



LCP Series • Miniature Low Cost Toroidal Inductors

LCP Series surface mount toroidal inductors are designed for use in applications where energy storage is required for maintenance of a highly stable inductance when a rapid change in load current occurs. These inductors are excellent for filtering high frequency signals while supporting a substantial DC current as well as for AC ripple, switch mode power supplies and for use with DC-DC Converters.

Features

- Operating frequency to 1 MHz
- High energy storage with minimum saturation
- High stability from no load to full load
- Designed as 1:1 Coupled Inductor (Series or Parallel) or as 1:1 Isolation Transformer
- Manufactured in ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Meets lead free reflow level J-STD-020C
- Fully RoHS compliant



Applications

DC-DC Converters • Common Mode Filter • Computer Note Books
Pulse Modulation Switching Regulators: Step-up, Step-down,
Inverting or dual output • Filtering Battery Powered Equipment

Electrical Specifications @ 25°C

Test voltage between windings: 500 Vrms
Operating temperature range: -40°C to +125°C
Climatic Category: IEC68-1 40/125/56
Test frequency: Inductance measured @ 10kHz/10mV

Part Number	Parallel Connected			Series Connected			Energy Storage (µJ) *	Dimensions Inches(Millimeters)				
	Full Load Current (A _{DC})	L ₀ (µH) ±15% No Load	DCR mOhm	Full Load Current (A _{DC})	L ₀ (µH) ±15% No Load	DCR mOhm		A	B	C	D	H
LCP1-3.00-2.2	3.00	2.2	9	1.50	8.8	36	7.0	0.276 (7.0)	0.276 (7.0)	0.236 (6.0)	0.059 (1.5)	0.201 (5.1)
LCP1-2.10-4.7	2.10	4.7	16	1.05	18.8	64	7.2					
LCP1-1.40-10	1.40	10	37	0.70	40	148	7.2					
LCP1-1.10-15	1.10	15	58	0.55	60	232	7.0					
LCP1-0.92-22	0.92	22	86	0.46	88	344	7.1					
LCP1-0.76-33	0.76	33	133	0.38	132	532	7.2					
LCP1-0.64-47	0.64	47	205	0.32	188	820	7.1					
LCP1-0.54-68	0.54	68	307	0.27	272	1228	7.2					
LCP1-0.44-100	0.44	100	376	0.22	400	1504	7.2					
LCP1-0.36-150	0.36	150	719	0.18	600	2876	7.2					
LCP1-0.30-220	0.30	220	866	0.15	880	3464	7.3					
LCP2-4.40-2.2	4.40	2.2	7	2.20	8.8	28	16.4	0.354 (9.0)	0.354 (9.0)	0.299 (7.6)	0.067 (1.7)	0.248 (6.3)
LCP2-3.10-4.7	3.10	4.7	13	1.55	18.8	52	16.0					
LCP2-2.08-10	2.08	10	28	1.04	40	112	16.4					
LCP2-1.68-15	1.68	15	52	0.84	60	208	16.0					
LCP2-1.40-22	1.40	22	70	0.70	88	280	16.2					
LCP2-1.32-33	1.32	33	83	0.66	132	332	16.0					
LCP2-1.08-47	1.08	47	139	0.54	188	556	21.2					
LCP2-0.80-68	0.80	68	241	0.40	272	964	20.2					
LCP2-0.66-100	0.66	100	295	0.33	400	1180	15.8					
LCP2-0.54-150	0.54	150	521	0.27	600	2084	16.1					
LCP2-0.44-220	0.44	220	784	0.22	880	3136	15.8					
LCP2-0.36-330	0.36	330	960	0.18	1320	3840	15.8C					
LCP3-6.64-2.2	6.64	2.2	5	3.32	8.8	20	31.7					
LCP3-4.46-4.7	4.46	4.7	12	2.23	18.8	48	32.2					
LCP3-3.00-10	3.00	10	26	1.5	40	104	32.8					
LCP3-2.42-15	2.42	15	37	1.21	60	148	31.8					
LCP3-2.00-22	2.00	22	55	1.00	88	220	32.7					
LCP3-1.62-33	1.62	33	84	0.81	132	336	32.1					
LCP3-1.34-47	1.34	47	127	0.67	188	508	32.3					
LCP3-1.12-68	1.12	68	188	0.56	272	752	32.4					
LCP3-0.94-100	0.94	100	250	0.47	400	1000	32.2					
LCP3-0.76-150	0.76	150	346	0.38	600	1384	31.8					
LCP3-0.62-220	0.62	220	478	0.31	880	1912	31.2					
LCP3-0.50-330	0.50	330	671	0.25	1320	2684	30.4					
LCP3-0.42-470	0.42	470	1003	0.21	1880	4012	30.5					
LCP3-0.36-680	0.36	680	1500	0.18	2720	6000	32.3					

