



# R72 Series

### 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 72V and a load to be protected, including:
- Industrial controls
  - Automotive electronics
  - Medical products

Alpha-Top (Sea & Land Alliance)

## Electrical Properties

Model	V <sub>max</sub> (Vdc)	I <sub>max</sub> (A)	I <sub>hold</sub> (A)	I <sub>trip</sub> (A)	P <sub>d</sub> Typ. (W)	Maximum Time To Trip		Resistance		
						Current (A)	Time (Sec)	R <sub>i min</sub> (Ω)	R <sub>i max</sub> (Ω)	R <sub>1 max</sub> (Ω)
R72-020	72	40	0.20	0.40	0.41	1.00	2.2	1.25	2.75	4.40
R72-025	72	40	0.25	0.50	0.45	1.25	2.5	0.65	1.95	3.00
R72-030	72	40	0.30	0.60	0.49	1.50	3.0	0.45	1.33	2.10
R72-040	72	40	0.40	0.80	0.56	2.00	3.8	0.40	0.86	1.29
R72-050	72	40	0.50	1.00	0.77	2.50	4.0	0.35	0.77	1.17
R72-065	72	40	0.65	1.30	0.88	3.25	5.3	0.25	0.48	0.72
R72-075	72	40	0.75	1.50	0.92	3.75	6.3	0.20	0.40	0.60
R72-090	72	40	0.90	1.80	0.99	4.50	7.2	0.15	0.31	0.47
R72-110	72	40	1.10	2.20	1.50	5.50	8.2	0.13	0.25	0.38
R72-135	72	40	1.35	2.70	1.70	6.75	9.6	0.10	0.19	0.30
R72-160	72	40	1.60	3.20	1.90	8.00	11.4	0.07	0.14	0.22
R72-185	72	40	1.85	3.70	2.10	9.25	12.6	0.06	0.12	0.19
R72-250	72	40	2.50	5.00	2.50	12.50	15.6	0.04	0.08	0.13
R72-300	72	40	3.00	6.00	2.80	15.00	19.8	0.03	0.06	0.10
R72-375	72	40	3.75	7.50	3.20	18.75	24.0	0.02	0.05	0.08

**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<sub>max</sub>).

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

**P<sub>d</sub>** = Power dissipated from device when in the tripped state at 25°C still air.

**R<sub>i min/max</sub>** = Minimum/Maximum resistance of device in initial (un-soldered) state.

**R<sub>1 max</sub>** = 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	
<a href="#">In case of special use, please contact our engineer</a>	

Agency Approvals :

UL pending

Regulation/Standard:



2015/863/EU



EN14582



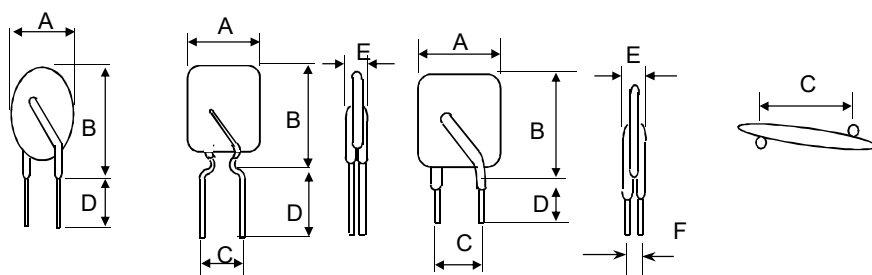
# R72 Series

Alpha-Top (Sea & Land Alliance)

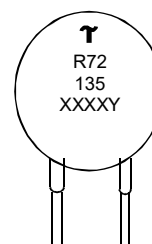
## Physical Dimensions (Unit: mm)


Model	A Max.	B Max.	C Typ.	D Min.	E Max.	F Max.	Lead Style
R72-020	7.4	12.7	5.1	7.6	3.1	1.0	Kink
R72-025	7.4	12.7	5.1	7.6	3.1	1.0	Kink
R72-030	7.4	13.0	5.1	7.6	3.1	1.0	Kink
R72-040	7.6	13.5	5.1	7.6	3.1	1.2	Kink
R72-050	7.9	13.7	5.1	7.6	3.1	1.2	Kink
R72-065	9.7	14.5	5.1	7.6	3.1	1.5	Kink
R72-075	10.4	15.2	5.1	7.6	3.1	1.5	Kink
R72-090	11.7	15.8	5.1	7.6	3.1	1.5	Kink
R72-110	13.0	18.0	5.1	7.6	3.1	1.2	Straight
R72-135	14.5	19.6	5.1	7.6	3.1	1.2	Straight
R72-160	16.3	21.3	5.1	7.6	3.1	1.5	Straight
R72-185	17.8	22.9	5.1	7.6	3.1	1.5	Straight
R72-250	21.3	26.4	10.2	7.6	3.1	1.7	Straight
R72-300	24.9	30.0	10.2	7.6	3.1	2.0	Straight
R72-375	28.5	33.5	10.2	7.6	3.1	2.0	Straight

## Dimensions



## Marking



 Sea&Land Logo  
 R72 Radial Type 72V  
 135 Hold Current  
 XXXXY Date Code & Factory Code

## Physical Characteristics

### Lead Material :

R72-020 ~ 040: Tin-plated copper-clad steel, 0.205mm<sup>2</sup> (24AWG),  $\Phi$ 0.51mm(0.020 in).

