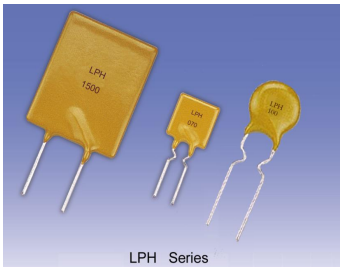
Polymer PTC Devices



Features

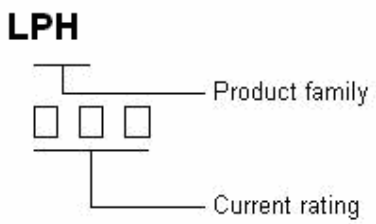
- ☐ Radial leaded devices
- ☐ High switching temperature
- ☐ Maximum working temperature with 125℃
- ☐ Faster tripping, typical application in micro-motors for automobiles
- ☐ Lead-free and compliant with the European Union RoHS Directive 2011/65/EU

LPH *series*

Product Dimensions (mm)

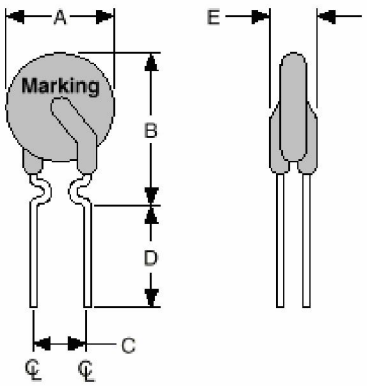
Part number	A	B	C		D	E	Lead	Style
	Max.	Max.	Min.	Max.	Min.	Max.	Size(Φ)	
LPH050F	7.5	12.5	4.4	5.8	7.6	3.0	0.5	1
LPH070F	6.5	12.8	4.4	5.8	7.6	3.0	0.5	2
LPH100F	9.6	13.5	4.4	5.8	7.6	3.0	0.5	1
LPH200F	9.5	14.8	4.4	5.8	7.6	3.0	0.5	1
LPH300F	8.8	13.8	4.4	5.8	7.6	3.0	0.5	3
LPH400F	10.0	15.0	4.4	5.8	7.6	3.0	0.5	3
LPH450F	10.4	15.5	4.4	5.8	7.6	3.0	0.8	3
LPH550F	11.2	18.9	4.4	5.8	7.6	3.0	0.8	3
LPH600F	11.1	20.9	4.4	5.8	7.6	3.0	0.8	3
LPH650F	12.5	22.1	4.4	5.8	7.6	3.0	0.8	3
LPH700F	14.0	21.9	4.4	5.8	7.6	3.0	0.8	3
LPH750F	14.0	23.6	4.4	5.8	7.6	3.0	0.8	3
LPH800F	16.5	22.5	4.4	5.8	7.6	3.0	0.8	3
LPH900F	16.6	25.5	4.4	5.8	7.6	3.0	0.8	3
LPH1000F	17.6	26.3	9.5	10.9	7.6	3.0	0.8	3
LPH1100F	21.0	26.1	9.5	10.9	7.6	3.0	0.8	3
LPH1300F	23.6	28.5	9.5	10.9	7.6	3.6	1.0	3
LPH1400F	23.6	28.6	9.5	10.9	7.6	3.6	1.0	3
LPH1500F	23.6	28.6	9.5	10.9	7.6	3.6	1.0	3

Marking system

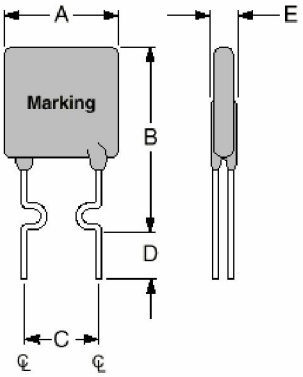


* Lead materials: Tin-plate metal wire

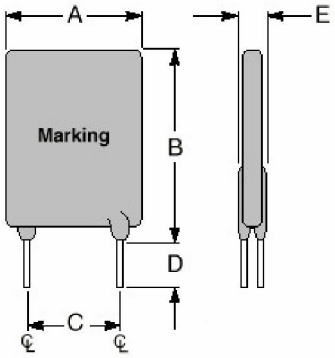
CYG Wayon Circuit protection Co., Ltd. Tel: 86-21-50968309 Fax: 86-21-50968310
No. 1001, Shiwan 7th Road, Shanghai, 201207, China E-mail: market@way-on.com http://www.way-on.com



