

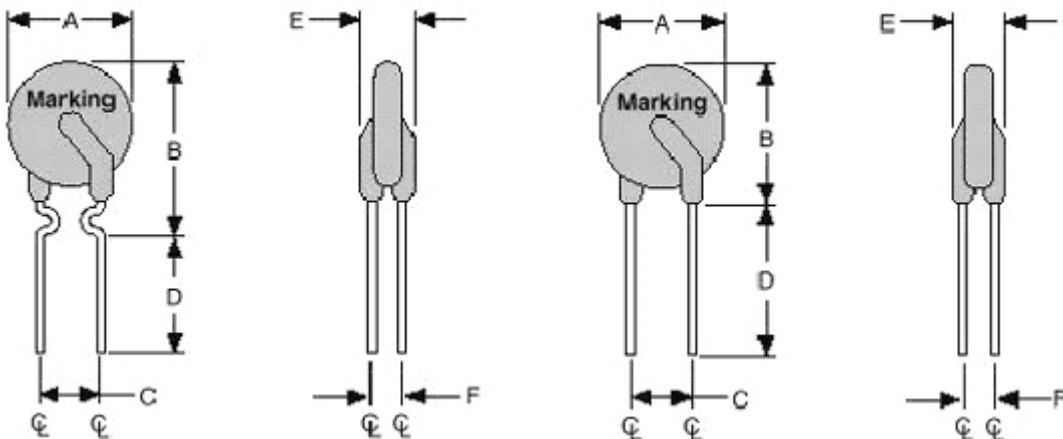
# Polymer PTC Thermistors LP60 Series



## Electrical Characteristics

part #	$I_H$	$I_T$	Ttrip	V max	I <sub>max</sub>	Pd typ.	R <sub>min</sub>	R <sub>max</sub>
	(amps)	(amps)	(seconds)	(volts)	(amps)	(watts)	(ohms)	(ohms)
LP60-010	0.10	0.20	8.0	60	40	0.68	2.50	4.50
LP60-017	0.17	0.34	5.0	60	40	0.65	2.00	3.20
LP60-020	0.20	0.40	3.6	60	40	0.62	1.50	2.84
LP60-025	0.25	0.50	3.2	60	40	0.67	1.00	1.95
LP60-030	0.30	0.60	3.0	60	40	0.69	0.76	1.36
LP60-040	0.40	0.80	3.8	60	40	0.79	0.52	0.86
LP60-050	0.50	1.00	4.0	60	40	0.80	0.41	0.77
LP60-065	0.65	1.30	5.3	60	40	0.90	0.27	0.48
LP60-075	0.75	1.50	6.3	60	40	0.93	0.18	0.40
LP60-090	0.90	1.80	7.2	60	40	1.00	0.14	0.31
LP60-110	1.10	2.20	8.2	60	40	1.51	0.14	0.25
LP60-135	1.35	2.70	9.6	60	40	1.71	0.12	0.19
LP60-160	1.60	3.20	11.4	60	40	1.98	0.09	0.14
LP60-185	1.85	3.70	12.6	60	40	2.24	0.08	0.12
LP60-250	2.50	5.00	15.6	60	40	2.66	0.05	0.08
LP60-300	3.00	6.00	19.8	60	40	2.95	0.04	0.06
LP60-375	3.75	7.50	24.0	60	40	3.20	0.03	0.05

## Product Dimensions (millimeters)



Part #	A	B	C	D	E	F	Physical Characteristics
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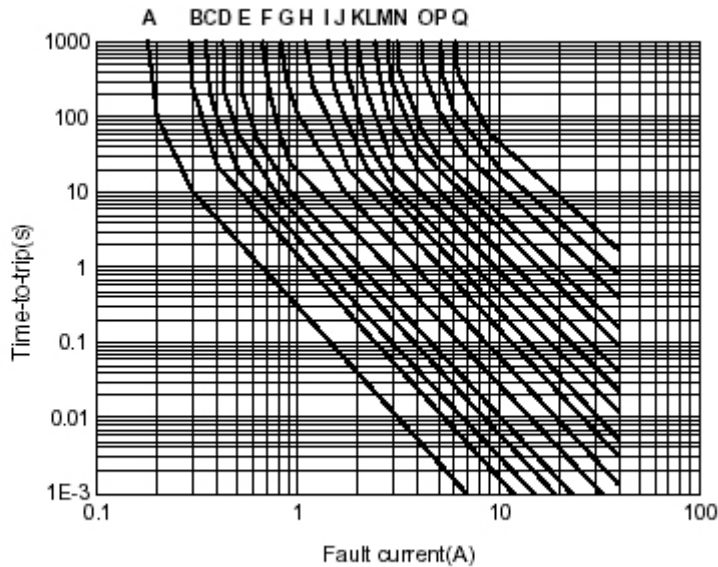
	Max.	Max.	typ.	Min.	Max.	typ.	Style	Lead	Material
LP60-010	7.4	12.7	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-017	7.4	12.7	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-020	7.4	12.7	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-025	7.4	12.7	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-030	7.4	13.0	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-040	7.6	13.5	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-050	7.9	13.7	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-065	9.7	14.5	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-075	10.7	15.5	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-090	11.7	16.5	5.1	7.6	3.1	1.1	1	0.6	Sn/Cu
LP60-110	13.0	18.0	5.1	7.6	3.1	1.4	2	0.8	Sn/Cu
LP60-135	15.7	19.6	5.1	7.6	3.1	1.4	2	0.8	Sn/Cu
LP60-160	16.7	21.3	5.1	7.6	3.1	1.4	2	0.8	Sn/Cu
LP60-185	17.8	22.9	5.1	7.6	3.1	1.4	2	0.8	Sn/Cu
LP60-250	21.3	26.4	10.2	7.6	3.1	1.4	2	0.8	Sn/Cu
LP60-300	24.9	30.0	10.2	7.6	3.1	1.4	2	0.8	Sn/Cu
LP60-375	28.5	33.5	10.2	7.6	3.1	1.4	2	0.8	Sn/Cu