R72-050 ~ 090: Tin-plated copper, 0.205mm<sup>2</sup> (24AWG),  $\Phi$ 0.51mm(0.020 in).

R72-110 ~ 375: Tin-plated copper, 0.52mm<sup>2</sup> (20AWG),  $\Phi$ 0.81mm(0.032 in).

**Lead Solderability** : MIL-STD-202, Method 208

## Order information

## Packing

R72	185	K or S	R or U	Model	Reel Q'ty	Bag Q'ty
Radial type 72 V	Hold Current (A)	K=Kink leads S=Straight leads	R= Tape & Reel U= Bulk packaged	R72-020 ~ R72-090	3000	500
				R72-110 ~ R72-185	1500	500
				R72-250 ~ R72-375	-	500

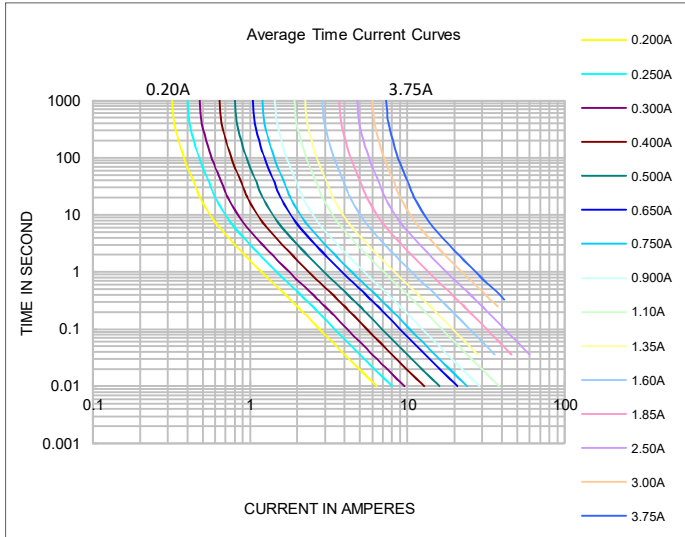
Devices taped with reference EIA468 standard.



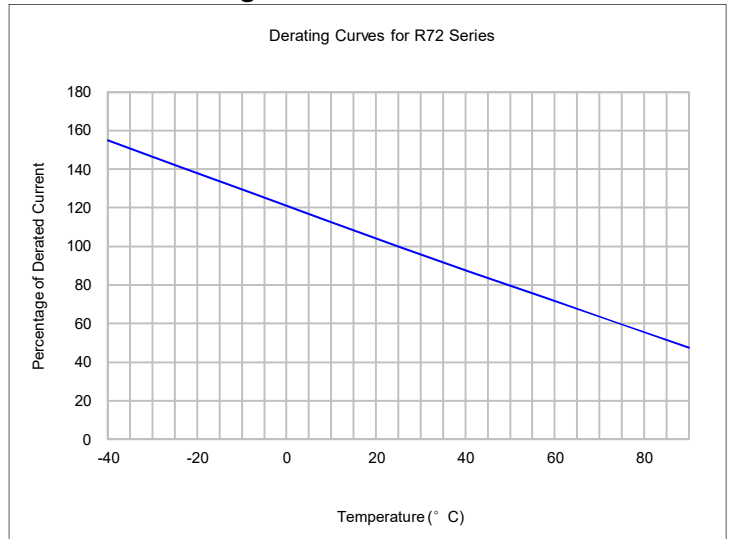
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Alpha-Top (Sea & Land Alliance)

## 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
R72-020	0.31	0.27	0.24	0.20	0.16	0.14	0.13	0.11	0.08
R72-025	0.39	0.34	0.30	0.25	0.20	0.18	0.16	0.14	0.10
R72-030	0.47	0.41	0.36	0.30	0.24	0.22	0.19	0.16	0.12
R72-040	0.62	0.54	0.48	0.40	0.32	0.29	0.25	0.22	0.16
R72-050	0.78	0.68	0.60	0.50	0.41	0.36	0.32	0.27	0.20
R72-065	1.01	0.88	0.77	0.65	0.53	0.47	0.41	0.35	0.26
R72-075	1.16	1.02	0.89	0.75	0.61	0.54	0.47	0.41	0.30
R72-090	1.40	1.22	1.07	0.90	0.73	0.65	0.57	0.49	0.36
R72-110	1.71	1.50	1.31	1.10	0.89	0.79	0.69	0.59	0.44
R72-135	2.09	1.84	1.61	1.35	1.09	0.97	0.85	0.73	0.54
R72-160	2.48	2.18	1.90	1.60	1.30	1.15	1.01	0.86	0.64
R72-185	2.87	2.52	2.20	1.85	1.50	1.33	1.17	1.00	0.74
R72-250	3.88	3.40	2.98	2.50	2.03	1.80	1.58	1.35	1.00
R72-300	4.65	4.08	3.57	3.00	2.43	2.16	1.89	1.62	1.20
R72-375	5.81	5.10	4.46	3.75	3.04	2.70	2.36	2.03	1.50

## 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.

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