

R30 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 30V and a load to be protected, including:
- Personal computer
 - Toys
 - Industrial controls

Alpha-Top (Sea & Land Alliance)

Electrical Properties

Model	V _{max} (Vdc)	I _{max} (A)	I _{hold} (A)	I _{trip} (A)	P _d Typ. (W)	Maximum Time To Trip		Resistance			Agency Approval	
						Current (A)	Time (Sec)	R _{imin} (Ω)	R _{imax} (Ω)	R _{1max} (Ω)	UL	TUV-PS
R30-030	30	40	0.30	0.60	0.44	8.00	0.3	0.370	0.720	1.080		
R30-040	30	40	0.40	0.80	0.45	8.00	0.3	0.250	0.430	0.645		
R30-050	30	40	0.50	1.00	0.46	8.00	0.3	0.150	0.400	0.600		
R30-065	30	40	0.65	1.30	0.47	8.00	0.4	0.120	0.300	0.450		
R30-075	30	40	0.75	1.50	0.48	8.0	0.4	0.100	0.250	0.375		
R30-090	30	40	0.90	1.80	0.6	4.50	5.9	0.070	0.145	0.220	✓	✓
R30-110	30	40	1.10	2.20	0.7	5.50	6.6	0.050	0.120	0.170	✓	✓
R30-135	30	40	1.35	2.70	0.8	6.75	7.3	0.040	0.085	0.130	✓	✓
R30-160	30	40	1.60	3.20	0.9	8.00	8.0	0.030	0.070	0.110	✓	✓
R30-185	30	40	1.85	3.70	1.0	9.25	8.7	0.030	0.060	0.090	✓	✓
R30-250	30	40	2.50	5.00	1.2	12.5	10.3	0.020	0.040	0.070	✓	✓
R30-300	30	40	3.00	6.00	2.0	15.0	10.8	0.020	0.050	0.080	✓	✓
R30-400	30	40	4.00	8.00	2.5	20.0	12.7	0.010	0.030	0.050	✓	✓
R30-500	30	40	5.00	10.00	3.0	25.0	14.5	0.010	0.030	0.050	✓	✓
R30-600	30	40	6.00	12.00	3.5	30.0	16.0	0.005	0.020	0.040	✓	✓
R30-700	30	40	7.00	14.00	3.8	35.0	17.5	0.005	0.020	0.030	✓	✓
R30-800	30	40	8.00	16.00	4.0	40.0	18.8	0.005	0.020	0.020	✓	✓
R30-900	30	40	9.00	18.00	4.2	40.0	20.0	0.005	0.010	0.020	✓	✓

I_{hold} = Hold Current : maximum current device will sustain for 4 hours without tripping in 25°C still air.

I_{trip} = Trip Current : minimum current at which the device will trip in 25°C still air.

V_{max} = Maximum 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 dissipated from device when in the tripped state at 25°C still air.

R_{i min/max} = Minimum/Maximum resistance of device in initial (un-soldered) state.

R_{1 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	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H., 1000 hrs	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±10% typical
Resistance to solvent	MIL-STD-202, Method 215	No change
Vibration	MIL-STD-202, Method 201	No change
Ambient operating /storage conditions : - 40 °C to +85 °C		
Maximum surface temperature of the device in the tripped state is 125 °C		

Agency Approvals :



E201504(Alpha-Top)/E319079(Sea&Land)



NO.43486

Regulation/Standard:



2002/95/EC



EN14582

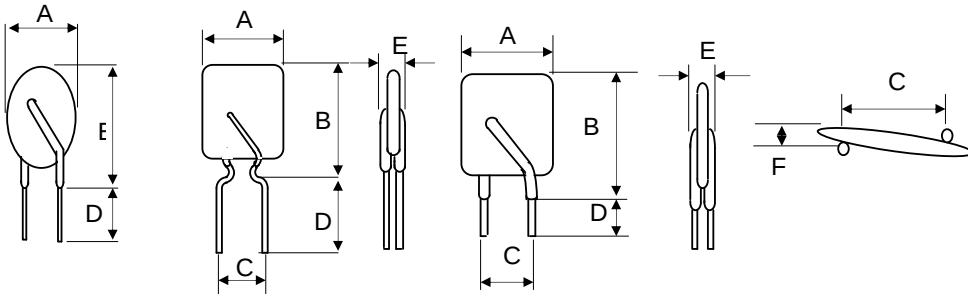
R30 Series

Alpha-Top (Sea & Land Alliance)

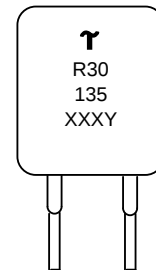
Physical Dimensions (Unit: mm/inch)

Model	A Max.	B Max.	C Typ.	D Min.	E Max.	F Max.	Lead Style
R30-030	7.4/0.29	10.2/0.4	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-040	7.4/0.29	11.4/0.45	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-050	7.4/0.29	11.4/0.45	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-065	7.4/0.29	11.4/0.45	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-075	7.4/0.29	11.4/0.45	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-090	7.4/0.29	12.2/0.48	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Kink
R30-110	7.4/0.29	14.2/0.56	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Kink
R30-135	8.9/0.35	13.5/0.53	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Kink
R30-160	8.9/0.35	15.2/0.60	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Kink
R30-185	10.2/0.40	15.7/0.62	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Kink
R30-250	11.4/0.45	18.3/0.72	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Kink
R30-300	11.4/0.45	17.3/0.68	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-400	14.0/0.55	20.1/0.79	5.1/0.20	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-500	14.0/0.55	24.9/0.98	10.2/0.40	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-600	16.5/0.65	24.9/0.98	10.2/0.40	7.6/0.3	3.0/0.12	1.2/0.05	Straight
R30-700	19.1/0.75	26.7/1.05	10.2/0.40	7.6/0.3	3.0/0.12	2.0/0.08	Straight
R30-800	21.6/0.85	29.2/1.15	10.2/0.40	7.6/0.3	3.0/0.12	2.0/0.08	Straight
R30-900	24.1/0.95	29.7/1.17	10.2/0.40	7.6/0.3	3.0/0.12	2.0/0.08	Straight

Dimensions



Marking



- ™ = Trademark
- R30 = Radial type 30 Vrms
- 135 = 1.35A hold current
- XXX = Date code
- Y = Factory code

Physical Characteristics

Lead Material :

R30-030 ~ 250: Tin-plated copper-clad steel, 0.205mm² (24AWG), Φ 0.51mm(0.020 in).

