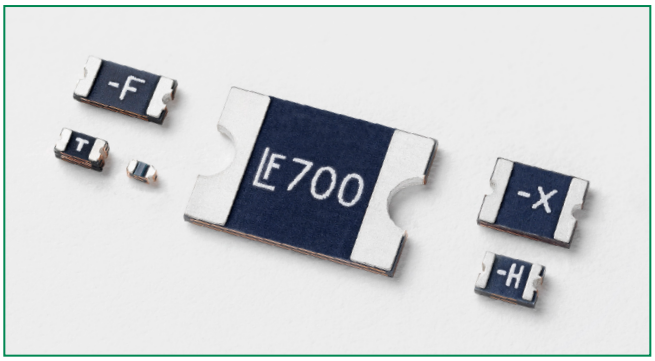
LoRho Surface Mount Series



Agency Approvals

AGENCY	AGENCY FILE NUMBER
c UL us	E183209
TÜV	R50119118

Applications

- USB peripherals including new USB 3.0 / 2.0 ports
- Li-ion / Li-Polymer battery packs
- Smart phones
- Tablet and Notebook PCs
- E-readers
- LCD / LED HDTV
- Computer periperals
- Digital cameras and video cameras
- Hard disk drives
- Game consoles

Description

Littelfuse LoRho Surface Mount PPTC (Polymer Positive Temperature Coefficient) devices provide overcurrent protection for applications where ultra low internal resistance, ultra low voltage drop and automatic resettable protection are desired. This new series allows a higher hold current device in a smaller factor and lower profile as compared to a standard PPTC. It offers ultra low internal resistance while maintaining the high level electrical characteristics and performances of standard PPTC products. All devices are UL and TUV recognized and have maximum fault current of 50A. They are available in 0402 to 2920 sizes while the hold current ranges from 100mA to 7A. Littelfuse 0402 size LoRho SMD PPTC is the smallest size surface mounted PPTC device available in the market.

Features

- Ultra low internal resistance
- Very thin profile
- Miniature size saves board space
- Allows a higher hold current dvice in a smaller factor and lower profile as compared to a standard PPTC
- Fast response to fault currents
- 0402 size available - the smallest PPTC in the marketCompatible with high temperature solders
- Broadest range of Hold Current ratings (100mA to 7A)
- RoHS compliant, Lead Free and Halogen Free
- UL and TUV recognized
- 0603L150SL ideal for USB 3.0

WARNING

- Users shall independently assess the suitability of these devices for each of their applications
- Operation of these devices beyond the stated maximum ratings could result in damage to the devices and lead to electrical arcing and/or fire
- These devices are intended to protect against the effects of temporary over-current or over-temperature conditions and are not intended to perform as protective devices where such conditions are expected to be repetitive or prolonged in duration
- Exposure to silicon-based oils, solvents, electrolytes, acids, and similar materials can adversely affect the performance of these PPTC devices
- These devices undergo thermal expansion under fault conditions, and thus shall be provided with adequate space and be protected against mechanical stresses
- Circuits with inductance may generate a voltage (L di/dt) above the rated voltage of the PPTC device.

