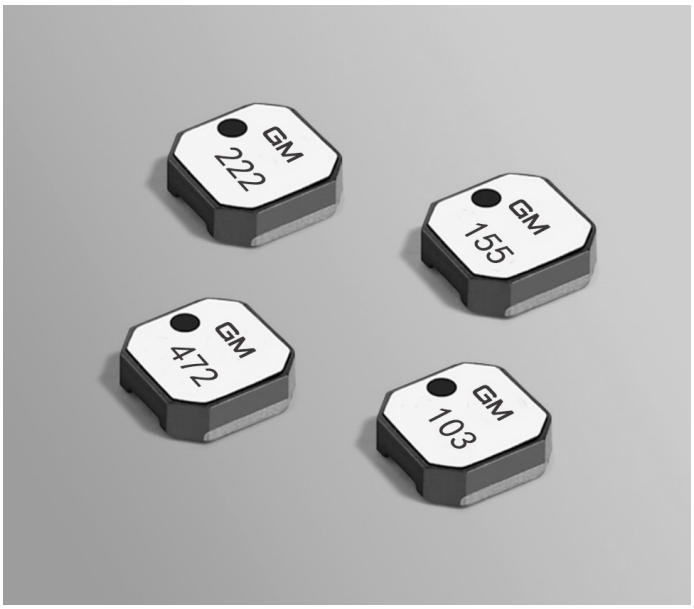
Shielded Power Inductors – LP4414



- 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
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 (40°C rise) Irms current.
Maximum part temperature +125°C (ambient + temp rise).
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.

Part number	Inductance ±20% (µH)	DCR max (Ohms)	SRF typ (MHz)	Isat (A) 10% drop	Isat (A) 20% drop	Isat (A) 30% drop	Irms (A) 20°C rise	Irms (A) 40°C rise
LP4414-301MR_	0.30	0.040	470	5.6	5.7	5.8	2.35	3.25
LP4414-501MR_	0.50	0.050	330	4.3	4.4	4.5	2.10	2.80
LP4414-701MR_	0.70	0.055	225	3.7	3.75	3.8	1.85	2.50
LP4414-102MR_	1.0	0.060	190	3.0	3.1	3.2	1.75	2.30
LP4414-152MR_	1.5	0.078	150	2.9	3.1	3.2	1.55	2.00
LP4414-182MR_	1.8	0.087	130	2.7	2.8	2.9	1.50	1.90
LP4414-222MR_	2.2	0.110	115	2.2	2.3	2.35	1.25	1.60
LP4414-332MR_	3.3	0.165	85.0	1.8	1.9	1.95	1.15	1.50
LP4414-472MR_	4.7	0.215	68.0	1.4	1.5	1.55	0.90	1.20
LP4414-562MR_	5.6	0.260	58.0	1.4	1.4	1.5	0.75	1.10
LP4414-682MR_	6.8	0.270	54.0	1.2	1.3	1.4	0.70	1.00
LP4414-822MR_	8.2	0.350	50.0	1.1	1.3	1.3	0.70	0.98
LP4414-103MR_	10	0.380	43.0	1.1	1.2	1.3	0.70	0.95
LP4414-123MR_	12	0.380	38.0	0.94	0.97	1.0	0.66	0.88
LP4414-153MR_	15	0.440	36.0	0.85	0.89	0.92	0.63	0.82
LP4414-183MR_	18	0.530	31.0	0.76	0.80	0.82	0.56	0.75
LP4414-223MR_	22	0.590	27.0	0.69	0.72	0.74	0.53	0.68
LP4414-333MR_	33	0.715	23.0	0.47	0.49	0.51	0.49	0.65
LP4414-473MR_	47	0.935	18.0	0.39	0.42	0.43	0.44	0.58
LP4414-563MR_	56	1.15	16.0	0.37	0.39	0.40	0.42	0.54
LP4414-683MR_	68	1.35	14.6	0.32	0.33	0.34	0.36	0.48
LP4414-104MR_	100	1.90	11.0	0.26	0.28	0.285	0.31	0.40
LP4414-124MR_	120	2.60	10.0	0.23	0.24	0.25	0.27	0.34
LP4414-154MR_	150	3.10	9.0	0.22	0.23	0.24	0.24	0.32
LP4414-224MR_	220	4.10	6.7	0.18	0.20	0.20	0.22	0.29
LP4414-334MR_	330	6.00	5.6	0.14	0.16	0.165	0.17	0.23
LP4414-474MR_	470	9.50	4.3	0.13	0.14	0.145	0.14	0.23
LP4414-564MR_	560	10.7	4.0	0.12	0.13	0.14	0.13	0.17
LP4414-684MR_	680	11.7	3.5	0.10	0.11	0.12	0.13	0.17
LP4414-824MR_	820	15.1	3.0	0.10	0.105	0.11	0.11	0.14
LP4414-105MR_	1000	16.3	2.6	0.10	0.102	0.106	0.10	0.13
LP4414-105MR_	1500	26.4	2.2	0.096	0.099	0.100	0.085	0.11
LP4414-105MR_	1800	35.0	1.9	0.089	0.094	0.097	0.075	0.10
LP4414-105MR_	2200	42.5	1.9	0.082	0.089	0.092	0.065	0.080
LP4414-105MR_	3300	56.0	1.3	0.072	0.078	0.083	0.055	0.070

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

LP4414-223MRC

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. This information is for reference only and does not represent absolute maximum ratings.
7. Electrical specifications at 25°C.

