Resistance   |              | Agency Approval |        |
|---------|-----------|-----------|------------|------------|-------------|-------------------------|---------------|--------------|--------------|-----------------|--------|
|         | (Vdc)     | (A)       | (A)        | (A)        | Typ.<br>(W) | Current<br>(A)          | Time<br>(Sec) | Rimin<br>(Ω) | R1max<br>(Ω) | UL              | TUV-PS |
| R60-050 | 60        | 40        | 0.50       | 1.00       | 0.77        | 2.50                    | 4.0           | 0.35         | 1.17         | ✓               | ✓      |

**I<sub>hold</sub>** = Hold Current : maximum current device will sustain for 4 hours without tripping in 25°C still air.

**I<sub>trip</sub>** = Trip Current : minimum current at which the device will trip in 25°C still air.

**V<sub>max</sub>** = Maximum 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 dissipated from device when in the tripped state at 25°C still air.

**Ri min/max** = Minimum/Maximum resistance of device in initial (un-soldered) state.

**R1 max** = Maximum resistance of device at 25°C measured one hour after tripping.

**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., 1000 hrs |
| 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 /storage 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)



R 50274672

#### Regulation/Standard:



2015/863/EU



EN14582



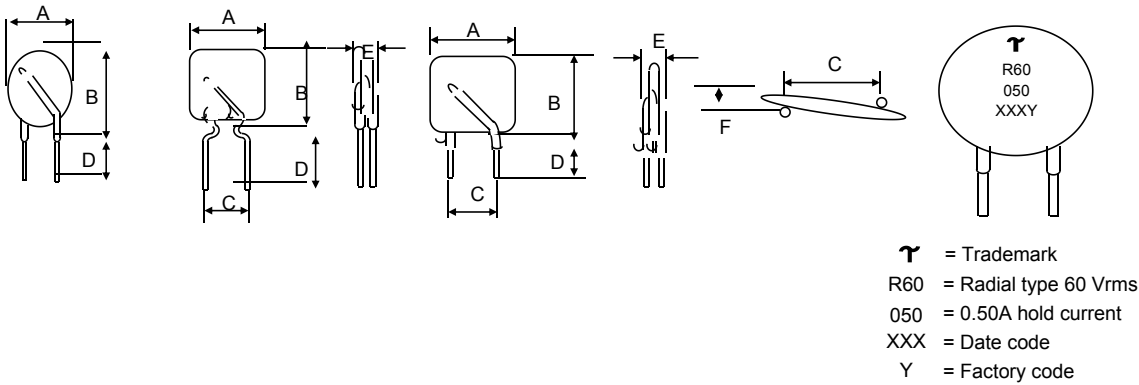
#### WARNING:

- 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.

Physical Dimensions (Unit: mm/inch)

| Model   | A<br>Max. | B<br>Max. | C<br>Typ. | D<br>Min. | E<br>Max. | F<br>Max. | Lead<br>Style |
|---------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
| R60-050 | 7.9       | 13.7      | 5.1       | 7.6       | 3.1       | 1.2       | Kink          |

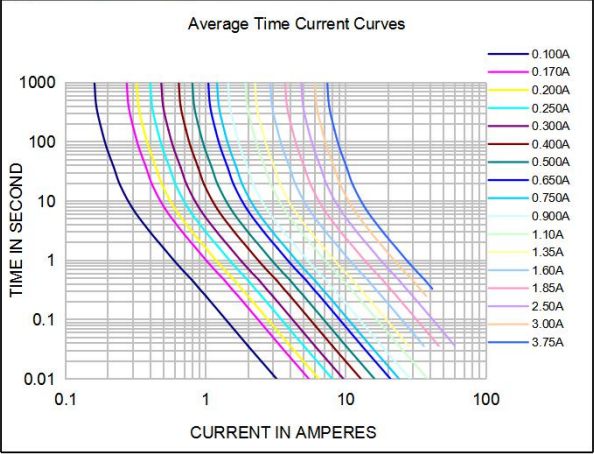
Dimensions



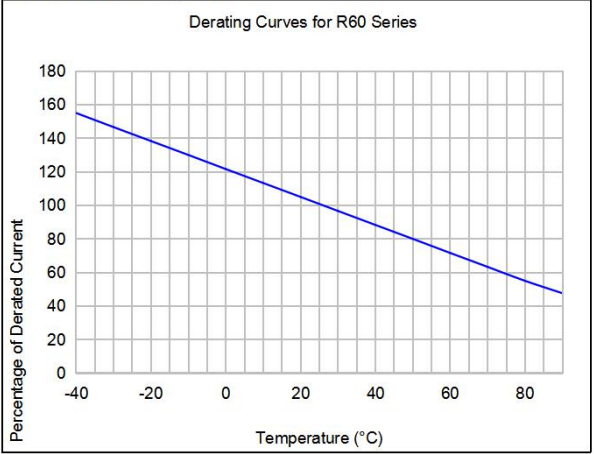
Physical Characteristics

**Lead Material :**  
R60-050: Tin-plated copper , 0.205mm<sup>2</sup> (24AWG), Φ0.51mm(0.020 in).  
**Lead Solderability :** MIL-STD-202, Method 208E

Typical time-to-trip curve at 25°C



Thermal derating curve



$I_{hold}$  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 |
| R60-050 | 0.78                                                                                | 0.68  | 0.60 | 0.50 | 0.41 | 0.36 | 0.32 | 0.27 | 0.20 |

Order information

| R60                 | 050                      | K or S                                  | R or U                                       | Model   | Reel Q'ty | Bag Q'ty |
|---------------------|--------------------------|-----------------------------------------|----------------------------------------------|---------|-----------|----------|
| Radial type<br>60 V | Hold<br>Current<br>0.50A | K=Kink leads<br><br>S=Straight<br>leads | R= Tape &<br>Reel<br><br>U= Bulk<br>packaged | R60-050 | 3000      | 500      |

Tape & Reel packaging per EIA468-B standard.

Labeling Information



Sea & Land Electronic Corp.



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

倉儲：密封！溫度：18~33℃/濕度：30~60% A