

ELECTRONICS



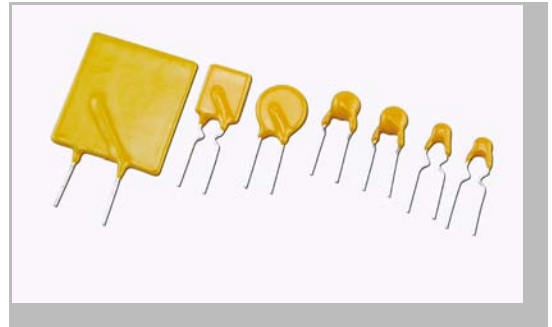
# Positive Thermal Coefficient

RL06 Series

# Positive Thermal Coefficient - RL06 Series

## Features

1. I(hold): 075~300mA
2. 6V Operating voltages
3. Radial leaded devices.
4. Very high voltage surge capabilities.
5. Available in lead-free version.
6. Fast time-to-trip
7. RoHS compliant, Lead- Free and Halogen-Free



## Applications

1. Overcurrent and overtemperature protection of automotive electronics
2. Hard disk drives
3. PC motherboards
4. PC peripherals
5. Point-of-sale (POS) equipment
6. PCMCIA cards
7. USB port protection - USB 2.0, 3.0 & OTG
8. HDMI 1.4 Source protection
9. Computers&peripherals

## Product Name



# Positive Thermal Coefficient - RL06 Series

## Dimension

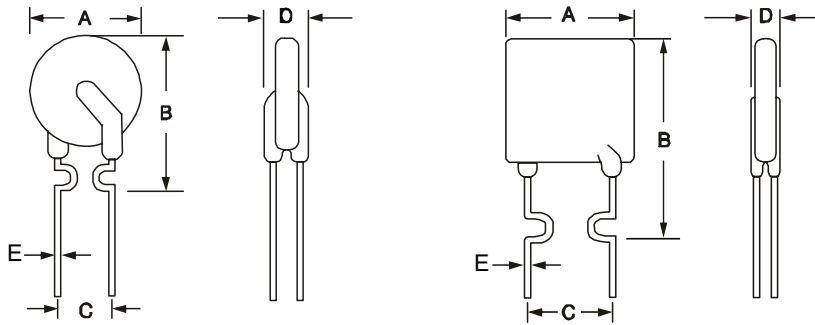


Fig.1

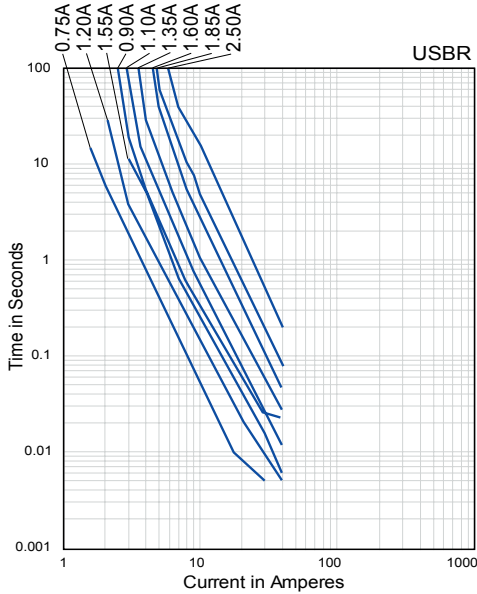
Fig.2

Type Number	I <sub>hold</sub>	V <sub>max</sub>	I <sub>trip</sub>	I <sub>max</sub>	R <sub>max</sub>	R <sub>min</sub>	P <sub>dtyp</sub>	Package Dimensions (mm)					Circuit Figure
	A	V	A	A	Ω	Ω	W	A	B	C	D	E	
RL06-075	0.75	6	1.3	40	0.5	0.2	0.3	7.4	12.5	5.1	3	0.8	Fig.1
RL06-090	0.9	6	1.8	40	0.3	0.1	0.6	7.4	13.5	5.1	3	0.8	Fig.1
RL06-110	1.1	6	2.2	40	0.27	0.1	0.7	7.8	13	5.1	3	0.8	Fig.2
RL06-120	1.2	6	2.4	40	22	0.12	0.6	7.4	13.5	5.1	3	0.8	Fig.1
RL06-135	1.35	6	2.7	40	0.18	0.07	0.8	7.4	13.5	5.1	3	0.8	Fig.1
RL06-155	1.55	6	3.1	40	0.16	0.06	0.8	7.4	13.5	5.1	3	0.8	Fig.1
RL06-160	1.6	6	3.2	40	0.16	0.05	0.9	7.8	16	5.1	3	0.8	Fig.2
RL06-185	1.85	6	3.7	40	0.13	0.04	1	7.8	16	5.1	3	0.8	Fig.2
RL06-200	2.0	6	4	40	0.155	0.18	1	8.8	16	5.1	3	0.8	Fig.2
RL06-250	2.5	6	5	40	0.08	0.02	1.2	10	16	5.1	3	0.8	Fig.2
RL06-300	3	6	6	40	0.07	0.02	1.2	10	16.5	5.1	3	0.8	Fig.2