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Electrical Characteristics

Part Number	Marking	I_{hold} (A)	I_{trip} (A)	V_{max} (Vdc)	I_{max} (A)	P_d typ. (W)	Maximum Time-To-Trip		Resistance		Agency Approvals	
							Current (A)	Time (Sec.)	R_{min} (Ω)	R_{1max} (Ω)	c UL us	TÜV
0402L010SL		0.10	0.30	6	40	0.5	0.50	1.00	0.150	2.000	X	Pending
0402L020SL		0.20	0.50	6	40	0.5	1.00	1.00	0.100	1.250	X	Pending
0402L035SL		0.35	0.70	6	50	0.5	8.00	0.10	0.050	0.700	X	Pending
0402L050SL		0.50	1.00	6	50	0.5	8.00	0.10	0.040	0.400	X	Pending
0603L050SL	K	0.50	1.00	6	50	0.6	8.00	0.10	0.070	0.350	X	X
0603L075SL	N	0.75	1.50	6	50	0.6	8.00	0.20	0.005	0.250	X	X
0603L100SL	S	1.00	1.80	6	50	0.6	8.00	0.30	0.040	0.120	X	X
0603L150SL	T	1.50	3.00	6	50	0.6	8.00	0.50	0.007	0.080	X	X
0603L175SL	V	1.75	3.50	6	50	0.6	8.00	0.60	0.005	0.060	X	X
0805L075SL	-G	0.75	1.50	6	50	0.6	8.00	0.20	0.040	0.160	X	X
0805L110SL	-H	1.10	1.80	6	50	0.6	8.00	0.30	0.030	0.130	X	X
0805L150SL	-K	1.50	3.00	6	50	0.6	8.00	0.50	0.015	0.065	X	X
0805L175SL	-V	1.75	3.50	6	50	0.6	8.00	0.60	0.005	0.055	X	X
0805L200SLTH	-L	2.00	4.00	6	50	0.6	8.00	1.00	0.005	0.045	X	X
0805L260SLTH	-S	2.60	5.00	6	50	0.6	8.00	4.00	0.003	0.035	X	X
0805L300SL	-N	3.00	6.00	6	50	0.6	8.00	5.00	0.003	0.030	X	X
1206L075SL	-G	0.75	1.50	6	50	0.8	8.00	0.30	0.017	0.180	X	X
1206L110SL	-H	1.10	2.20	6	50	0.8	8.00	0.30	0.015	0.100	X	X
1206L150SL	-K	1.50	3.90	6	50	0.8	8.00	0.30	0.010	0.065	X	X
1206L110/12SL	-H1	1.10	2.20	12	50	0.8	8.00	0.30	0.015	0.130	X	X
1206L150/12SL	-K1	1.50	3.00	12	50	0.8	8.00	0.30	0.010	0.080	X	X
1206L175SL	-F	1.75	3.50	6	50	0.8	8.00	0.40	0.005	0.030	X	X
1206L200SL	-L	2.00	4.00	6	50	0.8	8.00	0.50	0.005	0.025	X	X
1206L260SLTH	-S	2.60	5.00	6	50	0.8	8.00	4.00	0.003	0.026	X	X
1206L300SLTH	-N	3.00	6.00	6	50	0.8	8.00	4.00	0.003	0.020	X	X
1206L350SLTH	-T	3.50	7.00	6	50	0.8	8.00	5.00	0.003	0.018	X	X
1206L380SLTH*	-V	2.82*	8.00	6	50	0.8	8.00	5.00	0.002	0.014	X	X
1206L400SL	-Y	4.00	8.00	6	50	0.8	20.00	2.00	0.001	0.014	X	X
1206L450SL	-Z	4.50	9.00	6	50	0.8	22.50	2.00	0.001	0.014	X	X
1210L175SL	-J	1.75	3.50	6	50	0.8	8.00	2.50	0.006	0.040	X	X
1210L200SL	-L	2.00	4.00	6	50	0.8	8.00	3.00	0.005	0.024	X	X
1210L260SL	-S	2.60	5.00	6	50	0.8	8.00	4.00	0.003	0.020	X	X
1210L300SL	-N	3.00	6.00	6	50	0.8	15.00	2.00	0.003	0.020	X	X
1210L350SL	-T	3.50	7.00	6	50	0.8	17.50	2.00	0.003	0.018	X	X
1210L380SL	-X	3.80	8.00	6	50	0.8	8.00	5.00	0.002	0.016	X	X
1210L400SL	-V	4.00	8.00	6	50	0.8	8.00	5.00	0.001	0.014	X	X
1210L450SL	-Y	4.50	9.00	6	50	1.0	22.50	2.00	0.001	0.014	X	X
1812L190SL	LF-19	1.90	4.90	6	50	1.0	9.50	4.50	0.003	0.025	X	X
1812L260SL	LF-26	2.60	6.00	6	50	1.0	13.00	2.00	0.003	0.024	X	X
1812L270SL	LF-27	2.70	6.20	6	50	1.0	13.50	2.00	0.003	0.022	X	X
1812L300SL	LF-30	3.00	7.00	6	50	1.0	8.00	5.00	0.003	0.021	X	X
1812L350SL**	LF-35	3.50	8.10	6	50	1.0	8.00	5.00	0.003	0.020**	X	X
1812L370SL	LF-37	3.70	9.10	6	50	1.0	18.50	2.00	0.003	0.018	X	X
2920L700SL***	LF700	7.00	14.00	6	50	2.2	35.00	0.20	0.001	0.007	X	X

Notes:

0805L150SL and 1206L150SL are ideal for overcurrent protection in VBUS of USB 3.0 / USB 2.0 ports.

* 1206L380SLTH has I_{hold} 2.82A for at least 15min @ 55°C. It is ideal for overcurrent protection in Li-ion / Li-Polymer battery packs of smartphones.

** 1812L350SL Typical Time-To-Trip is 50A at 0.013-0.020 seconds. R1min=0.015ohm (resistance range 0.015-0.025ohm).

*** 2920L700SL is ideal for overcurrent protection in Li-ion / Li-Polymer battery packs of tablet PC.

I_{hold} = Hold current: maximum current device will pass without tripping in 20°C still air.
I_{trip} = Trip current: minimum current at which the device will trip in 20°C still air.
V_{max} = Maximum voltage device can withstand without damage at rated current (I max)
I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max})
P_d = Power dissipated from device when in the tripped state at 20°C still air.

R_{min} = Minimum resistance of device in initial (un-soldered) state.
R_{1max} = Maximum resistance of device at 20°C measured one hour after tripping or reflow soldering of 260°C for 20 sec.