Style1



Style2



Style3

Electrical Characteristic

Part number	I_H (A)	I_T (A)	V_{max} (V)	I_{max} (A)	Max. Time-to-trip (A)	(S)	Pd_{typ} (W)	R_{min} (Ω)	R_{max} (Ω)	R_{1max} (Ω)
LPH050F	0.5	0.9	30	40	2.5	2.5	0.9	0.48	0.78	1.10
LPH070F	0.7	1.4	30	40	3.5	4.0	1.4	0.30	0.54	0.80
LPH100F	1.0	1.8	30	40	5.0	5.2	1.4	0.18	0.30	0.43
LPH200F	2.0	3.8	16	100	10.0	4.3	1.4	0.045	0.074	0.110
LPH300F	3.0	6.0	16	100	15.0	5.0	3.0	0.033	0.053	0.079
LPH400F	4.0	7.5	16	100	20.0	5.0	3.3	0.024	0.040	0.060
LPH450F	4.5	8.7	16	100	22.5	4.0	3.6	0.017	0.036	0.054
LPH550F	5.5	10.0	16	100	27.5	6.0	3.5	0.015	0.025	0.037
LPH600F	6.0	11.0	16	100	30.0	6.5	4.1	0.013	0.022	0.032
LPH650F	6.5	12.7	16	100	32.5	7.0	4.3	0.011	0.018	0.026
LPH700F	7.0	13.0	16	100	35.0	7.0	4.0	0.010	0.017	0.025
LPH750F	7.5	14.0	16	100	37.5	8.0	4.5	0.009	0.015	0.022
LPH800F	8.0	15.0	16	100	40.0	8.0	4.2	0.008	0.014	0.020
LPH900F	9.0	16.5	16	100	45.0	10.0	5.0	0.007	0.012	0.017
LPH1000F	10.0	19.5	16	100	50.0	10.5	5.3	0.006	0.011	0.015
LPH1100F	11.0	20.0	16	100	55.0	11.0	5.5	0.005	0.009	0.013
LPH1300F	13.0	25.0	16	100	65.0	15.0	6.9	0.004	0.007	0.010
LPH1400F	14.0	27.0	16	100	70.0	13.0	6.9	0.003	0.006	0.009
LPH1500F	15.0	28.0	16	100	75.0	20.0	7.0	0.003	0.006	0.009

I_H=Hold current: maximum current at which the device will not trip at 25℃ still air.

I_T=Trip current: minimum current at which the device will always trip at 25℃ still air.

Max. Time-to-trip =Maximum time to trip(s) at assigned current.

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}=Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

R_{min}=Minimum device resistance at 25℃ prior to tripping.

R_{max}=Maximum device resistance at 25℃ prior to tripping.

R_{1max}= Maximum resistance of device when measured one hour post trip at 25℃.

