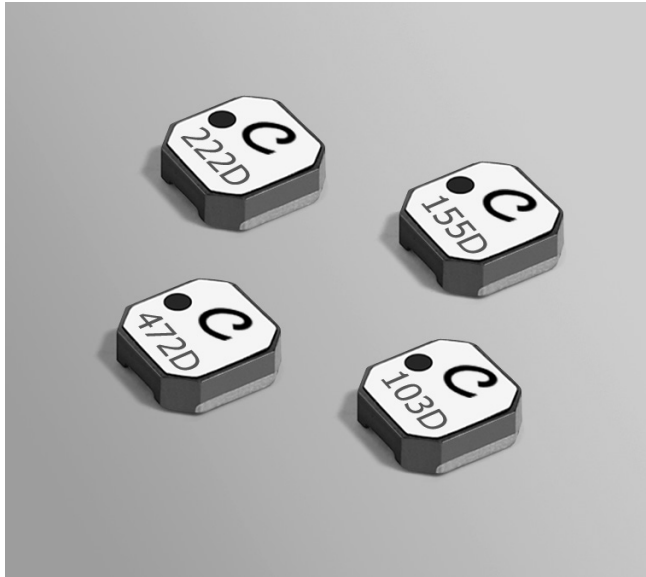


Shielded Power Inductors – LPS4414



- 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 with pure water or alcohol only. For other solvents, 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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Document 548-1 Revised 08/01/13

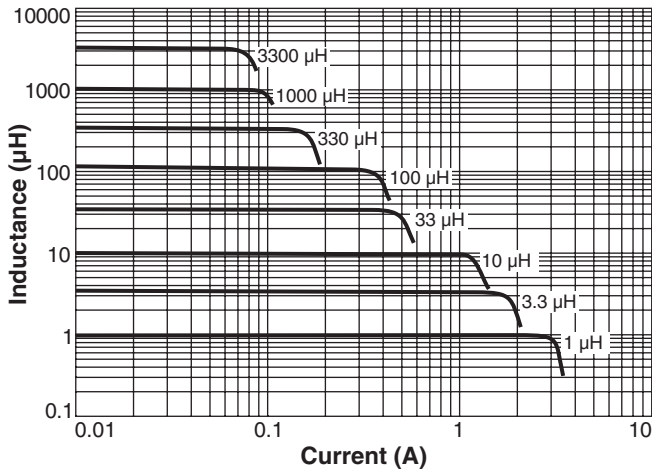
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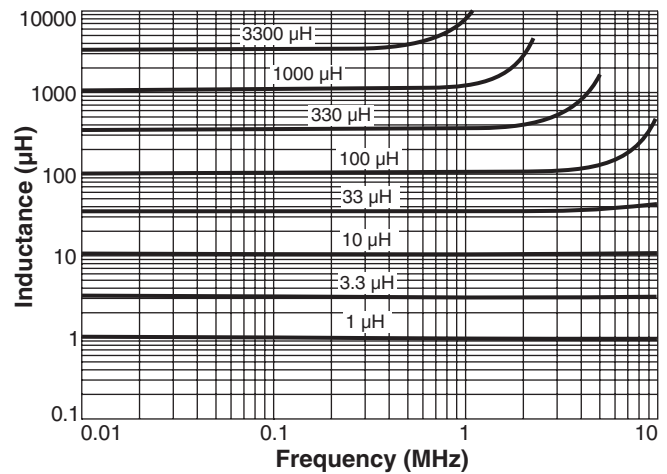


Shielded Power Inductors – LPS4414 Series

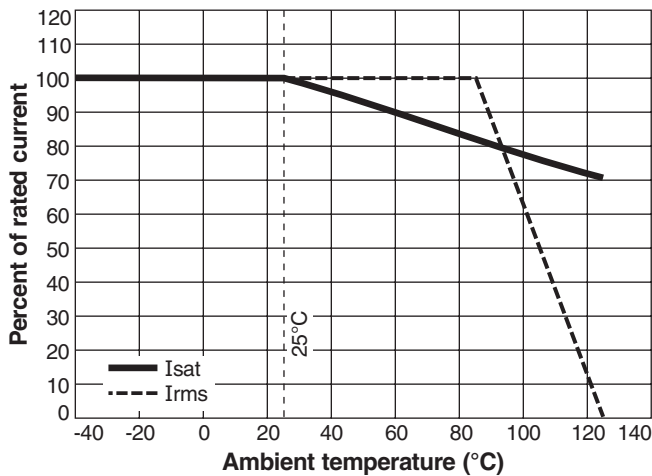
Typical L vs Current



Typical L vs Frequency

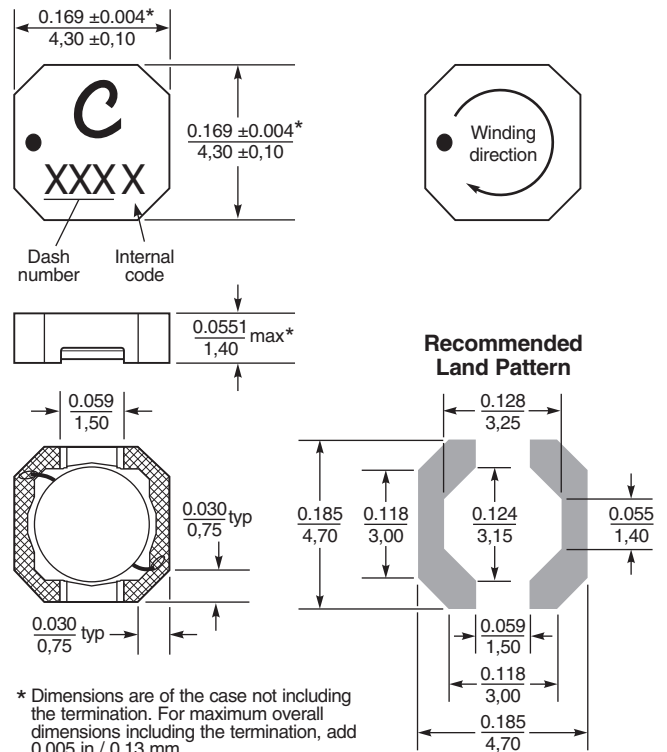
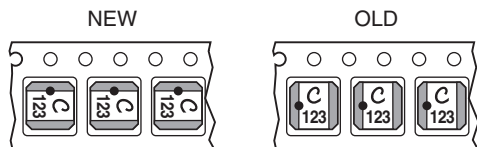


Current Derating



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 $\frac{\text{inches}}{\text{mm}}$



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