Caution: Operation beyond the specified rating may result in damage and possible arcing and flame.

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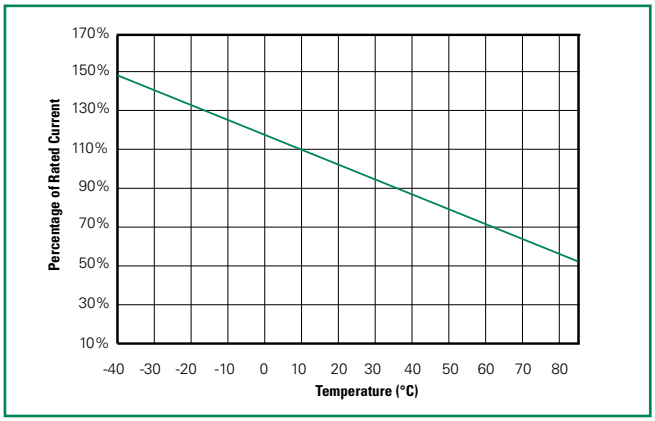
Temperature Rerating

	Ambient Operation Temperature							
	-40°C	-20°C	0°C	20°C	40°C	60°C	70°C	85°C
Part Number	Hold Current (A)							
0402L010SL	0.15	0.13	0.12	0.10	0.09	0.07	0.06	0.05
0402L020SL	0.29	0.27	0.24	0.20	0.17	0.14	0.11	0.10
0402L035SL	0.51	0.47	0.41	0.35	0.30	0.25	0.20	0.18
0402L050SL	0.74	0.67	0.59	0.50	0.43	0.36	0.29	0.26
0603L050SL	0.82	0.73	0.63	0.50	0.41	0.39	0.24	0.14
0603L075SL	1.23	1.08	0.94	0.75	0.61	0.44	0.34	0.23
0603L100SL	1.55	1.37	1.19	1.00	0.83	0.62	0.50	0.31
0603L150SL	2.31	2.06	1.79	1.50	1.22	0.93	0.75	0.47
0603L175SL	2.57	2.33	2.07	1.75	1.49	1.24	1.00	0.91
0805L075SL	1.24	1.07	0.94	0.75	0.62	0.47	0.37	0.23
0805L110SL	1.93	1.65	1.38	1.10	0.83	0.55	0.41	0.21
0805L150SL	2.37	2.07	1.80	1.50	1.25	0.93	0.74	0.50
0805L175SL	2.57	2.33	2.07	1.75	1.49	1.24	1.00	0.91
0805L200SLTH	2.94	2.66	2.36	2.00	1.70	1.42	1.14	1.04
0805L260SLTH	3.82	3.46	3.07	2.60	2.21	1.85	1.48	1.35
0805L300SL	4.41	3.99	3.54	3.00	2.55	2.13	1.71	1.56
1206L075SL	1.10	1.00	0.89	0.75	0.64	0.53	0.43	0.39
1206L110SL	2.00	1.70	1.40	1.10	0.83	0.56	0.44	0.36
1206L150SL	2.67	2.32	1.95	1.50	1.15	0.78	0.64	0.52
1206L110/12SL	1.62	1.46	1.30	1.10	0.94	0.78	0.63	0.57
1206L150/12SL	2.21	2.00	1.77	1.50	1.28	1.07	0.86	0.78
1206L175SL	2.57	2.33	2.07	1.75	1.49	1.24	1.00	0.91
1206L200SL	3.30	2.90	2.50	2.00	1.62	1.16	0.90	0.52
1206L260SLTH	3.71	3.42	3.01	2.60	2.08	1.49	1.30	0.89
1206L300SLTH	4.41	3.99	3.54	3.00	2.55	2.13	1.71	1.56
1206L350SLTH	5.15	4.66	4.13	3.50	2.98	2.49	2.00	1.82
1206L380SLTH	5.59	5.05	4.48	3.80	3.23	2.70	2.17	1.98
1206L400SL	5.71	5.26	4.63	4.00	3.20	2.29	2.00	1.37
1206L450SL	6.62	5.99	5.31	4.50	3.83	3.20	2.57	2.34
1210L175SL	2.57	2.33	2.07	1.75	1.49	1.24	1.00	0.91
1210L200SL	3.26	2.87	2.50	2.00	1.70	1.29	1.09	0.78
1210L260SL	3.82	3.46	3.07	2.60	2.21	1.85	1.48	1.35
1210L300SL	4.41	3.99	3.54	3.00	2.55	2.13	1.71	1.56
1210L350SL	5.00	4.60	4.05	3.50	2.80	2.00	1.60	1.00
1210L380SL	6.00	5.28	4.52	3.80	3.15	2.39	2.09	1.60
1210L400SL	5.71	5.26	4.63	4.00	3.20	2.29	2.00	1.37
1210L450SL	6.62	5.99	5.31	4.50	3.83	3.20	2.57	2.34
1812L190SL	3.00	2.58	2.22	1.90	1.49	1.14	0.93	0.61
1812L260SL	3.82	3.46	3.07	2.60	2.21	1.85	1.48	1.35
1812L270SL	3.86	3.55	3.12	2.70	2.16	1.54	1.35	0.93
1812L300SL	4.41	3.99	3.54	3.00	2.55	2.13	1.71	1.56
1812L350SL	5.43	4.73	4.13	3.50	2.80	2.10	1.75	1.12
1812L370SL	5.44	4.92	4.37	3.70	3.15	2.63	2.11	1.92
2920L700SL	10.00	9.20	8.10	7.00	5.60	4.00	3.50	2.40