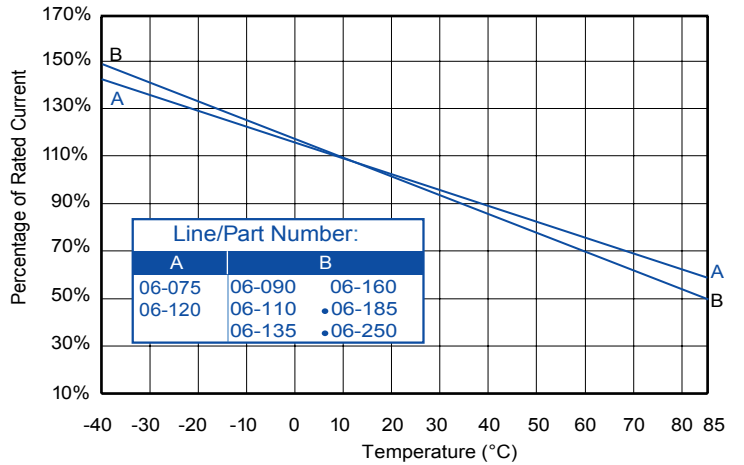
I<sub>hold</sub> = Hold current: maximum current device will pass without tripping in 20°C still air.  
 V<sub>max</sub> = Maximum operating voltage device can withstand without damage at rated current (I<sub>max</sub>).  
 R<sub>min/max</sub> = Minimum/Maximum device resistance prior to tripping at 25°C.  
 I<sub>max</sub> = Maximum fault current device can withstand without damage at rated voltage (V<sub>max</sub>).  
 I<sub>trip</sub> = Trip current: minimum current at which the device will trip in 20°C still air.  
 R<sub>typ</sub> = Typical resistance of device in initial (un-soldered) state.

# Positive Thermal Coefficient - RL06 Series

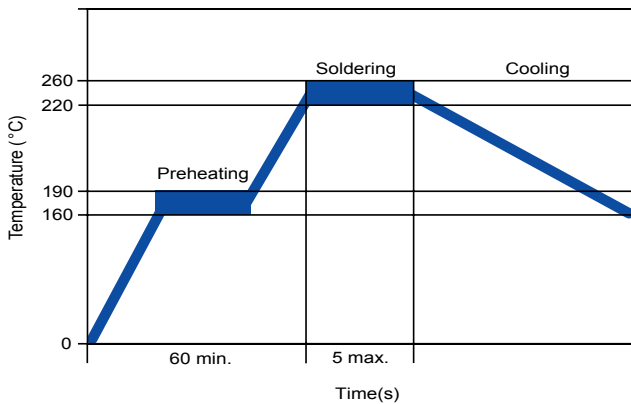
## Average Time Current Curves



## Temperature Derating Curve



## Soldering Parameters



**Pre-Heating Zone** Refer to the condition recommended by the flux manufacturer. Max. ramping rate should not exceed 4°C/Sec.

**Soldering Zone** Max. solder temperature should not exceed 260°C

**Cooling Zone** Cooling by natural convection in air.

## Environmental Specifications

**Operating/Storage Temperature** -40°C to +85°C

**Maximum Device Surface Temperature in Tripped State** 125°C

**Passive Aging** +85°C, 1000 hours  
-/+5% typical resistance change

**Humidity Aging** +85°C, 85% R.H, 1000 hours  
-/+5% typical resistance change

**Thermal Shock** +85°C to -40°C R.H, 10 times  
-/+5% typical resistance change

**Solvent Resistance** MIL-STD-202, Method 215F

**Moisture Sensitivity Level** Level 1, J-STD-020C

## Physical Specifications

**Lead Material** 90-2.50A: Tin-plated Copper clad steel  
75A: Tin-plated Copper

**Soldering Characteristics** Solderability per MIL-STD-202, Method 208E

**Insulating Material** Cured, flame retardant epoxy polymer meets UL 94V-0 requirements.

**Device Labeling** Marked with 'LF', voltage, current rating, and date code.

## Positive Thermal Coefficient - RL06 Series

### THERMAL DERATING CHART - IH(A)

Type Number	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
RL06-075	1.05	0.98	0.86	0.75	0.68	0.62	0.58	0.51	0.46	0.39
RL06-090	1.31	1.17	1.04	0.90	0.82	0.75	0.69	0.61	0.55	0.47
RL06-110	1.60	1.43	0.27	1.10	1.00	0.91	0.85	0.75	0.67	0.57
RL06-120	1.69	1.56	1.38	1.20	1.09	1.00	0.92	0.82	0.73	0.62
RL06-135	1.96	1.76	1.55	1.35	1.23	1.12	1.04	0.92	0.82	0.70
RL06-155	2.17	2.02	1.78	1.55	1.41	1.29	1.19	1.05	0.95	0.81
RL06-160	2.32	2.08	1.84	1.60	1.46	1.33	1.23	1.09	0.98	0.83
RL06-185	2.68	2.41	2.13	1.85	1.68	1.54	1.42	1.26	1.13	0.96
RL06-200	2.90	2.60	2.30	2.00	1.82	1.66	1.54	1.36	1.22	1.04
RL06-250	3.63	3.25	2.88	2.50	2.87	2.08	1.93	1.70	1.53	1.30
RL06-300	4.25	3.90	3.45	3.00	2.73	2.49	2.31	2.04	1.83	1.56

### Warehouse Storage Conditions of Products

- Storage Conditions:
  1. Storage Temperature: -10°C~+40°C
  2. Relative Humidity:≤75%RH
  3. Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year

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