Polymer PTC Devices

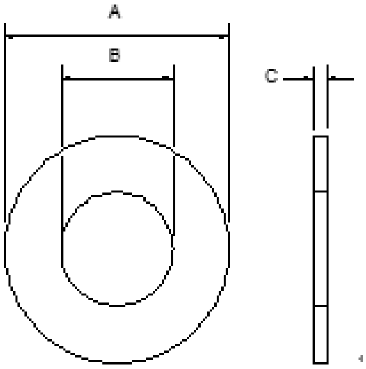
Features

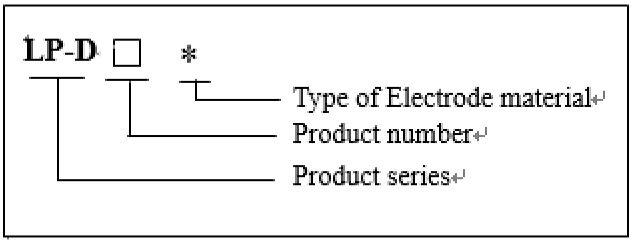
- Special designs to meet customs' appropriate applications
- Compatible with current industry standards
- Overcurrent and overtemperature protection
- Typical applications in Lithium cells, motors
- Agency Recognition:UL

LP-D *series*

Product Dimensions

Part Number	A	B	C
	Type	Type	Type
LP-D1 *	16.00	8.9	0.35
LP-D2 *	16.00	10.00	0.35
LP-D3 *	11.70	5.40	0.35
LP-D4 *	14.40	9.50	0.30
LP-D5 *	16.08	9.00	0.30
LP-D7 *	11.80	6.50	0.35
LP-D8 *	14.70	8.20	0.35
LP-D9 *	12.10	5.00	0.30
LP-D10 *	13.15	3.99	0.30
LP-D11 *	19.50	10.00	0.30
LP-D12 *	16.00	8.00	0.30
LP-D14 *	11.40	8.00	0.35
LP-D15 *	14.00	9.00	0.35
LP-D16 *	15.40	9.00	0.35
LP-D18 *	16.30	10.00	0.30
LP-D19 *	15.80	9.75	0.34
LP-D20 *	16.25	9.75	0.31
LP-D21 *	16.25	9.75	0.31
LP-D33 *	16.15	9.00	0.30
LP-D34 *	15.42	10.80	0.30
LP-D35 *	16.80	9.90	0.31
LP-D37 *	16.60	10.10	0.30





* - Maybe f/b C(Nickel Plated Copper Electrode), blank (Pure Nickel Electrode).

Electrical Characteristics

Part number	I_H	I_T	V_{max}	I_{max}	Maximum Time To Trip		R_{min}	R_{max}	R_{1max}
	(A)	(A)	(V)	(A)	Current (A)	Time (S)	(Ω)	(Ω)	(Ω)
LP-D1 *	5.50	11.00	15.0	40.0	10.0	15.0	0.014	0.030	0.060
LP-D2 *	3.50	7.00	15.0	40.0	10.0	10.0	0.015	0.032	0.064
LP-D3 *	1.70	3.40	15.0	40.0	10.0	10.0	0.030	0.060	0.120
LP-D4 *	1.90	4.80	15.0	40.0	12.5	5.0	0.020	0.030	0.060
LP-D5 *	1.50	3.50	15.0	40.0	8.0	5.0	0.018	0.030	0.060
LP-D7 *	1.00	2.00	15.0	40.0	5.0	5.0	0.027	0.057	0.114
LP-D8 *	1.20	2.40	15.0	40.0	5.0	5.0	0.015	0.036	0.072
LP-D9 *	1.95	4.30	15.0	40.0	8.5	5.0	0.015	0.025	0.050
LP-D10 *	2.50	5.50	15.0	40.0	11.5	5.0	0.011	0.019	0.038
LP-D11 *	4.50	9.00	15.0	40.0	22.0	5.0	0.006	0.011	0.022
LP-D12 *	2.70	6.80	15.0	40.0	13.5	5.0	0.010	0.021	0.042
LP-D14 *	1.25	2.50	15.0	40.0	10.0	5.0	0.035	0.050	0.100
LP-D15 *	1.50	3.00	15.0	40.0	10.0	5.0	0.015	0.032	0.064
LP-D16 *	2.20	4.40	15.0	40.0	10.0	5.0	0.012	0.023	0.046
LP-D18 *	2.30	5.30	15.0	40.0	11.5	5.0	0.015	0.020	0.040
LP-D19 *	2.90	6.80	15.0	40.0	14.5	5.0	0.009	0.018	0.036
LP-D20 *	2.70	6.80	15.0	40.0	13.5	5.0	0.009	0.018	0.036
LP-D21 *	2.10	4.70	15.0	40.0	10.5	5.0	0.014	0.024	0.048
LP-D33 *	2.50	6.10	15.0	40.0	12.5	5.0	0.009	0.018	0.036
LP-D34 *	3.00	5.00	15.0	40.0	5.0	10.0	0.018	0.022	0.044
LP-D35 *	2.70	6.80	15.0	40.0	13.50	5.00	0.011	0.016	0.032
LP-D37 *	2.70	5.40	15.0	40.0	11.00	5.00	0.010	0.020	0.040

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

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

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

Imax=Maximum fault current device can withstand without damage at rated voltage.

Ttrip=Maximum time to trip(s) at assigned current.

Rmin=Minimum device resistance at 25℃ prior to tripping.

Rmax=Maximum device resistance at 25℃ prior to tripping.

R1max=Maximum device resistance measured one hour after thermal event (reflow and trip jump).

Test Procedures And Requirements

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @ 25℃	$R_{min} \leq R \leq R_{max}$
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}, 24hours	No arcing or burning

Physical Characteristics and Environmental Specifications

Physical Characteristics

Electrode material	0.04mm nominal thickness, pure nickel foil (or nickel-plated copper)

Environmental Specifications

Test	Conditions	Resistance Change
Passive aging	-40℃,1000hours	±5%
	60℃,1000hours	±20%
Humidity aging	60℃/95% RH,1000hours	±30%
Thermal shock	85℃/-40℃, 10cycles	±5%
Vibration	MIL-STD-883D ,Method 2026	No change

Packaging and Storage

Packaging

Bulk, 1000pcs per bag

Storage

The maximum ambient temperature shall not exceed 40℃. Storage temperatures higher than 40℃ could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

Warning:

PPTC devices are intended for protection against occasional over-current or over-temperature fault conditions, and should not be used when repeated fault conditions are anticipated. Operation beyond maximum ratings or improper use may result in device damage and possible electrical arcing and flame.

Notes:

The specification is intended to present application, product and technical data to assist the user in selecting PPTC circuit production devices. However, users should independently evaluate and test the suitability of each product. Wayon makes no warranties as to the accuracy or completeness of the information and disclaims any liability resulting from its use. Wayon’s only obligations are those in the Wayon Standard Terms and Conditions of Sale and in no case will Wayon be liable for any incidental, indirect, or consequential damages arising from the sale, resale, or misuse of its products. Wayon reserves the right to change or update, without notice, any information contained in this specification.