Notes: The temperature rerating data is for reference only. Please contact Littelfuse technical support for detail temperature rerating information.

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Temperature Rerating Curve



Environmental Specifications

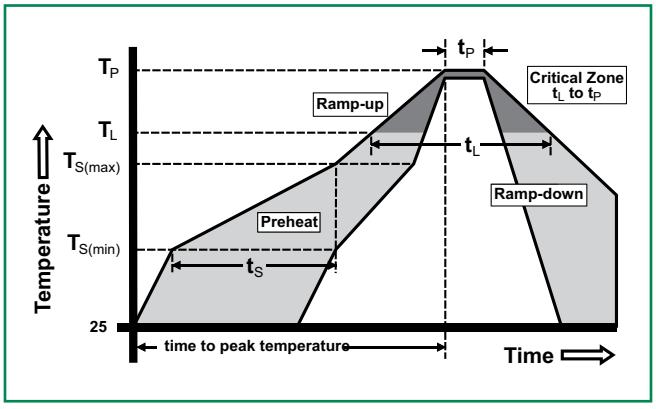
Operating Temperature	-40°C to +85°C
Maximum Device Surface Temperature in Tripped State	125°C
Passive Aging	+85°C, 1000 hours -/+10% typical resistance change
Humidity Aging	+85°C, 85% R.H.,100 hours -/+15% typical resistance change
Thermal Shock	MIL–STD–202, Method 107 +85°C/-40°C 20 times -30% typical resistance change
Solvent Resistance	MIL–STD–202, Method 215 No change
Vibration	MIL–STD–883, Method 2007, Condition A No change
Moisture Sensitivity Level	Level 1, J–STD–020

Physical Specifications

Terminal Material	Solder-Plated Copper (Solder Material: Matte Tin (Sn))
Lead Solderability	Meets EIA Specification RS186-9E, ANSI/J-STD-002, Category 3.

Soldering Parameters

Profile Feature		Pb-Free Assembly
Average Ramp-Up Rate ($T_{S(max)}$ to T_P)		3°C/second max
Pre Heat:	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (Min to Max) (t_s)	60 – 180 secs
Time Maintained Above:	Temperature (T_L)	217°C
	Temperature (t_L)	60 – 150 seconds
Peak / Classification Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.



- All temperature refer to topside of the package, measured on the package body surface
- If reflow temperature exceeds the recommended profile, devices may not meet the performance requirements
- Recommended reflow methods: IR, vapor phase oven, hot air oven, N_2 environment for lead
- Recommended maximum paste thickness is 0.25mm (0.010 inch)
- Devices can be cleaned using standard industry methods and solvents
- Devices can be reworked using the standard industry practices

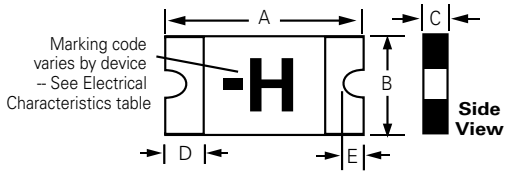
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POLY-FUSE® Resettable PTCs

