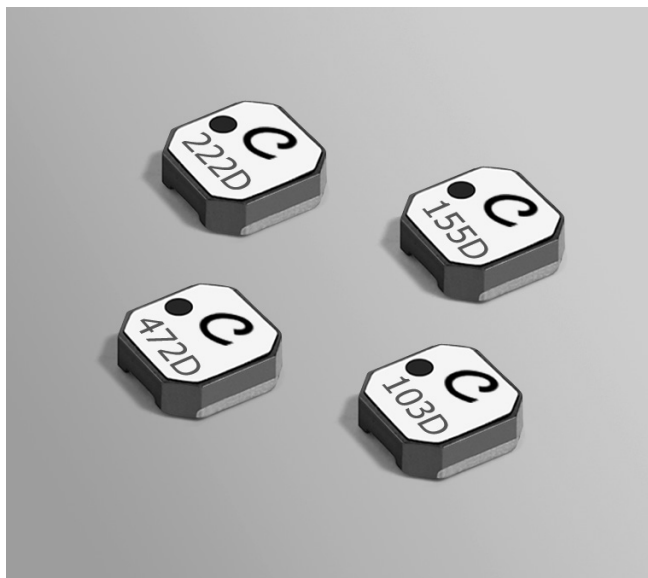


Shielded Power Inductors – LPS4414



- Very low DCR; excellent current handling
- 4.4 × 4.4 mm footprint; only 1.4 mm tall

Designer's Kit C340 contains 3 of each values

Core material Ferrite

Core and winding loss See www.coilcraft.com/coreloss

Environmental RoHS compliant, halogen free

Terminations RoHS compliant matte tin over nickel over silver.
Other terminations available at additional cost.

Weight 82.3 – 89.8 mg

Ambient temperature –40°C to +85°C with Irms current, +85°C to +125°C with derated current

Storage temperature Component: –40°C to +125°C.

Tape and reel packaging: –40°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

Packaging 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 1.52 mm pocket depth

Recommended pick and place nozzle: OD: 4.5 mm; ID: ≤2 mm

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

Part number ¹	Inductance ² ±20% (μH)	DCR max ³ (Ohms)	SRF typ ⁴ (MHz)	Isat (A) ⁵			Irms (A) ⁶	
				10% drop	20% drop	30% drop	20°C rise	40°C rise
LPS4414-301MR_	0.30	0.040	470	5.6	5.7	5.8	2.35	3.25
LPS4414-501MR_	0.50	0.050	330	4.3	4.4	4.5	2.10	2.80
LPS4414-701MR_	0.70	0.055	225	3.7	3.75	3.8	1.85	2.50
LPS4414-102MR_	1.0	0.060	190	3.0	3.1	3.2	1.75	2.30
LPS4414-152MR_	1.5	0.078	150	2.9	3.1	3.2	1.55	2.00
LPS4414-182MR_	1.8	0.087	130	2.7	2.8	2.9	1.50	1.90
LPS4414-222MR_	2.2	0.110	115	2.2	2.3	2.35	1.25	1.60
LPS4414-332MR_	3.3	0.165	85.0	1.8	1.9	1.95	1.15	1.50
LPS4414-472MR_	4.7	0.215	68.0	1.4	1.5	1.55	0.90	1.20
LPS4414-562MR_	5.6	0.260	58.0	1.4	1.4	1.5	0.75	1.10
LPS4414-682MR_	6.8	0.270	54.0	1.2	1.3	1.4	0.70	1.00
LPS4414-822MR_	8.2	0.350	50.0	1.1	1.3	1.3	0.70	0.98
LPS4414-103MR_	10	0.380	43.0	1.1	1.2	1.3	0.70	0.95
LPS4414-123MR_	12	0.380	38.0	0.94	0.97	1.0	0.66	0.88
LPS4414-153MR_	15	0.440	36.0	0.85	0.89	0.92	0.63	0.82
LPS4414-183MR_	18	0.530	31.0	0.76	0.80	0.82	0.56	0.75
LPS4414-223MR_	22	0.590	27.0	0.69	0.72	0.74	0.53	0.68
LPS4414-333MR_	33	0.715	23.0	0.47	0.49	0.51	0.49	0.65
LPS4414-473MR_	47	0.935	18.0	0.39	0.42	0.43	0.44	0.58
LPS4414-563MR_	56	1.15	16.0	0.37	0.39	0.40	0.42	0.54
LPS4414-683MR_	68	1.35	14.6	0.32	0.33	0.34	0.36	0.48
LPS4414-104MR_	100	1.90	11.0	0.26	0.28	0.285	0.31	0.40
LPS4414-124MR_	120	2.60	10.0	0.23	0.24	0.25	0.27	0.34
LPS4414-154MR_	150	3.10	9.0	0.22	0.23	0.24	0.24	0.32
LPS4414-224MR_	220	4.10	6.7	0.18	0.20	0.20	0.22	0.29
LPS4414-334MR_	330	6.00	5.6	0.14	0.16	0.165	0.17	0.23
LPS4414-474MR_	470	9.50	4.3	0.13	0.14	0.145	0.14	0.23
LPS4414-564MR_	560	10.7	4.0	0.12	0.13	0.14	0.13	0.17
LPS4414-684MR_	680	11.7	3.5	0.10	0.11	0.12	0.13	0.17
LPS4414-824MR_	820	15.1	3.0	0.10	0.105	0.11	0.11	0.14
LPS4414-105MR_	1000	16.3	2.6	0.10	0.102	0.106	0.10	0.13

