

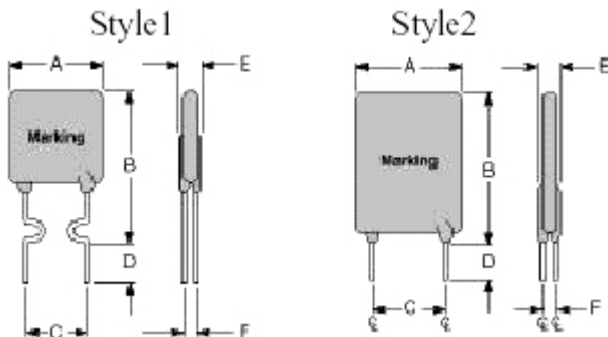
# Polymer PTC Thermistors LP30 Series



## Electrical Characteristics

Part #	$I_H$	$I_T$	Ttrip	V max	I <sub>max</sub>	Pd typ.	Rmin	Rmax
	(amps)	(amps)	(seconds)	(volts)	(amps)	(watts)	(ohms )	( ohms)
LP30-090	0.90	1.80	7.1	30	40	0.91	0.07	0.12
LP30-110	1.10	2.20	6.6	30	40	1.00	0.05	0.10
LP30-135	1.35	2.70	7.3	30	40	1.11	0.04	0.08
LP30-160	1.60	3.20	8.0	30	40	1.20	0.03	0.07
LP30-185	1.85	3.70	8.7	30	40	1.27	0.03	0.06
LP30-250	2.50	5.00	10.3	30	40	1.34	0.02	0.04
LP30-300	3.00	6.00	10.8	30	40	2.01	0.02	0.05
LP30-400	4.00	8.00	12.7	30	40	2.51	0.01	0.03
LP30-500	5.00	10.00	14.5	30	40	3.01	0.01	0.03
LP30-600	6.00	12.00	16.0	30	40	3.51	0.005	0.02
LP30-700	7.00	14.00	17.5	30	40	3.80	0.005	0.02
LP30-800	8.00	16.00	18.8	30	40	4.00	0.005	0.02
LP30-900	9.00	18.00	20.0*	30	40	4.21	0.005	0.01

## Product Dimensions (millimeters)



Part #	A Max.	B Max.	C typ.	D Min.	E Max.	F typ.	Physical Characteristics		
							Style	Lead	Material
LP30-090	8.7	13.5	5.1	7.6	3.0	0.9	1	0.6	Sn/Cu
LP30-110	8.7	14.2	5.1	7.6	3.0	0.9	1	0.6	Sn/Cu
LP30-135	8.9	13.5	5.1	7.6	3.0	0.9	1	0.6	Sn/Cu
LP30-160	10.7	15.5	5.1	7.6	3.0	0.9	1	0.6	Sn/Cu
LP30-185	10.7	15.7	5.1	7.6	3.0	0.9	1	0.6	Sn/Cu
LP30-250	11.7	18.3	5.1	7.6	3.0	0.9	1	0.6	Sn/Cu