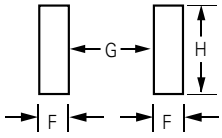
Surface Mount > LoRho Series

Dimensions

Device Dimensions



Solder Pad Layout



Device Top and Bottom Marking and Dimensions are Similar

Part Number	Device Dimension																				Solder Pad					
	A				B				C				D				E				F		G		H	
	inch		mm		inch		mm		inch		mm		inch		mm		inch		mm		inch	mm	inch	mm	inch	mm
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max						
0402L010SL	0.03	0.05	0.85	1.15	0.01	0.03	0.35	0.65	0.01	0.02	0.20	0.60	0.004	0.02	0.10	0.45	-	0.02	-	0.40	0.02	0.60	0.02	0.40	0.03	0.70
0402L020SL	0.03	0.05	0.85	1.15	0.01	0.03	0.35	0.65	0.01	0.02	0.20	0.60	0.004	0.02	0.10	0.45	-	0.02	-	0.40	0.02	0.60	0.02	0.40	0.03	0.70
0402L035SL	0.03	0.05	0.85	1.15	0.01	0.03	0.35	0.65	0.01	0.02	0.20	0.60	0.004	0.02	0.10	0.45	-	0.02	-	0.40	0.02	0.60	0.02	0.40	0.03	0.70
0402L050SL	0.03	0.05	0.85	1.15	0.01	0.03	0.35	0.65	0.01	0.02	0.20	0.60	0.004	0.02	0.10	0.45	-	0.02	-	0.40	0.02	0.60	0.02	0.40	0.03	0.70
0603L050SL	0.06	0.07	1.40	1.80	0.02	0.04	0.60	1.00	0.02	0.03	0.40	0.75	0.01	0.02	0.15	0.50	-	0.02	-	0.40	0.04	1.00	0.03	0.80	0.04	1.00
0603L075SL	0.06	0.07	1.40	1.80	0.02	0.04	0.60	1.00	0.02	0.03	0.40	0.75	0.01	0.02	0.15	0.50	-	0.02	-	0.40	0.04	1.00	0.03	0.80	0.04	1.00
0603L100SL	0.06	0.07	1.40	1.80	0.02	0.04	0.60	1.00	0.02	0.03	0.40	0.75	0.01	0.02	0.15	0.50	-	0.02	-	0.40	0.04	1.00	0.03	0.80	0.04	1.00
0603L150SL	0.06	0.07	1.40	1.80	0.02	0.04	0.60	1.00	0.02	0.04	0.40	1.00	0.01	0.02	0.15	0.50	-	0.02	-	0.40	0.04	1.00	0.03	0.80	0.04	1.00
0603L175SL	0.06	0.07	1.40	1.80	0.02	0.04	0.60	1.00	0.02	0.04	0.40	1.00	0.01	0.02	0.15	0.50	-	0.02	-	0.40	0.04	1.00	0.03	0.80	0.04	1.00
0805L075SL	0.08	0.09	2.00	2.20	0.05	0.06	1.20	1.50	0.02	0.03	0.40	0.75	0.01	0.02	0.20	0.55	0.002	0.02	0.05	0.45	0.04	1.00	0.05	1.20	0.06	1.50
0805L110SL	0.08	0.09	2.00	2.20	0.05	0.06	1.20	1.50	0.02	0.03	0.40	0.75	0.01	0.02	0.20	0.55	0.002	0.02	0.05	0.45	0.04	1.00	0.05	1.20	0.06	1.50
0805L150SL	0.08	0.09	2.00	2.20	0.05	0.06	1.20	1.50	0.02	0.03	0.40	0.75	0.01	0.02	0.20	0.55	0.002	0.02	0.05	0.45	0.04	1.00	0.05	1.20	0.06	1.50
0805L175SL	0.08	0.09	2.00	2.20	0.05	0.06	1.20	1.50	0.02	0.02	0.40	0.60	0.01	0.02	0.20	0.55	0.002	0.02	0.05	0.45	0.04	1.00	0.05	1.20	0.06	1.50
0805L200SLTH	0.08	0.09	2.00	2.20	0.05	0.06	1.20	1.50	0.02	0.03	0.40	0.75	0.01	0.02	0.20	0.55	0.002	0.02	0.05	0.45	0.04	1.00	0.05	1.20	0.06	1.50
0805L260SLTH	0.08	0.09	2.00	2.20	0.05	0.06	1.20	1.50	0.02	0.03	0.40	0.75	0.01	0.02	0.20	0.55	0.002	0.02	0.05	0.45	0.04	1.00	0.05	1.20	0.06	1.50
0805L300SL	0.08	0.09	2.00	2.20	0.05	0.06	1.20	1.50	0.02	0.06	0.60	1.40	0.01	0.02	0.20	0.55	0.002	0.02	0.05	0.45	0.04	1.00	0.05	1.20	0.06	1.50
1206L075SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.40	0.70	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L110SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.40	0.75	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L150SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.40	0.70	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L110/12SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.50	0.85	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L150/12SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.50	0.85	