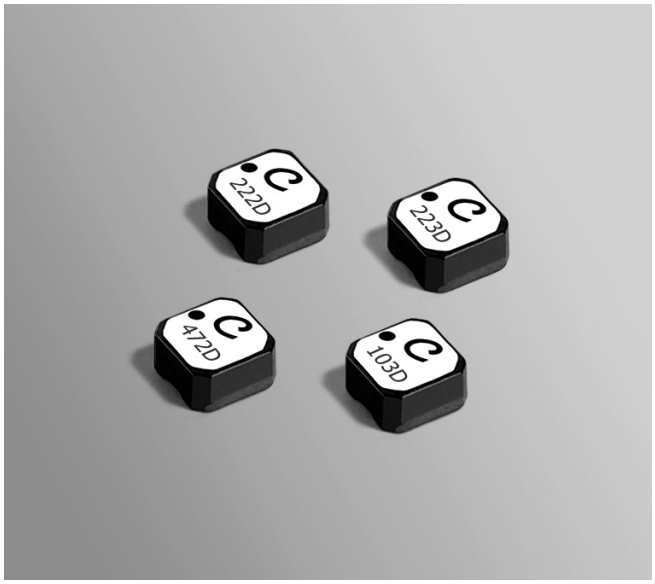
Shielded Power Inductors – LPS3015



- Very low DCR; excellent current handling
- Miniature 3.0 × 3.0 mm footprint; less than 1.5 mm tall
- AEC-Q200 Grade 1 qualified (–40°C to +125°C ambient)

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 40 – 45 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 1000/7″ reel; 3500/13″ reel; Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 1.65 mm pocket depth
Recommended pick and place nozzle OD: 3 mm; ID: ≤ 1.5 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] 10% drop	20% drop	30% drop	Irms (A)[6] 20°C rise	40°C rise
LPS3015-102MR_	1.0	0.075	190	2.4	2.4	2.5	1.4	2.0
LPS3015-152MR_	1.5	0.100	140	2.2	2.2	2.3	1.3	1.7
LPS3015-182MR_	1.8	0.100	135	2.1	2.1	2.3	1.1	1.4
LPS3015-222MR_	2.2	0.110	110	2.0	2.1	2.1	1.1	1.4
LPS3015-332MR_	3.3	0.130	90	1.4	1.5	1.5	1.0	1.4
LPS3015-472MR_	4.7	0.200	79	1.1	1.2	1.2	0.90	1.2
LPS3015-682MR_	6.8	0.300	58	0.83	0.86	0.89	0.68	0.90
LPS3015-103MR_	10	0.440	48	0.60	0.69	0.73	0.55	0.75
LPS3015-153MR_	15	0.700	35	0.58	0.61	0.62	0.44	0.59
LPS3015-183MR_	18	0.750	33	0.56	0.58	0.59	0.43	0.58
LPS3015-223MR_	22	0.825	30	0.48	0.49	0.50	0.42	0.57
LPS3015-333MR_	33	1.30	23	0.39	0.41	0.42	0.35	0.48
LPS3015-473MR_	47	1.55	17	0.36	0.38	0.39	0.30	0.40
LPS3015-683MR_	68	2.35	14	0.29	0.30	0.31	0.25	0.33
LPS3015-104MR_	100	3.40	11	0.24	0.25	0.26	0.19	0.26
LPS3015-124MR_	120	4.65	9.0	0.21	0.22	0.22	0.17	0.23
LPS3015-154MR_	150	6.25	8.0	0.19	0.20	0.20	0.15	0.20
LPS3015-184MR_	180	8.60	7.5	0.16	0.17	0.17	0.13	0.175
LPS3015-224MR_	220	9.50	6.0	0.15	0.16	0.16	0.11	0.155

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

LPS3015-333MRC

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). 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 (3500 per full reel).

B= Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

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.

Coilcraft **Designer’s Kit C392** contains samples of 0.56 µH to 33 µH parts (3 each) from LPS3008, LPS3010 and LPS3015. **Kit C401** contains samples of 0.56 µH to 33 µH parts (3 each) from LPS4012 and LPS4018. **Kit C402** contains samples of 220 µH to 2200 µH parts (3 each) from all five series. For details of kit contents and to order, contact Coilcraft or visit **http://order.coilcraft.com**.