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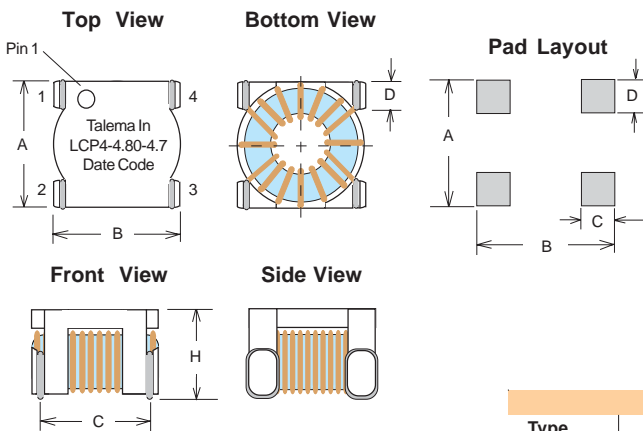
Part Number	Parallel Connected			Series Connected			Energy Storage (μJ) *	Dimensions Inches(Millimeters)				
	Full Load Current (A_{DC})	L_O (μH) $\pm 15\%$ No Load	DCR mOhm	Full Load Current (A_{DC})	L_O (μH) $\pm 15\%$ No Load	DCR mOhm		A	B	C	D	H
LCP4-7.40-2.2	7.40	2.2	5	3.70	8.8	20	0.472 (12.0)	0.472 (12.0)	0.402 (10.2)	0.082 (2.2)	0.276 (7.0)	
LCP4-4.80-4.7	4.80	4.7	9	2.40	18.8	36						
LCP4-3.36-10	3.36	10	21	1.68	40	84						
LCP4-2.80-15	2.80	15	35	1.40	60	140						
LCP4-2.30-22	2.30	22	50	1.15	88	200						
LCP4-1.86-33	1.86	33	76	0.93	132	304						
LCP4-1.56-47	1.56	47	112	0.78	188	448						
LCP4-1.32-68	1.32	68	167	0.66	272	668						
LCP4-1.06-100	1.08	100	250	0.54	400	1000						
LCP4-0.88-150	0.88	150	307	0.44	600	1228						
LCP4-0.72-220	0.72	220	470	0.36	880	1880						
LCP4-60-330	0.60	330	657	0.30	1320	2628						
LCP4-0.50-470	0.50	470	900	0.25	1880	3600						
LCP4-0.40-680	0.40	680	1355	0.20	2720	5420						
LCP4-0.34-1000	0.34	1000	2042	0.17	4000	8168						
LCP5-6.40-4.7	6.40	4.7	7	3.20	18.8	28						0.472 (12.0)
LCP5-4.50-10	4.50	10	16	2.25	40	64						
LCP5-3.50-15	3.50	15	28	1.75	60	112						
LCP5-3.00-22	3.00	22	38	1.50	88	152						
LCP5-2.44-33	2.44	33	52	1.22	1.32	2.08	72.6					
LCP5-2.04-47	2.04	47	72	1.02	188	288	72.1					
LCP5-1.70-68	1.70	68	86	0.85	272	344	71.3					
LCP5-1.40-100	1.40	100	128	0.70	400	512	71.6					
LCP5-1.16-150	1.16	150	218	0.58	600	872	73.4					
LCP5-0.94-220	0.94	220	298	0.47	880	1192	71.5					
LCP5-0.78-330	0.78	330	451	0.39	1320	1804	73.8					
LCP5-0.64-470	0.64	470	604	0.32	1880	2416	70.9					
LCP5-0.54-680	0.54	680	934	0.27	2720	3736	73.2					
LCP5-0.44-1000	0.44	1000	1629	0.22	4000	6516	71.4					
LCP5-0.36-1500	0.36	1500	2483	0.18	6000	9932	71.6					
LCP5-0.30-2200	0.30	2200	3773	0.15	8800	15092	72.9					

Talema's engineering staff can assist in the design of other inductance values and sizes.

Notes:

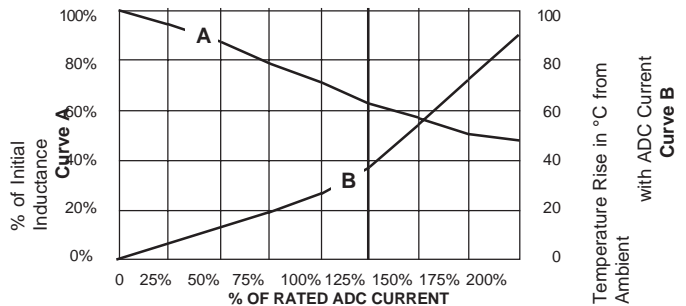
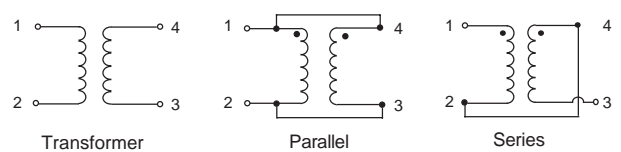
1. $L(\mu\text{H})$: Inductance is tested at 10mV and 10 kHz.
2. The μJoule rating ($\frac{1}{2}LI^2$) is the ability of the inductor to store energy.

Dimensions



Dimensions: Inches (Millimeters)
Tolerance: ± 0.010 (0.25) unless specified otherwise
Surface Coplanarity will be < 0.006 (0.15)

Schematic



Pad Dimensions				
Type	A	B	C	D
LCP-1	8.0	7.0	2.5	2.5
LCP-2	10.0	9.0	3.0	3.0
LCP-3	12.0	11.0	3.0	3.0
LCP-4 & 5	13.0	12.0	3.5	3.5