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

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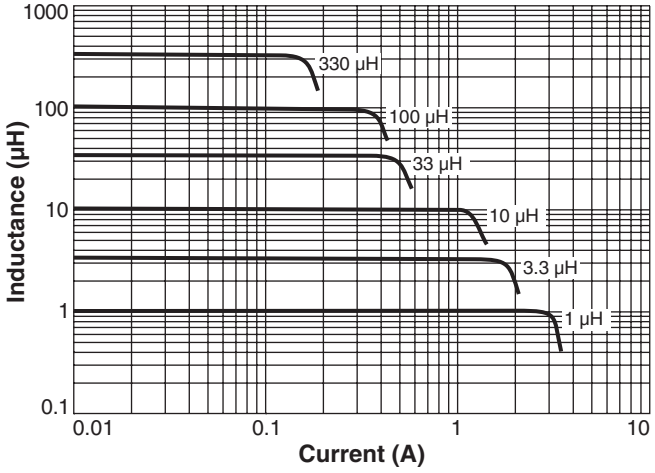
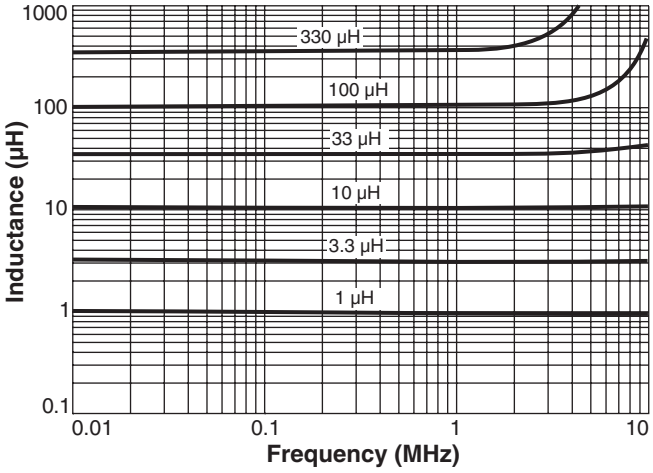
Specification subject to change without notice.
Please check web site for latestinformation.

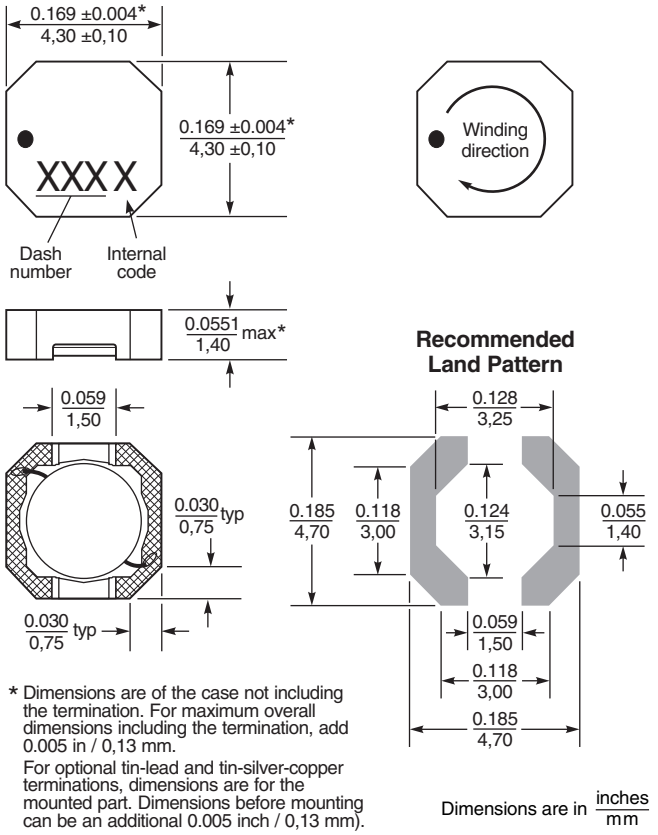
Shielded Power Inductors – LP4414 Series

Typical L vs Current



Typical L vs Frequency



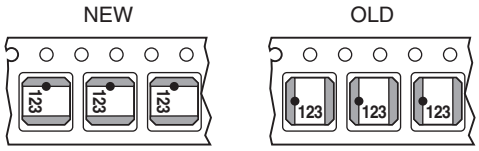


* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0,13 mm.
For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0,13 mm).

Dimensions are in inches / mm

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.



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