LP30-300	11.7	17.3	5.1	7.6	3.0	1.2	2	0.8	Sn/Cu
LP30-400	14.0	20.1	5.1	7.6	3.0	1.2	2	0.8	Sn/Cu
LP30-500	14.0	24.9	10.2	7.6	3.0	1.2	2	0.8	Sn/Cu
LP30-600	16.5	24.9	10.2	7.6	3.0	1.2	2	0.8	Sn/Cu
LP30-700	19.1	26.7	10.2	7.6	3.0	1.2	2	0.8	Sn/Cu
LP30-800	21.6	29.2	10.2	7.6	3.0	1.2	2	0.8	Sn/Cu
LP30-900	24.1	29.7	10.2	7.6	3.0	1.2	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
LP30-090	1.40	1.25	1.10	0.90	0.75	0.69	0.65	0.60	0.50
LP30-110	1.75	1.52	1.33	1.10	0.99	0.90	0.80	0.73	0.63
LP30-135	2.15	1.94	1.70	1.35	1.20	1.14	1.00	0.90	0.81
LP30-160	2.49	2.21	1.94	1.60	1.42	1.31	1.19	1.03	0.88
LP30-185	2.87	2.59	2.28	1.85	1.63	1.52	1.33	1.21	1.05
LP30-250	3.82	3.44	3.03	2.50	2.17	2.00	1.81	1.59	1.39
LP30-300	4.55	4.10	3.60	3.00	2.65	2.51	2.24	2.01	1.74
LP30-400	6.00	5.40	4.74	4.00	3.47	3.28	2.82	2.63	2.26
LP30-500	7.44	6.68	5.80	5.00	4.30	4.03	3.58	3.22	2.77
LP30-600	8.90	7.99	7.08	6.00	5.13	4.82	4.27	3.84	3.30
LP30-700	10.35	9.30	8.21	7.00	5.95	5.58	4.96	4.46	3.84
LP30-800	11.60	10.60	9.35	8.00	6.79	6.36	5.64	5.07	4.36
LP30-900	13.25	11.90	10.49	9.00	7.53	7.12	6.32	5.69	4.88

### Cross Reference

RTI	Raychem	Bourns	Littlefuse
LP30-090	RUE090	MF-R090-0-9	30R090
LP30-110	RUE110	MF-R110	30R110
LP30-135	RUE135	MF-R135	30R135
LP30-160	RUE160	MF-R160	30R160
LP30-185	RUE185	MF-R185	30R185
LP30-250	RUE250	MF-R250-0-10	30R250
LP30-300	RUE300	MF-R300	30R300
LP30-400	RUE400	MF-R400	30R400
LP30-500	RUE500	MF-R500	30R500
LP30-600	RUE600	MF-R600	30R600
LP30-700	RUE700	MF-R700	30R700
LP30-800	RUE800	MF-R800	30R800
LP30-900	RUE900	MF-R900	30R900

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.

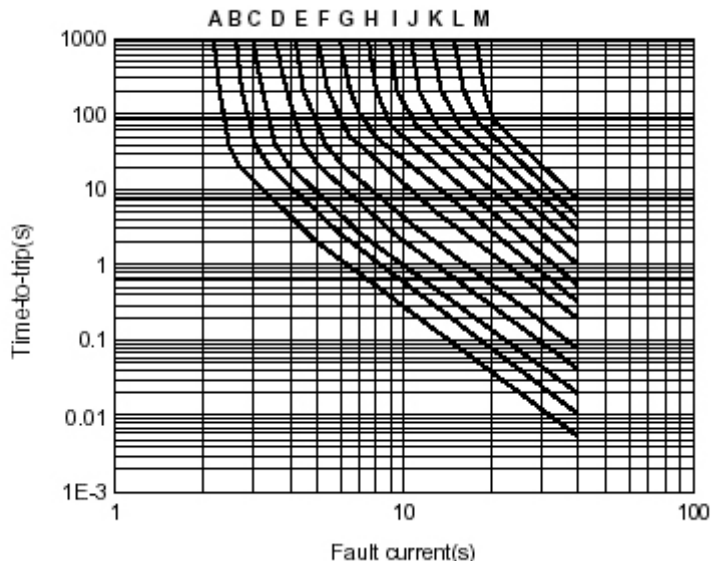
I max = Maximum fault current device can withstand without damage at rated voltage

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>

### Typical Time to Trip Chart, LP30

**A=LP30-090**  
**B=LP30-110**  
**C=LP30-135**  
**D=LP30-160**  
**E=LP30-185**  
**F=LP30-250**  
**G=LP30-300**  
**H=LP30-400**  
**I=LP30-500**  
**J=LP30-600**  
**K=LP30-700**  
**L=LP30-800**  
**M=LP30-900**



## 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
Resistance	In Still Air @ 25 °C	$R_{min} \leq R \leq R_{max}$
Time to Trip	5 times $I_{H.}$ , $V_{max}$ , 25 °C	$T \leq \text{max. time to trip (sec.)}$
Hold Current	30 min. at $I_H$	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