

Shielded Power Inductors - LPS4040



- Very low DCR; excellent current handling
- 4.0 × 4.0 mm footprint; less than 4 mm tall
- AEC-Q200 Grade 1 (−40°C to +125°C)

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 200 mg

Ambient temperature −40°C to +125°C with (40°C rise) Irms current.

Maximum part temperature +165°C (ambient + temp rise). Derating.

Storage temperature Component: −40°C to +165°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)

Packaging 500/7" reel; 1500/13" reel Plastic tape: 12 mm wide, 0.30 mm thick, 8 mm pocket spacing, 4.32 mm pocket depth

Recommended pick and place nozzle OD: 4 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
LPS4040-223MR_	22	0.210	24.0	0.620	0.780	0.830	0.850	1.200
LPS4040-683MR_	68	0.410	9.50	0.440	0.490	0.510	0.700	0.920
LPS4040-823MR_	82	0.465	8.90	0.370	0.420	0.440	0.650	0.880
LPS4040-104MR_	100	0.475	8.60	0.350	0.380	0.400	0.560	0.820
LPS4040-124MR_	120	0.530	7.30	0.330	0.360	0.380	0.500	0.740
LPS4040-154MR_	150	0.680	6.10	0.275	0.305	0.320	0.490	0.650
LPS4040-224MR_	220	0.880	4.80	0.230	0.250	0.265	0.430	0.580
LPS4040-334MR_	330	1.40	4.10	0.190	0.205	0.215	0.360	0.480
LPS4040-474MR_	470	2.16	2.90	0.150	0.170	0.180	0.270	0.370
LPS4040-564MR_	560	2.35	2.80	0.140	0.160	0.165	0.240	0.330
LPS4040-684MR_	680	3.00	2.60	0.130	0.145	0.150	0.220	0.300
LPS4040-105MR_	1000	4.02	2.00	0.105	0.115	0.120	0.200	0.270
LPS4040-155MR_	1500	6.23	1.65	0.082	0.092	0.098	0.160	0.220
LPS4040-185MR_	1800	7.77	1.49	0.074	0.084	0.090	0.140	0.190
LPS4040-225MR_	2200	8.80	1.36	0.068	0.078	0.082	0.125	0.170
LPS4040-335MR_	3300	16.4	1.10	0.058	0.064	0.068	0.100	0.140
LPS4040-475MR_	4700	22.3	0.900	0.046	0.054	0.056	0.080	0.110
LPS4040-565MR_	5600	30.0	0.770	0.042	0.048	0.051	0.070	0.100

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

LPS4040-565MRC

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 (500 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

D=13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (1500 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 at 25°C that causes the specified inductance drop from its value without current.

[Click for temperature derating information.](#)

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.

[Click for temperature derating information.](#)

7. Electrical specifications at 25°C.

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



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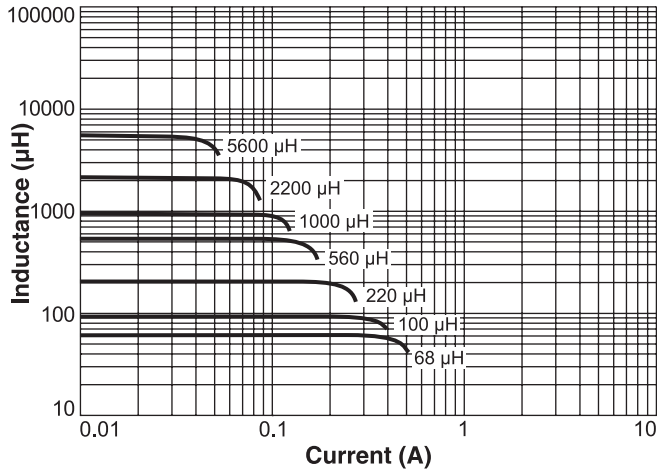
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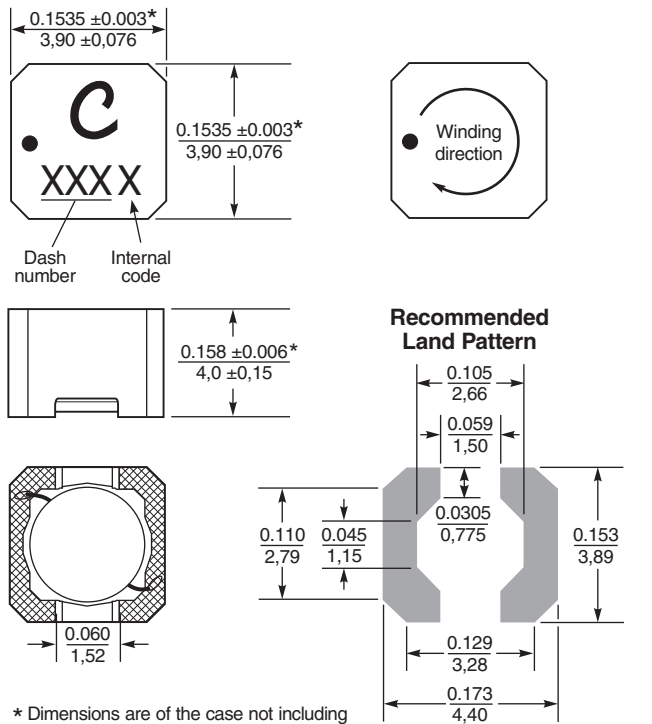
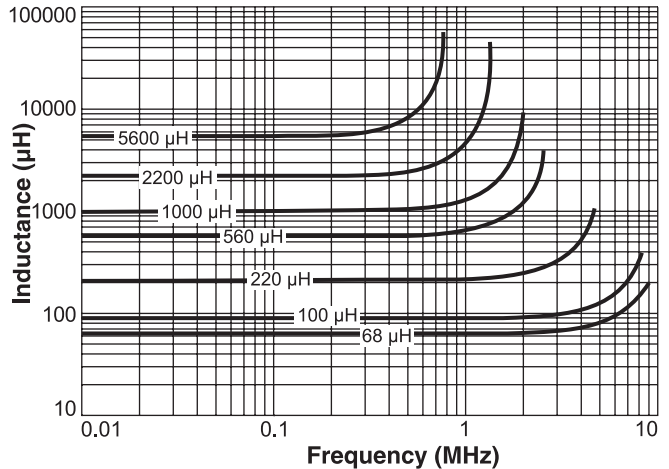


Shielded SMT Power Inductors – LPS4040 Series

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



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