1. Please specify **termination** and **packaging** codes:

LPS4414-223MRC

Termination: R= RoHS compliant matte tin over nickel over silver.

Special order, added cost:

Q = RoHS tin-silver-copper (95.5/4/0.5)
or **P** = non-RoHS tin-lead (63/37).

Packaging: C= 7" machine-ready reel. EIA-481 embossed plastic tape (1000 parts per full reel).

B= Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

D= 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (3500 parts per full reel).

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 8753ES or equivalent.

5. DC current at which the inductance drops the specified amount from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 548-1 Revised 08/01/13

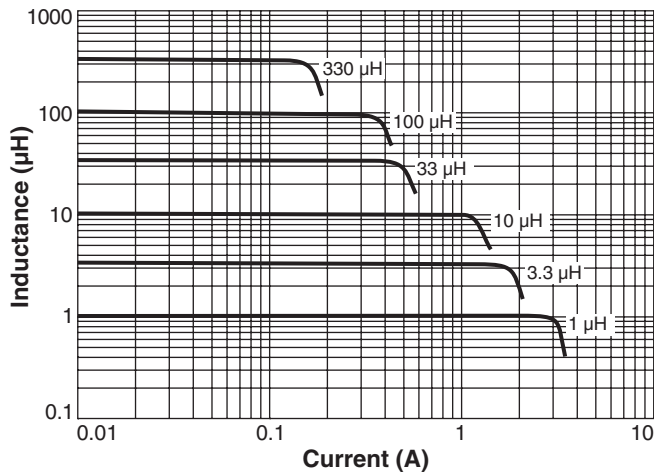
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