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L175SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.02	0.40	0.60	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L200SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.02	0.40	0.60	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L260SLTH	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.40	0.70	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L300SLTH	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.40	0.80	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L350SLTH	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.40	0.75	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L380SLTH	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.03	0.40	0.70	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L400SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.06	0.60	1.40	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1206L450SL	0.12	0.13	3.00	3.40	0.06	0.07	1.50	1.80	0.02	0.06	0.60	1.40	0.01	0.03	0.25	0.75	0.002	0.02	0.05	0.45	0.04	1.00	0.07	1.80	0.07	1.80
1210L175SL	0.12	0.14	3.00	3.43	0.09	0.11	2.35	2.80	0.02	0.03	0.40	0.70	0.01	0.03	0.25	0.75	0.004	0.02	0.10	0.50	0.04	1.00	0.08	2.00	0.10	2.50
1210L200SL	0.12	0.14	3.00	3.43	0.09	0.11	2.35	2.80	0.02	0.03	0.40	0.70	0.01	0.03	0.25	0.75	0.004	0.02	0.10	0.50	0.04	1.00	0.08	2.00	0.10	2.50
1210L260SL	0.12	0.14	3.00	3.43	0.09	0.11	2.35	2.80	0.02	0.03	0.40	0.70	0.01	0.03	0.25	0.75	0.004	0.02	0.10	0.50	0.04	1.00	0.08	2.00	0.10	2.50
1210L300SL	0.12	0.14	3.00	3.43	0.09	0.11	2.35	2.80	0.02	0.05	0.60	1.20	0.01	0.03	0.25	0.75	0.004	0.02	0.10	0.50	0.04	1.00	0.08	2.00	0.10	2.50
1210L350SL	0.12	0.14	3.00	3.43	0.09	0.11	2.35	2.80	0.02	0.04	0.60	1.00	0.01	0.03	0.25	0.75	0.00	0.02	0.10	0.50	0.04	1.00	0.08	2.00	0.10	2.50
1210L380SL	0.12	0.14	3.00	3.43	0.09	0.11	2.35	2.80	0.02	0.03	0.40	0.65	0.01	0.03	0.25	0.75	0.00	0.02	0.10	0.50	0.04	1.00	0.08	2.00	0.10	2.50
1210L400SL	0.12	0.14	3.00	3.43	0.09	0.11	2.35	2.80	0.02	0.04	0.60	1.00	0.01	0.03	0.25	0.75	0.00	0.02	0.10	0.50	0.04	1.00	0.08	2.00	0.10	2.50
1210L450SL	0.12	0.14	3.00	3.43	0.09	0.11	2.35	2.80	0.02	0.05	0.60	1.20	0.01	0.03	0.25	0.75	0.00	0.02	0.10	0.50	0.04	1.00	0.08	2.00	0.10	2.50
1812L190SL	0.17	0.19	4.37	4.73	0.12	0.13	3.07	3.41	0.02	0.03	0.40	0.70	0.01	0.05	0.30	1.20	0.01	0.03	0.15	0.65	0.07	1.78	0.14	3.45	0.12	3.15
1812L260SL	0.17	0.19	4.37	4.73	0.12	0.13	3.07	3.41	0.02	0.03	0.40	0.70	0.01	0.05	0.30	1.20	0.01	0.03	0.15	0.65	0.07	1.78	0.14	3.45	0.12	3.15
1812L270SL	0.17	0.19	4.37	4.73	0.12	0.13	3.07	3.41	0.02	0.03	0.40	0.70	0.01	0.05	0.30	1.20	0.01	0.03	0.15	0.65	0.07	1.78	0.14	3.45	0.12	3.15
1812L300SL	0.17	0.19	4.37	4.73	0.12	0.13	3.07	3.41	0.02	0.03	0.40	0.75	0.01	0.05	0.30	1.20	0.01	0.03	0.15	0.65	0.07	1.78	0.14	3.45	0.12	3.15
1812L350SL	0.17	0.19	4.37	4.73	0.12	0.13	3.07	3.41	0.02	0.03	0.40	0.70	0.01	0.05	0.30	1.20	0.01	0.03	0.15	0.65	0.07	1.78	0.14	3.45	0.12	3.15
1812L370SL	0.17	0.19	4.37	4.73	0.12	0.13	3.07	3.41	0.02	0.03	0.40	0.70	0.01	0.05	0.30	1.20	0.01	0.03	0.15	0.65	0.07	1.78	0.14	3.45	0.12	3.15
2920L700SL	0.26	0.31	6.73	7.98	0.19	0.21	4.80	5.44	0.02	0.03	0.40	0.65	0.01	0.10	0.30	2.50	0.01	0.08	0.25	2.00	0.08	2.00	0.18	4.60	0.21	5.30

