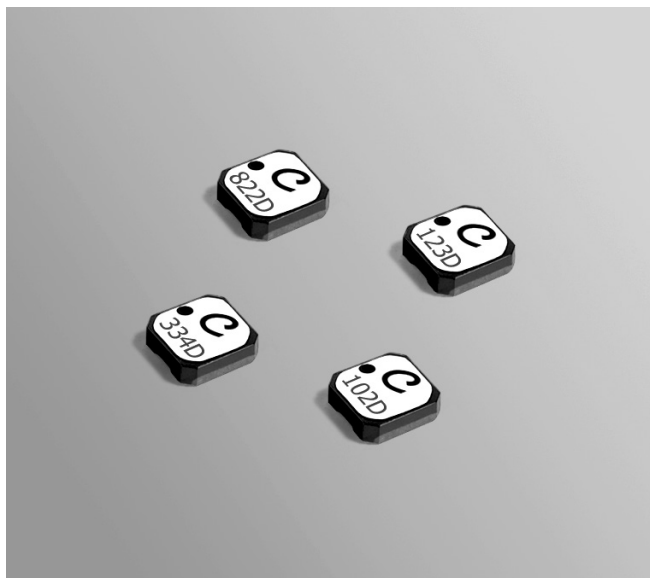


# Shielded Power Inductors - LPS3008



- Very low DCR; excellent current handling
- Only 0.8 mm tall; 3.0 × 3.0 mm footprint

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://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** 22 – 25 mg

**Ambient temperature** –40°C to +85°C with (40°C rise) Irms current.

**Maximum part temperature** +125°C (ambient + temp rise). [Derating](#).

**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, 0.23 mm thick, 8 mm pocket spacing, 1.37 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 <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR max <sup>3</sup> (Ohms)	SRF typ <sup>4</sup> (MHz)	Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
				10% drop	20% drop	30% drop	20°C rise	40°C rise
LPS3008-561MR_	0.56	0.072	330	1.8	2.0	2.1	1.4	2.0
LPS3008-801MR_	0.80	0.092	255	1.6	1.7	1.8	1.1	1.6
LPS3008-102MR_	1.0	0.125	220	1.3	1.4	1.5	0.90	1.3
LPS3008-152MR_	1.5	0.134	170	1.1	1.3	1.3	0.87	1.2
LPS3008-222MR_	2.2	0.175	150	1.0	1.1	1.1	0.85	1.1
LPS3008-332MR_	3.3	0.285	114	0.81	0.86	0.88	0.74	0.95
LPS3008-472MR_	4.7	0.350	87	0.68	0.73	0.74	0.68	0.80
LPS3008-562MR_	5.6	0.450	78	0.62	0.67	0.70	0.58	0.73
LPS3008-682MR_	6.8	0.500	75	0.58	0.61	0.63	0.50	0.67
LPS3008-822MR_	8.2	0.600	61	0.52	0.56	0.58	0.45	0.60
LPS3008-103MR_	10	0.650	56	0.46	0.51	0.52	0.42	0.56
LPS3008-123MR_	12	0.790	49	0.45	0.48	0.50	0.38	0.50
LPS3008-183MR_	18	1.25	38	0.35	0.38	0.40	0.33	0.44
LPS3008-223MR_	22	1.50	35	0.29	0.33	0.34	0.29	0.38
LPS3008-333MR_	33	2.30	23	0.27	0.30	0.31	0.25	0.32
LPS3008-473MR_	47	3.00	21	0.22	0.23	0.24	0.21	0.27
LPS3008-683MR_	68	4.75	18	0.18	0.19	0.20	0.175	0.23
LPS3008-104MR_	100	6.85	14	0.15	0.16	0.16	0.160	0.21
LPS3008-124MR_	120	7.00	13	0.084	0.094	0.10	0.140	0.190
LPS3008-154MR_	150	8.00	11	0.080	0.088	0.092	0.130	0.175
LPS3008-184MR_	180	9.00	10	0.070	0.078	0.082	0.120	0.160

Coilcraft **Designer's Kit C392** contains samples of 0.80 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 3300 µH parts (3 each) from all five series. For details of kit contents and to order, contact Coilcraft or visit <http://order.coilcraft.com>.