Test Procedures And Requirements

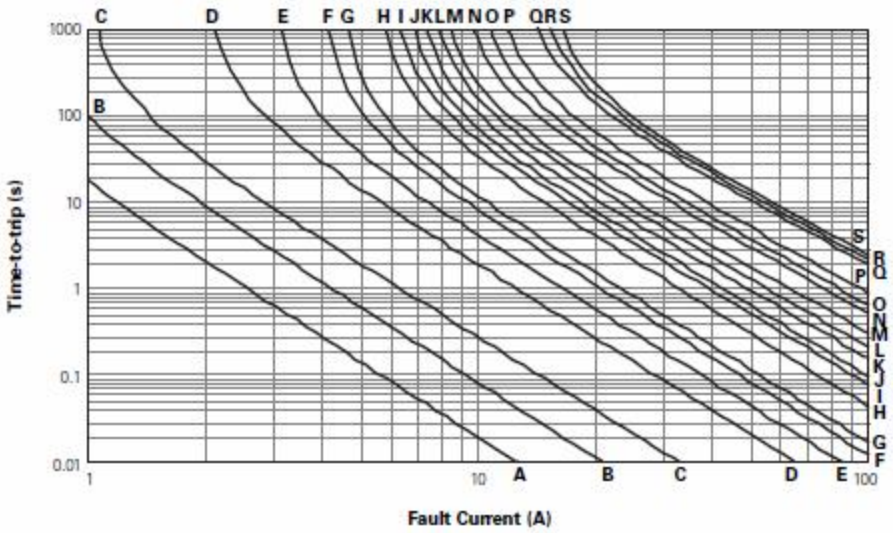
Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25℃	$R_{min} \leqslant R \leqslant R_{max}$
Time to Trip	Specified current, V_{max}, 25℃	T≤maximum Time to Trip
Hold Current	30min, at I_H	No trip
Trip Cycle Life	V_{max}, I_{max}, 100cycles	No arcing or burning
Trip Endurance	V_{max}, 2hours	No arcing or burning

Thermal Derating Chart-IH(A)

Part number	Maximum ambient operating temperatures(℃)									
	-40	-20	0	25	40	50	60	70	85	125
LPH050F	0.68	0.62	0.56	0.50	0.44	0.40	0.36	0.34	0.28	0.12
LPH070F	0.95	0.87	0.79	0.70	0.62	0.56	0.51	0.47	0.39	0.17
LPH100F	1.36	1.24	1.13	1.00	0.89	0.80	0.73	0.67	0.56	0.24
LPH200F	2.71	2.49	2.26	2.00	1.77	1.60	1.46	1.34	1.11	0.49
LPH300F	4.0	3.7	3.4	3.0	2.6	2.4	2.2	2.0	1.6	0.74
LPH400F	5.4	5.0	4.6	4.0	3.5	3.2	3.0	2.6	2.2	0.98
LPH450F	6.1	5.6	5.1	4.5	4.0	3.6	3.3	3.0	2.5	1.1
LPH550F	7.4	6.8	6.2	5.5	4.8	4.4	4.0	3.6	3.0	1.3
LPH600F	8.2	7.5	6.8	6.0	5.3	4.9	4.4	4.0	3.3	1.5
LPH650F	8.8	8.1	7.4	6.5	5.7	5.3	4.8	4.3	3.6	1.6
LPH700F	9.2	8.7	7.9	7.0	6.1	5.6	5.1	4.6	3.87	1.7
LPH750F	10.2	9.4	8.6	7.5	6.6	6.1	5.6	5.0	4.1	1.9
LPH800F	10.8	9.9	9.0	8.0	7.0	6.4	5.8	5.3	4.4	1.9
LPH900F	12.2	11.1	10.1	9.0	7.9	7.2	6.5	6.0	5.0	2.1
LPH1000F	13.6	12.5	11.4	10.0	8.8	8.1	7.4	6.6	5.5	2.5
LPH1100F	14.9	13.7	12.4	11.0	9.7	8.8	8.0	7.3	6.0	2.7
LPH1300F	17.7	16.3	14.8	13.0	11.4	10.5	9.6	8.6	7.2	3.3
LPH1400F	19.1	17.1	15.8	14.0	12.3	11.2	10.2	9.3	7.7	3.4
LPH1500F	20.4	18.8	17.1	15.0	13.2	12.1	11.1	9.9	8.3	3.8

Typical Time-to-trip Curves at 25℃

A=LPH050F K=LPH700F
B=LPH070F L=LPH750F
C=LPH100F M=LPH800F
D=LPH200F N=LPH900F
E=LPH300F O=LPH1000F
F=LPH400F P=LPH1100F
G=LPH450F Q=LPH1300F
H=LPH550F R=LPH1400F
I=LPH600F S=LPH1500F
J=LPH650F



Packaging and Marking Information

Bulk:

LPH050F~LPH450F……1000pcs per bag

LPH600F~LPH1500F……500pcs per bag