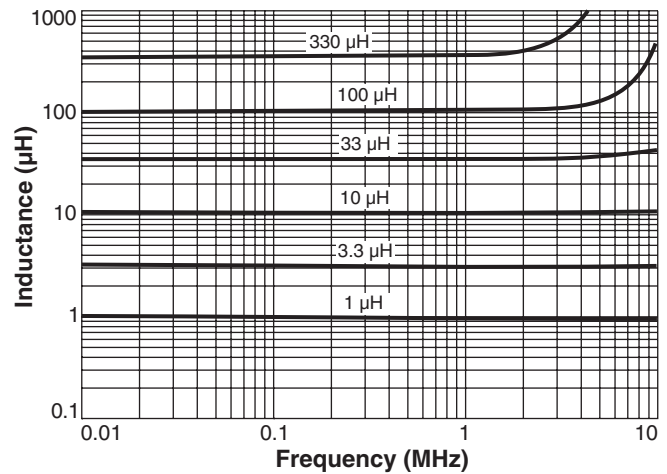


Shielded Power Inductors – LPS4414 Series

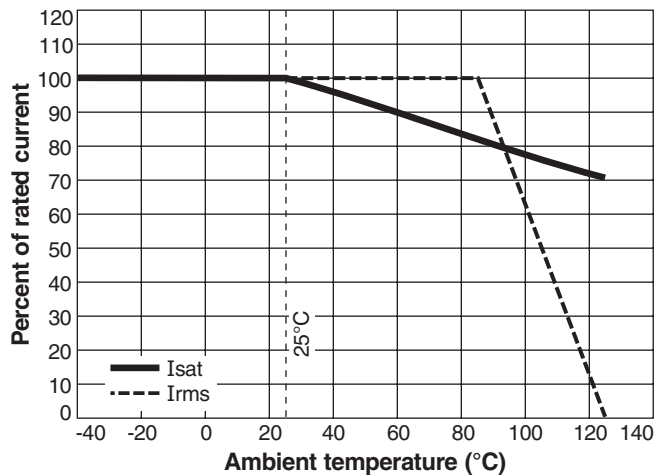
Typical L vs Current



Typical L vs Frequency

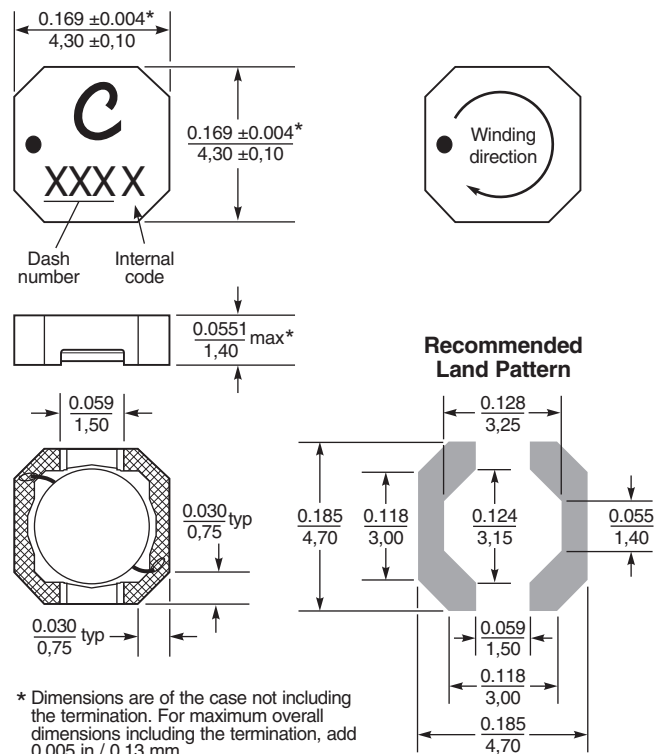
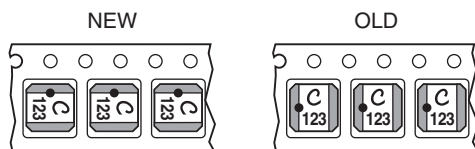


Current Derating



Packaging 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 1.52 mm pocket depth

NOTE NEW PART ORIENTATION Parts are rotated 90° in the packaging tape compared to previous versions of this product.



* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0,13 mm.

For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0,13 mm).

Dimensions are in $\frac{\text{inches}}{\text{mm}}$

Mouser Electronics

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Coilcraft:

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[LPS4414-701MLC](#) [LPS4414-222MLC](#) [LPS4414-154MLC](#) [LPS4414-123MLB](#) [LPS4414-224MLB](#) [LPS4414-562MLB](#)
[LPS4414-185MLB](#) [LPS4414-334MLB](#) [LPS4414-564MLC](#) [LPS4414-562MLC](#) [LPS4414-104MLC](#) [LPS4414-103MLB](#)
[LPS4414-225MLB](#) [LPS4414-183MLB](#) [LPS4414-223MLB](#) [LPS4414-474MLC](#) [LPS4414-155MLC](#) [LPS4414-124MLB](#)
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