Coilcraft
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SPICE models
ON OUR WEB SITE

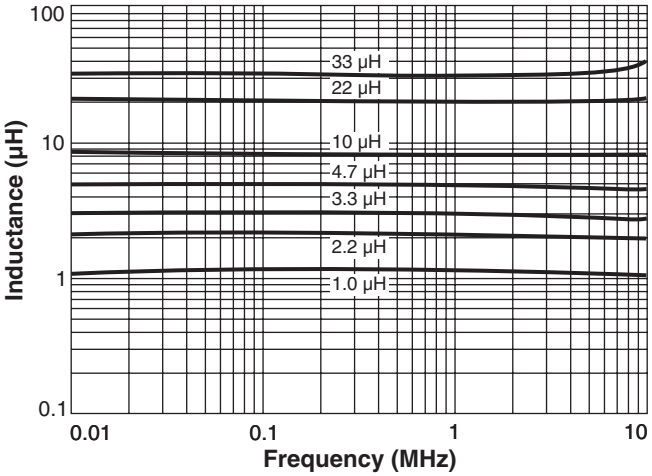
RoHS/ REACH COMPLIANT

Halogen Free

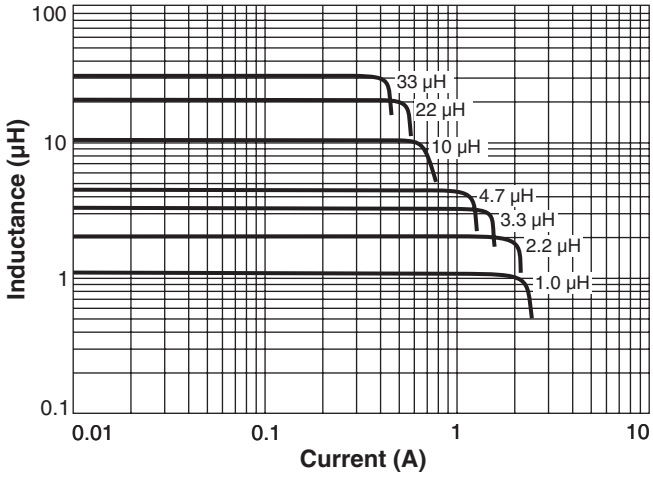
AEC Q200 +125°C

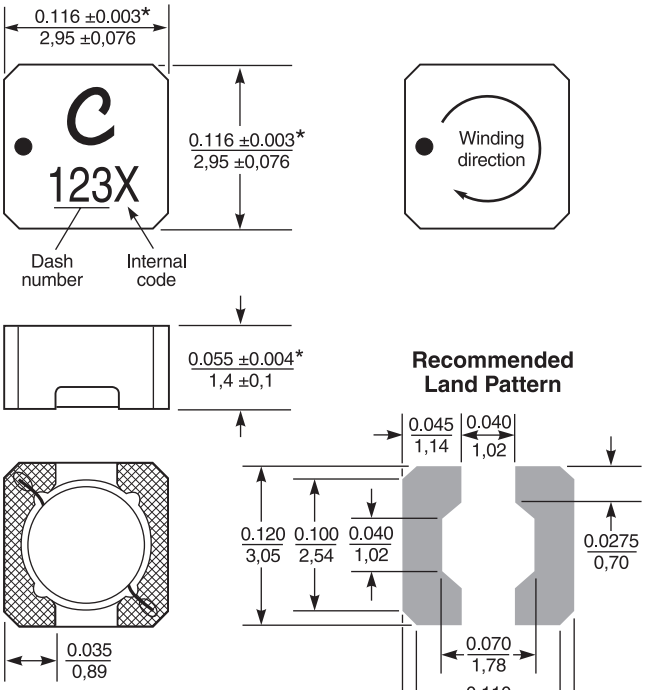
Shielded Power Inductors – LPS3015 Series

Typical L vs Frequency



Typical L vs Current



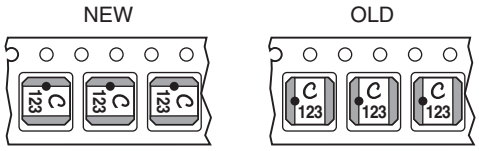


* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0,13 mm.
For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch / 0,13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

Dimensions are in inches / mm

Packaging 1000/7″ reel; 3500/13″ reel; Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 1.65 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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