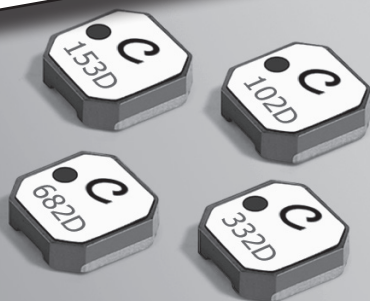


Shielded Power Inductors – LPS4012

Improved version now available.

These parts are not recommended for new designs. They are replaced by new lead free and halogen free versions which are identical in form, fit and function. See www.coilcraft.com/lps4012.cfm.



- Very low DCR; excellent current handling
- 4.0 × 4.0 mm footprint; less than 1.2 mm tall
- AEC-200 Grade 3 qualified (–40°C to +85°C)

Core material Ferrite

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

Terminations RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

Weight 54 – 64 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, 0.25 mm thick, 8 mm pocket spacing, 1.32 mm pocket depth

Recommended pick and place nozzle OD: 4 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 (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
LPS4012-331ML	0.33±20%	0.025	375	5.2	5.4	5.5	2.2	3.0
LPS4012-681ML	0.68±20%	0.055	220	3.5	3.6	3.7	1.8	2.4
LPS4012-102NL	1.0±30%	0.060	180	2.8	2.9	3.0	1.7	2.4
LPS4012-152ML	1.5±20%	0.070	140	2.6	2.7	2.8	1.6	2.2
LPS4012-222ML	2.2±20%	0.100	115	2.3	2.4	2.5	1.2	1.75
LPS4012-332ML	3.3±20%	0.100	100	1.3	1.4	1.4	1.45	2.00
LPS4012-472ML	4.7±20%	0.175	70	1.6	1.7	1.8	1.10	1.45
LPS4012-562ML	5.6±20%	0.260	60	1.5	1.6	1.6	0.85	1.10
LPS4012-682ML	6.8±20%	0.340	55	1.3	1.3	1.4	0.80	0.98
LPS4012-103ML	10±20%	0.350	40	0.98	1.0	1.1	0.55	0.75
LPS4012-153ML	15±20%	0.550	30	0.79	0.82	0.84	0.53	0.73
LPS4012-223ML	22±20%	0.600	25	0.74	0.78	0.79	0.52	0.70
LPS4012-333ML	33±20%	0.825	22	0.45	0.47	0.48	0.46	0.61
LPS4012-473ML	47±20%	1.40	19	0.35	0.37	0.38	0.40	0.52
LPS4012-683ML	68±20%	1.70	15	0.30	0.32	0.33	0.35	0.46
LPS4012-104ML	100±20%	2.40	12	0.24	0.26	0.27	0.30	0.40
LPS4012-124ML	120±20%	3.30	11.5	0.23	0.24	0.25	0.27	0.36
LPS4012-154ML	150±20%	3.50	10.0	0.21	0.22	0.23	0.25	0.32
LPS4012-184ML	180±20%	5.00	8.0	0.18	0.19	0.20	0.23	0.29
LPS4012-224ML	220±20%	5.20	7.0	0.15	0.16	0.17	0.21	0.27
LPS4012-334ML	330±20%	7.20	7.0	0.14	0.14	0.15	0.17	0.225
LPS4012-474ML	470±20%	10.0	4.0	0.10	0.11	0.12	0.13	0.175
LPS4012-564ML	560±20%	12.5	3.5	0.10	0.105	0.115	0.11	0.140
LPS4012-684ML	680±20%	13.5	3.0	0.10	0.105	0.110	0.11	0.135

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

LPS4012-682MLC

Termination: L = RoHS compliant silver-palladium-platinum-glass frit.

Special order:

T = RoHS tin-silver-copper (95.5/4/0.5)

or S = 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 using an Agilent/HP 4192A. Inductance at 1 MHz is the same for parts with SRF ≥ 10 MHz.

