

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

- Ideal as 1:1 Coupled Inductor
- Series/Parallel connection for Storage Choke applications
- May be used as Isolation Transformer
- Low loss core suitable for use upto 1MHz
- Highly stable inductance with varying loads
- Capable of substantial DC current and AC ripple
- Manufactured in ISO 9001:2015 and ISO 14001:2015 certified Talema facility
- Fully RoHS & REACH Compliant & Meets lead free reflow level J-STD-020E


Electrical Specifications @25°C

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

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

| 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 (Nom) | | A | B | C | D | H | | | | |
| | | | | | | | | | | | | | | | | |
| LCP1-3.00-2.2 | 3.00 | 2.2 | 9 | 1.50 | 8.8 | 36 | 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 | | | | | | | | | | |
| LCP1-1.40-10 | 1.40 | 10 | 37 | 0.70 | 40 | 148 | | | | | | | | | | |
| LCP1-1.10-15 | 1.10 | 15 | 58 | 0.55 | 60 | 232 | | | | | | | | | | |
| LCP1-0.92-22 | 0.92 | 22 | 86 | 0.46 | 88 | 344 | | | | | | | | | | |
| LCP1-0.76-33 | 0.76 | 33 | 133 | 0.38 | 132 | 532 | | | | | | | | | | |
| LCP1-0.64-47 | 0.64 | 47 | 205 | 0.32 | 188 | 820 | | | | | | | | | | |
| LCP1-0.54-68 | 0.54 | 68 | 307 | 0.27 | 272 | 1228 | | | | | | | | | | |
| LCP1-0.44-100 | 0.44 | 100 | 376 | 0.22 | 400 | 1504 | | | | | | | | | | |
| LCP1-0.36-150 | 0.36 | 150 | 719 | 0.18 | 600 | 2876 | | | | | | | | | | |
| LCP1-0.30-220 | 0.30 | 220 | 866 | 0.15 | 880 | 3464 | | | | | | | | | | |
| LCP2-4.40-2.2 | 4.40 | 2.2 | 7 | 2.20 | 8.8 | 28 | | | | | | 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 | | | | | | | | | | |
| LCP2-2.08-10 | 2.08 | 10 | 28 | 1.04 | 40 | 112 | | | | | | | | | | |
| LCP2-1.68-15 | 1.68 | 15 | 52 | 0.84 | 60 | 208 | | | | | | | | | | |
| LCP2-1.40-22 | 1.40 | 22 | 70 | 0.70 | 88 | 280 | | | | | | | | | | |
| LCP2-1.32-33 | 1.32 | 33 | 83 | 0.66 | 132 | 332 | | | | | | | | | | |
| LCP2-1.08-47 | 1.08 | 47 | 139 | 0.54 | 188 | 556 | | | | | | | | | | |
| LCP2-0.80-68 | 0.80 | 68 | 241 | 0.40 | 272 | 964 | | | | | | | | | | |
| LCP2-0.66-100 | 0.66 | 100 | 295 | 0.33 | 400 | 1180 | | | | | | | | | | |
| LCP2-0.54-150 | 0.54 | 150 | 521 | 0.27 | 600 | 2084 | | | | | | | | | | |
| LCP2-0.44-220 | 0.44 | 220 | 784 | 0.22 | 880 | 3136 | | | | | | | | | | |
| LCP2-0.36-330 | 0.36 | 330 | 960 | 0.18 | 1320 | 3840 | | | | | | | | | | |
| LCP3-6.64-2.2 | 6.64 | 2.2 | 5 | 3.32 | 8.8 | 20 | 0.433 (11.0) | 0.433 (11.0) | 0.370 (9.4) | 0.079 (2.0) | 0.268 (6.8) | | | | | |
| LCP3-4.46-4.7 | 4.46 | 4.7 | 12 | 2.23 | 18.8 | 48 | | | | | | | | | | |
| LCP3-3.00-10 | 3.00 | 10 | 26 | 1.5 | 40 | 104 | | | | | | | | | | |
| LCP3-2.42-15 | 2.42 | 15 | 37 | 1.21 | 60 | 148 | | | | | | | | | | |
| LCP3-2.00-22 | 2.00 | 22 | 55 | 1.00 | 88 | 220 | | | | | | | | | | |
| LCP3-1.62-33 | 1.62 | 33 | 84 | 0.81 | 132 | 336 | | | | | | | | | | |
| LCP3-1.34-47 | 1.34 | 47 | 127 | 0.67 | 188 | 508 | | | | | | | | | | |
| LCP3-1.12-68 | 1.12 | 68 | 188 | 0.56 | 272 | 752 | | | | | | | | | | |
| LCP3-0.94-100 | 0.94 | 100 | 250 | 0.47 | 400 | 1000 | | | | | | | | | | |
| LCP3-0.76-150 | 0.76 | 150 | 346 | 0.38 | 600 | 1384 | | | | | | | | | | |
| LCP3-0.62-220 | 0.62 | 220 | 478 | 0.31 | 880 | 1912 | | | | | | | | | | |
| LCP3-0.50-330 | 0.50 | 330 | 671 | 0.25 | 1320 | 2684 | | | | | | | | | | |
| LCP3-0.42-470 | 0.42 | 470 | 1003 | 0.21 | 1880 | 4012 | | | | | | | | | | |
| LCP3-0.36-680 | 0.36 | 680 | 1500 | 0.18 | 2720 | 6000 | | | | | | | | | | |