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Packaging

Part Number	Ordering Number	I_{hold} (A)	I_{hold} Code	Packaging Option	Quantity	Quantity & Packaging Codes
0402L010SL	0402L010SLKR	0.10	010	Tape & Reel	10,000	KR
0402L020SL	0402L020SLKR	0.20	020		10,000	KR
0402L035SL	0402L035SLKR	0.35	035		10,000	KR
0402L050SL	0402L050SLKR	0.50	050		10,000	KR
0603L050SL	0603L050SLYR	0.50	050		4,000	YR
0603L075SL	0603L075SLYR	0.75	075		4,000	YR
0603L100SL	0603L100SLYR	1.00	100		4,000	YR
0603L150SL	0603L150SLYR	1.50	150		4,000	YR
0603L175SL	0603L175SLYR	1.75	175		4,000	YR
0805L075SL	0805L075SLYR	0.75	075		4,000	YR
0805L110SL	0805L110SLYR	1.10	110		4,000	YR
0805L150SL	0805L150SLYR	1.50	150		4,000	YR
0805L175SL	0805L175SLYR	1.75	175		4,000	YR
0805L200SLTH	0805L200SLTHYR	2.00	200		4,000	YR
0805L260SLTH	0805L260SLTHYR	2.60	260		4,000	YR
0805L300SL	0805L300SLWR	3.00	300		3,000	WR
1206L075SL	1206L075SLYR	0.75	075		4,000	YR
1206L110SL	1206L110SLYR	1.10	110		4,000	YR
1206L150SL	1206L150SLYR	1.50	150		4,000	YR
1206L110/12SL	1206L110/12SLYR	1.10	110		4,000	YR
1206L150/12SL	1206L150/12SLYR	1.50	150		4,000	YR
1206L175SL	1206L175SLYR	1.75	175		4,000	YR
1206L200SL	1206L200SLYR	2.00	200		4,000	YR
1206L260SLTH	1206L260SLTHYR	2.60	260		4,000	YR
1206L300SLTH	1206L300SLTHYR	3.00	300		4,000	YR
1206L350SLTH	1206L350SLTHYR	3.50	350		4,000	YR
1206L380SLTH*	1206L380SLTHYR	2.82*	380		4,000	YR
1206L400SL	1206L400SLWR	4.00	400		3,000	WR
1206L450SL	1206L450SLWR	4.50	450		3,000	WR
1210L175SL	1210L175SLYR	1.75	175		4,000	YR
1210L200SL	1210L200SLYR	2.00	200		4,000	YR
1210L260SL	1210L260SLYR	2.60	260		4,000	YR
1210L300SL	1210L300SLYR	3.00	300		4,000	YR
1210L350SL	1210L350SLWR	3.50	350		3,000	WR
1210L380SL	1210L380SLYR	3.80	380		4,000	YR
1210L400SL	1210L400SLWR	4.00	400		3,000	WR
1210L450SL	1210L450SLWR	4.50	450		3,000	WR
1812L190SL	1812L190SLPR	1.90	190		2,000	PR
1812L260SL	1812L260SLPR	2.60	260		2,000	PR
1812L270SL	1812L270SLPR	2.70	270		2,000	PR
1812L300SL	1812L300SLPR	3.00	300		2,000	PR
1812L350SL	1812L350SLPR	3.50	350		2,000	PR
1812L370SL	1812L370SLPR	3.70	370		2,000	PR
2920L700SL	2920L700SLPR	7.00	700		2,000	PR

Notes: *1206L380SLTH has I_{hold} 2.82A for at least 15min @ 55°C.

Part Ordering Number System

1206 L 380 /12 SL TH Y R - A

- **-A:** Automotive grade
  Blank: Standard version
- **PACKAGING STYLE** **R:** Tape & Reel
- **QUANTITY CODE** **P** = 2000 **W** = 3000 **Y** = 4000 **K** = 10,000
- **Thin Profile** (Not applicable to all parts)
- **LoRho PTC Series**
- **SPECIAL VOLTAGE RATING**
  (Not applicable to all parts. Refer to Electrical Characteristics section)
- **I_{HOLD} HOLD CURRENT CODE**
- **LITTELFUSE SURFACE MOUNT PPTC**
- **SIZE**

SERIES

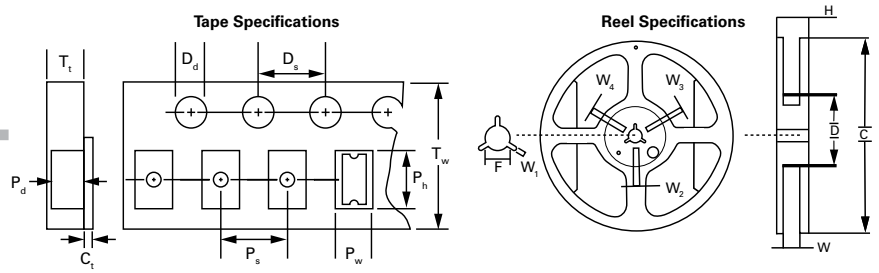
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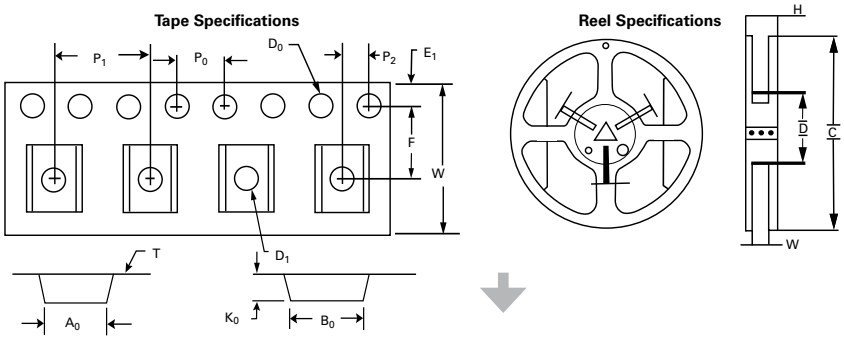
Tape and Reel Specifications