3. DCR measured on a micro-ohmmeter.

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

5. DC current that causes the specified inductance drop 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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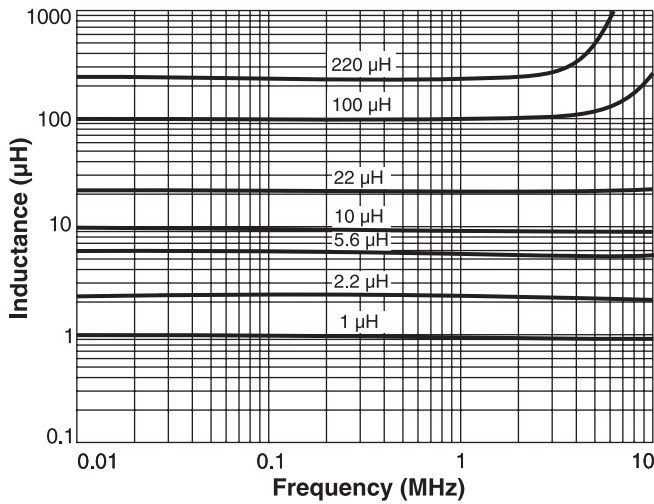
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

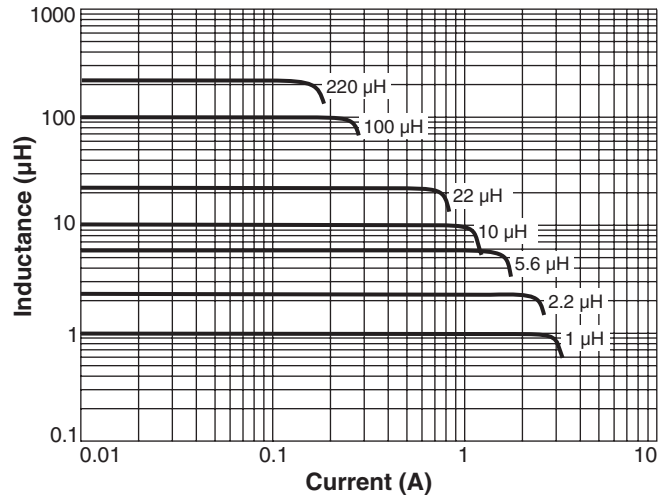


Shielded SMT Power Inductors – LPS4012 Series

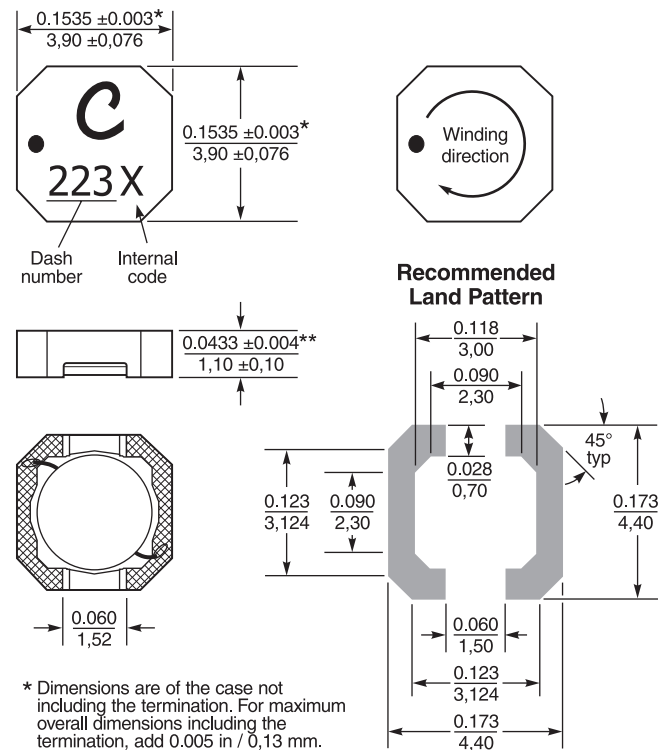
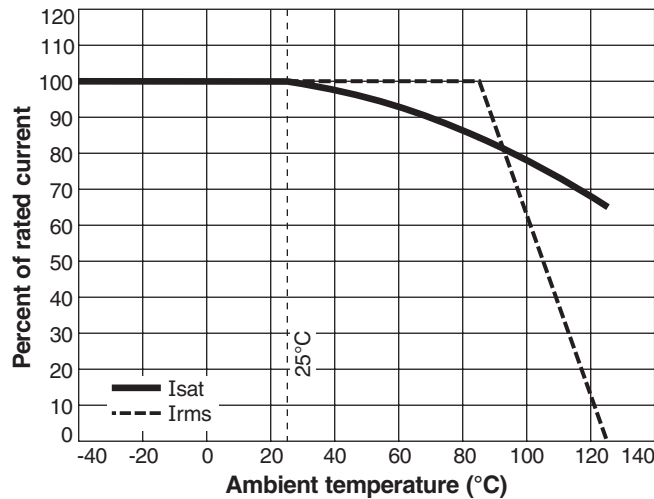
Typical L vs Frequency



Typical L vs Current



Current Derating



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