LCP Series • Miniature High Current Toroidal Inductors

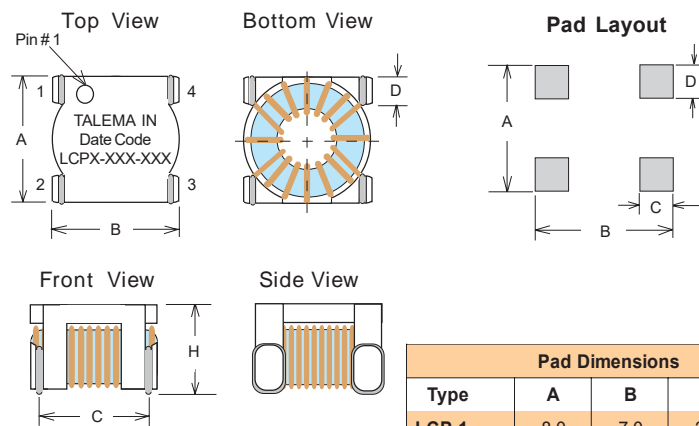
| Part Number | Parallel Connected | | | Series Connected | | | Energy Storage (μJ) * | Dimensions Inches(Millimeters) | | | | |
|----------------|--------------------------------|--|----------|--------------------------------|--|----------------|------------------------------------|--------------------------------|-----------------|-----------------|----------------|----------------|
| | 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 (Nom) | | A | B | C | D | H |
| | | | | | | | | | | | | |
| LCP4-7.40-2.2 | 7.40 | 2.2 | 5 | 3.70 | 8.8 | 20 | 42.5 | 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 | 43.2 | | | | | |
| LCP4-3.36-10 | 3.36 | 10 | 21 | 1.68 | 40 | 84 | 43.2 | | | | | |
| LCP4-2.80-15 | 2.80 | 15 | 35 | 1.40 | 60 | 140 | 43.2 | | | | | |
| LCP4-2.30-22 | 2.30 | 22 | 50 | 1.15 | 88 | 200 | 43.6 | | | | | |
| LCP4-1.86-33 | 1.86 | 33 | 76 | 0.93 | 132 | 304 | 43.9 | | | | | |
| LCP4-1.56-47 | 1.56 | 47 | 112 | 0.78 | 188 | 448 | 43.1 | | | | | |
| LCP4-1.32-68 | 1.32 | 68 | 167 | 0.66 | 272 | 668 | 43.4 | | | | | |
| LCP4-1.06-100 | 1.08 | 100 | 250 | 0.54 | 400 | 1000 | 42.9 | | | | | |
| LCP4-0.88-150 | 0.88 | 150 | 307 | 0.44 | 600 | 1228 | 42.8 | | | | | |
| LCP4-0.72-220 | 0.72 | 220 | 470 | 0.36 | 880 | 1880 | 42.0 | | | | | |
| LCP4-0.60-330 | 0.60 | 330 | 657 | 0.30 | 1320 | 2628 | 44.0 | | | | | |
| LCP4-0.50-470 | 0.50 | 470 | 900 | 0.25 | 1880 | 3600 | 43.6 | | | | | |
| LCP4-0.40-680 | 0.40 | 680 | 1355 | 0.20 | 2720 | 5420 | 40.2 | | | | | |
| LCP4-0.34-1000 | 0.34 | 1000 | 2042 | 0.17 | 4000 | 8168 | 42.5 | | | | | |
| LCP5-6.40-4.7 | 6.40 | 4.7 | 7 | 3.20 | 18.8 | 28 | 73.9 | 0.472 (12.0) | 0.472 (12.0) | 0.402 (10.2) | 0.082 (2.2) | 0.358 (9.1) |
| LCP5-4.50-10 | 4.50 | 10 | 16 | 2.25 | 40 | 64 | 71.6 | | | | | |
| LCP5-3.50-15 | 3.50 | 15 | 28 | 1.75 | 60 | 112 | 71.6 | | | | | |
| LCP5-3.00-22 | 3.00 | 22 | 38 | 1.50 | 88 | 152 | 71.6 | | | | | |
| LCP5-2.44-33 | 2.44 | 33 | 52 | 1.22 | 132 | 208 | 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:

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

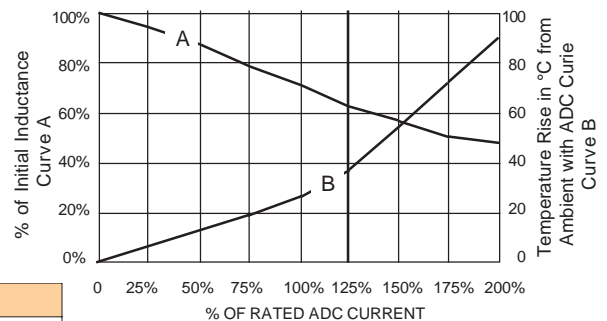
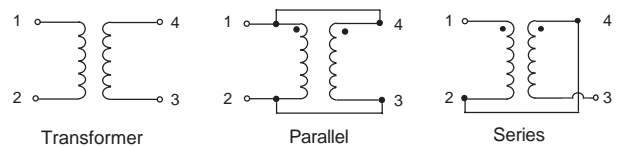
Dimensions



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

| 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 |

Schematics



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