R30-300 ~ 900: Tin-plated copper, 0.52mm² (20AWG), Φ 0.81mm(0.032 in).

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

Order Information

Packing

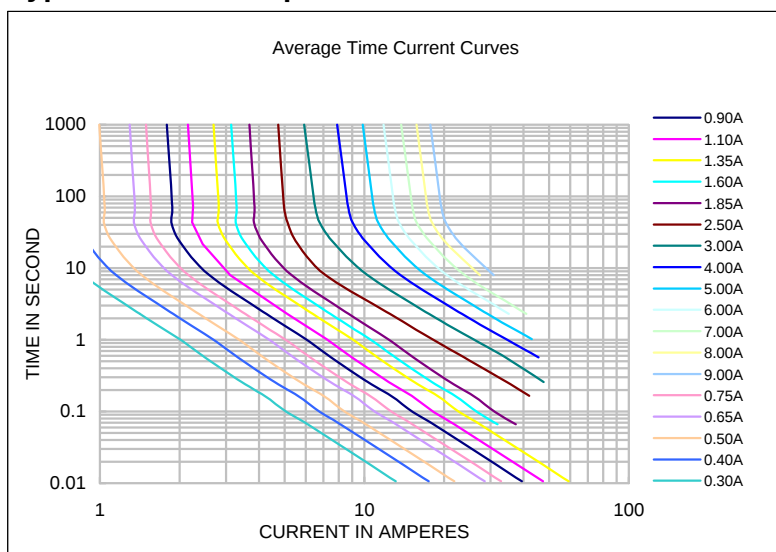
R30	135	K or S	R or U	Model	Reel Q'ty	Bag Q'ty
Radial type	Hold	K= Kink leads		R30-030 ~ R30-075	-	500
30 V	Current		R=Tape&reel	R30-090 ~ R30-250	3000	500
	(A)	S=Straight leads	U= Bulk packaged	R30-300 ~ R30-400	1500	500
				R30-500 ~ R30-900	-	500

Tape & Reel packaging per EIA468-B standard.

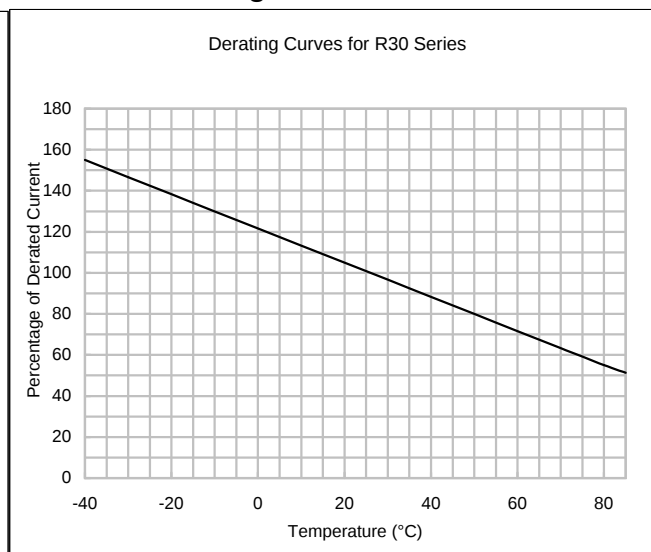
R30 Series

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
R30-030	0.44	0.39	0.35	0.30	0.25	0.23	0.20	0.18	0.16
R30-040	0.58	0.52	0.46	0.40	0.33	0.31	0.27	0.24	0.21
R30-050	0.73	0.65	0.58	0.50	0.42	0.38	0.34	0.31	0.26
R30-065	0.95	0.85	0.75	0.65	0.54	0.50	0.44	0.40	0.34
R30-075	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00
R30-090	1.31	1.17	1.04	0.90	0.75	0.69	0.61	0.55	0.47
R30-110	1.60	1.43	1.27	1.10	0.91	0.85	0.75	0.67	0.57
R30-135	1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.82	0.70
R30-160	2.32	2.08	1.84	1.60	1.33	1.23	1.09	0.98	0.83
R30-185	2.68	2.41	2.13	1.85	1.54	1.42	1.26	1.13	0.96
R30-250	3.63	3.25	2.88	2.50	2.08	1.93	1.70	1.53	1.30
R30-300	4.35	3.90	3.45	3.00	2.49	2.31	2.04	1.83	1.56
R30-400	5.80	5.20	4.60	4.00	3.32	3.08	2.72	2.44	2.08
R30-500	7.25	6.50	5.75	5.00	4.15	3.85	3.40	3.05	2.60
R30-600	8.70	7.80	6.90	6.00	4.98	4.62	4.08	3.66	3.12
R30-700	10.15	9.10	8.05	7.00	5.81	5.39	4.76	4.27	3.64
R30-800	11.60	10.40	9.20	8.00	6.64	6.16	5.44	4.88	4.16
R30-900	13.05	11.70	10.35	9.00	7.47	6.93	6.12	5.49	4.68



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.