	0402L010SL 0402L020SL 0402L035SL 0402L050SL
TAPE DIMENSIONS: EIA-481-1 (mm)	
C_t	0.05 ± 0.01
D_d	1.5 ± 0.1
D_s	4.0± 0.1
P_d	0.41± 0.1
P_h	1.12± 0.1
P_s	2.0 ± 0.1
P_w	0.65 ± 0.03
T_t	0.61 ± 0.1
T_w	8.0 ± 0.1
Leader min.	390
Trailer min.	160
REEL DIMENSIONS: EIA-481-1 (mm)	
H	12.0± 0.5
W	9.0 ± 0.5
D	Ø60 ± 0.5
F	Ø13.0 ± 0.2
C	Ø178 ± 1
W_1	2.2 ± 0.5
W_2	3.0± 0.5
W_3	4.0 ± 0.5
W_4	5.5 ± 0.5

Dimensions for 0402 size product (see table at left)



Dimensions for 0603, 0805,1206,1210, 1812 and 2920 size product (see tabel below)



	0603L050SL 0603L075SL 0603L100SL	0603L150SL 0603L175SL	0805L075SL 0805L110SL 0805L150SL 0805L175SL 0805L200SLTH 0805L260SLTH	0805L300SL	1206L075SL 1206L110SL 1206L150SL 1206L110/12SL 1206L150/12SL 1206L175SL 1206L200SL 1206L260SLTH 1206L300SLTH 1206L350SLTH 1206L380SLTH	1206L400SL 1206L450SL	1210L175SL 1210L200SL 1210L260SL 1210L300SL 1210L380SL	1210L350SL 1210L400SL 1210L450SL	1812L190SL 1812L260SL 1812L270SL 1812L300SL 1812L350SL 1812L370SL	2920L700SL
TAPE DIMENSIONS: EIA-481-1 (mm)										
W	8.00 ± 0.30	8.00 ± 0.30	8.00 ± 0.10	8.00 ± 0.30	8.20 +0.10/-0.30	8.15 +0.15/-0.30	8.00 ± 0.30	8.00 ± 0.30	12.00 ± 0.30	16.00 ± 0.30
F	3.50 ± 0.05	3.50 ± 0.05	3.50 ± 0.05	3.50 ± 0.05	3.50 ± 0.05	3.50 ± 0.05	3.50 ± 0.05	3.50 ± 0.05	5.50 ± 0.05	7.50 ± 0.10
E_1	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10	1.75 ± 0.10
D_0	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05
D_1	0.50 ± 0.10	0.50 ± 0.10	1.00 (Min.)	1.00 ± 0.10	1.00 ± 0.10	1.00 ± 0.10	1.00 (Min.)	1.00 (Min.)	1.55 (Min.)	1.50 ± 0.10
P_0	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.08	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10
P_1	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	8.00 ± 0.10	8.00 ± 0.10
P_2	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.10
A_0	1.10 ± 0.10	1.10 ± 0.10	1.60 ± 0.10	1.65 ± 0.10	1.95 ± 0.10	1.92 ± 0.10	2.82 ± 0.10	2.82 ± 0.10	3.58 ± 0.10	5.74 ± 0.10
B_0	1.92 ± 0.10	1.92 ± 0.10	2.30 ± 0.10	2.35 ± 0.10	3.65 ± 0.10	3.65 ± 0.10	3.46 ± 0.10	3.50 ± 0.10	4.93 ± 0.10	8.02 ± 0.10
T	0.20 ± 0.10	0.20 ± 0.10	0.25 ± 0.10	0.25 ± 0.10	0.20 ± 0.10	0.25 ± 0.10	0.25 ± 0.10	0.20 ± 0.10	0.25 ± 0.10	0.30 ± 0.10
K_0	0.72 ± 0.10	0.96 ± 0.10	0.90 ± 0.10	1.50 ± 0.10	0.87 ± 0.10	1.30 ± 0.10	1.00 ± 0.10	1.30 ± 0.10	0.87 ± 0.06	0.91 ± 0.10
Leader min.	390									
Trailer min.	160									
REEL DIMENSIONS: EIA-481-1 (mm)										
H	11.0 ± 0.5								16.0 ± 0.5	19.5 ± 1.0
W	9.0 ± 1.5								13.2 ± 1.5	17 ± 0.2
C	Ø178 ± 1.0								Ø178 ± 1.0	Ø180 ± 3.0
D	Ø60.2 ± 0.5								Ø60.2 ± 0.5	Ø60 ± 0.5

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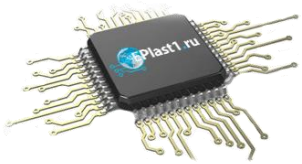
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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