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

**LPS3008-104MRC**

**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).

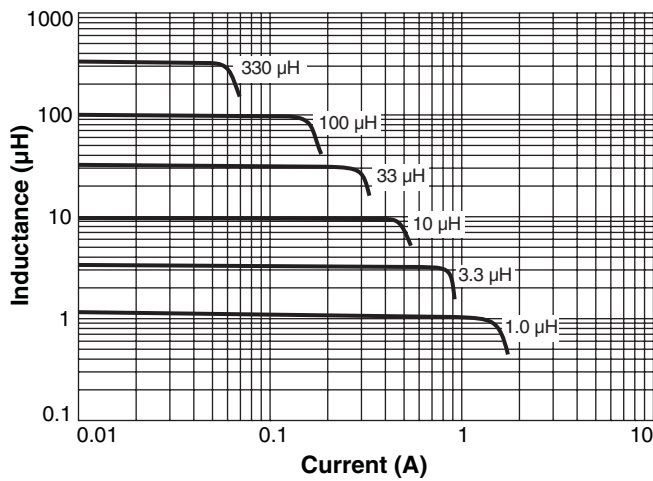
B= Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

D= 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (3500 parts per full reel).

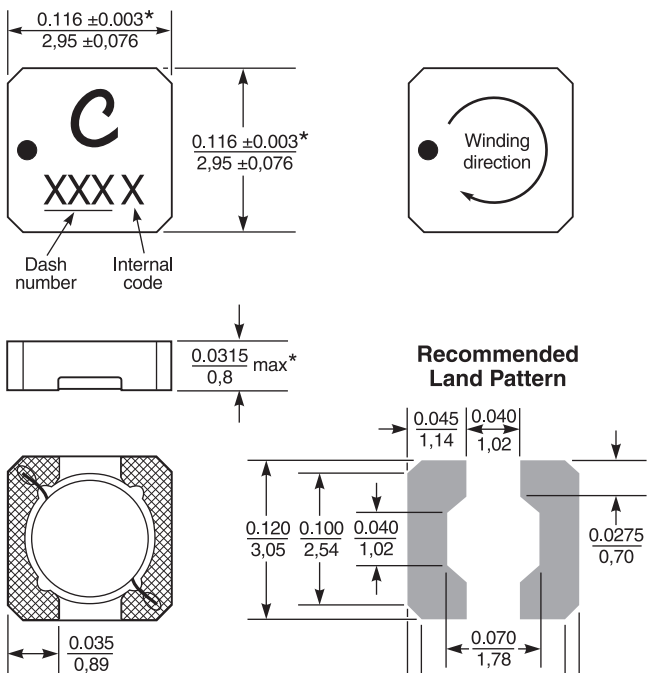
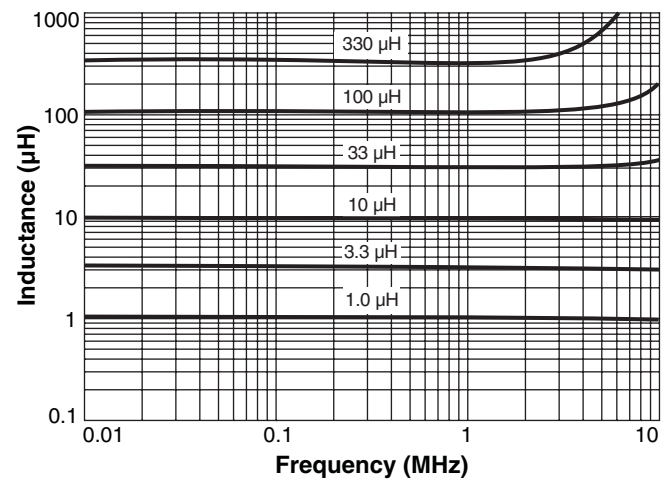
2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A. Inductance at 1 MHz is the same for parts with SRF ≥ 10 MHz.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using an Agilent/HP 8753ES or equivalent.
5. DC current at 25°C that causes the specified inductance drop from its value without current. [link 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.

# Shielded Power Inductors – LPS3008 Series

## Typical L vs Current



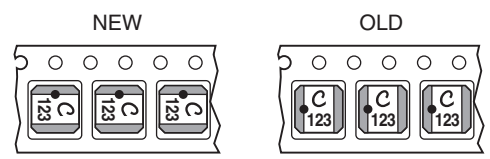
## Typical L vs Frequency



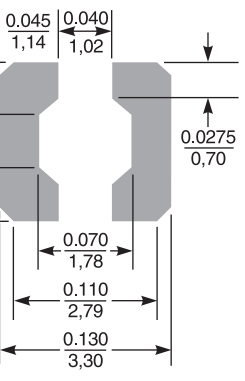
\* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0,13 mm.  
For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 inch /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

**Packaging** 1000/7" reel; 3500/13" reel; Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 1.37 mm pocket depth

**NOTE NEW PART ORIENTATION** Parts are rotated 90° in the packaging tape compared to previous versions of this product.



### Recommended Land Pattern



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$