### Typical Temperature-to-Ihold table (Amps)

Part #	Maximum ambient operating temperatures(°C)								
	-40	-20	0	25	40	50	60	70	85
LP60-010	0.18	0.15	0.13	0.10	0.08	0.07	0.06	0.05	0.03
LP60-017	0.28	0.24	0.20	0.17	0.14	0.12	0.10	0.09	0.06
LP60-020	0.34	0.29	0.25	0.20	0.16	0.14	0.13	0.10	0.07
LP60-025	0.42	0.36	0.31	0.25	0.20	0.18	0.16	0.12	0.09
LP60-030	0.52	0.44	0.38	0.30	0.24	0.22	0.18	0.14	0.10
LP60-040	0.66	0.57	0.50	0.40	0.32	0.29	0.24	0.20	0.14
LP60-050	0.83	0.74	0.63	0.50	0.41	0.36	0.30	0.25	0.18
LP60-065	1.10	0.95	0.82	0.65	0.53	0.47	0.40	0.33	0.24
LP60-075	1.26	1.11	0.95	0.75	0.61	0.54	0.45	0.39	0.28
LP60-090	1.52	1.30	1.15	0.90	0.73	0.65	0.55	0.47	0.33
LP60-110	1.82	1.60	1.35	1.10	0.89	0.79	0.65	0.55	0.40
LP60-135	2.20	1.91	1.65	1.35	1.09	0.96	0.80	0.68	0.50
LP60-160	2.60	2.30	1.95	1.60	1.30	1.13	1.00	0.80	0.60
LP60-185	3.00	2.63	2.30	1.85	1.50	1.33	1.12	0.92	0.67
LP60-250	4.05	3.58	3.02	2.50	2.02	1.80	1.55	1.30	0.90
LP60-300	4.82	4.16	3.62	3.00	2.43	2.16	1.85	1.50	1.09
LP60-375	6.02	5.19	4.50	3.75	3.02	2.68	2.30	1.95	1.39

Typical Time to Trip Charts at 25 deg. C

- A=LP60-010
- B=LP60-017
- C=LP60-020
- D=LP60-025
- E=LP60-030
- F=LP60-040
- G=LP60-050
- H=LP60-065
- I=LP60-075
- J=LP60-090
- K=LP60-110
- L=LP60-135
- M=LP60-160
- N=LP60-185
- O=LP60-250
- P=LP60-300
- Q=LP60-375



### Cross Reference

RTI Electronics	Raychem	Bourns	Littlefuse
LP60-010	RXE010	MF-R010	60R010
LP60-017	RXE017	MF-R017	60R017
LP60-020	RXE020	MF-R020	60R020
LP60-025	RXE025	MF-R025	60R025
LP60-030	RXE030	MF-R030	60R030
LP60-040	RXE040	MF-R040	60R040
LP60-050	RXE050	MF-R050	60R050
LP60-065	RXE065	MF-R065	60R065
LP60-075	RXE075	MF-R075	60R075
LP60-090	RXE090	MF-R090	60R090
LP60-110	RXE110	MF-RX110	60R110
LP60-135	RXE135	MF-RX135	60R135
LP60-160	RXE160	MF-RX160	60R160
LP60-185	RXE185	MF-RX185	60R185
LP60-250	RXE250	MF-RX250	60R250
LP60-300	RXE300	MF-RX300	60R300
LP60-375	RXE375	MF-RX375	60R375

I<sub>H</sub> = Hold current-maximum current at which the device will not trip at 25 °C still air

I<sub>T</sub> = Trip current-maximum current at which the device will always trip at 25 °C still air

V max = Maximum voltage device can withstand without damage at rated current.

I max = Maximum fault current device can withstand without damage at rated voltage

Pd typ. = Power dissipated from device when in the tripped stated in 25 °C still air environment

T trip = Maximum time to trip(s) at 5\*I<sub>H</sub>

### Environmental Characteristics

Operating/Storage Temperature	-40 °C to 85 °C	
Maximum Device Surface Temperature		
In Tripped State	125 °C	
Passive Aging	+70 °C, 1000 hours	±5% typical resistance change

Humidity Aging	+ 85 °C, 85%R.H. 1000 hours	±5% typical resistance change
Thermal Shock	MIL-STD-202F, Method 107G 125 °C to -40 °C, 10 times	±10% typical resistance change
Mechanical Shock	MIL-STD-202F, Method 213	No resistance change
Solvent Resistance	MIL-STD-202F, Method 215	No change
Vibration	MIL-STD-883C, Method 20007.1 Condition A	No change

## Test Procedures And Requirements

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech	Verify dimensions and materials	Per MF physical description
Resistance	In Still Air @ 25 °C	$R_{min} \leq R \leq R_{max}$
Time to Trip	5 times IH., $V_{max}$ , 25 °C	$T \leq \text{max. time to trip (sec.)}$
Hold Current	30 min. at IH	No trip
Trip Cycle Life	$V_{max}$ , $I_{max}$ , 100 cycles	No arcing or burning
Trip Endurance	$V_{max}$ , 24 hours	No arcing or burning