



# SMT Power Inductor - SER2000 Series



- Designed for high current power supply applications
- Flat wire windings provide exceptionally low DCR
- Isat ratings as high as 100 A

**Designer's Kit C374** contains 2 each of nine part

**Core material** Ferrite

**Core and winding loss** See [www.coilcraft.com/coreloss](http://www.coilcraft.com/coreloss)

**Terminations** RoHS compliant tin-silver over copper. Other terminations available at additional cost.

**Ambient temperature** -40°C to +85°C with I<sub>rms</sub> current, +85°C to +125°C with derated current

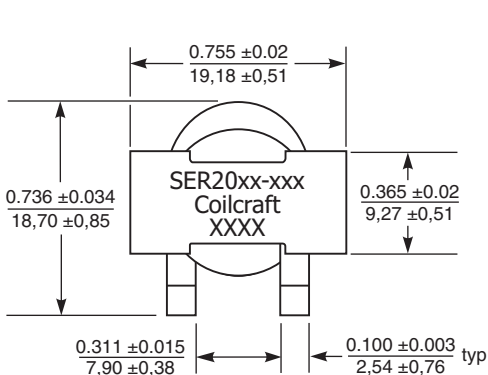
**Storage temperature** Component: -40°C to +125°C.  
Packaging: -40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

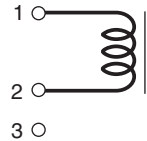
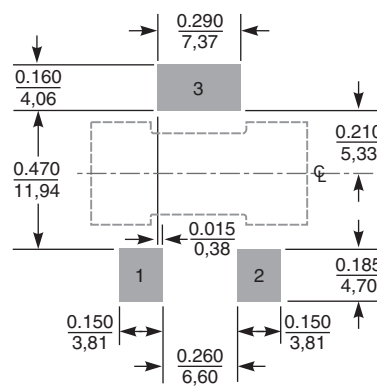
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**  
38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

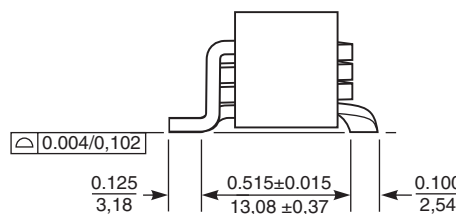
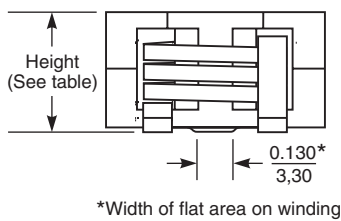
**PCB washing** Only pure water or alcohol recommended



### Recommended Land Pattern



**Caution:**  
Terminal 3 is provided for mounting stability only. This terminal is connected to the winding of the inductor and must not be connected to ground or any circuitry.



	Maximum height	Weight
SER2009	0.34 / 8,64	6.65 – 6.89 g
SER2010	0.37 / 9,40	7.46 – 7.90 g
SER2011	0.42 / 10,67	8.63 – 9.08 g
SER2012	0.47 / 11,94	9.92 – 10.3 g
SER2013	0.51 / 12,95	10.8 – 11.4 g
SER2014	0.55 / 13,97	11.7 – 12.4 g

Dimensions are in inches / mm

### Packaging

SER2009 200 per 13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 4 mm pocket spacing, 9.25 pocket depth  
 SER2010 200 per 13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 4 mm pocket spacing, 10.5 pocket depth  
 SER2011 170 per 13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 4 mm pocket spacing, 11.6 pocket depth  
 SER2012 150 per 13" reel; Plastic tape: 44 mm wide, 0.4 mm thick, 4 mm pocket spacing, 13.0 pocket depth  
 SER2013 150 per 13" reel; Plastic tape: 44 mm wide, 0.5 mm thick, 4 mm pocket spacing, 14.0 pocket depth  
 SER2014 125 per 13" reel; Plastic tape: 44 mm wide, 0.5 mm thick, 4 mm pocket spacing, 15.0 pocket depth



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# SMT Power Inductors - SER2000 Series

**SPICE models**  
ON OUR WEB SITE OR CD

Part number <sup>1</sup>	Inductance $\pm 20\%$ <sup>2</sup> ( $\mu\text{H}$ )	DCR max <sup>3</sup> (m $\Omega$ )	DCR typ <sup>3</sup> (m $\Omega$ )	SRF typ <sup>4</sup> (MHz)	Isat <sup>5</sup> (A)	Irms (A) <sup>6</sup>		Height (mm)
						20°C rise	40°C rise	
SER2009-301ML_	0.30	0.740	0.630	550	100	41	54	8,64
<b>SER2010-301ML_</b>	<b>0.30</b>	<b>1.00</b>	<b>0.900</b>	<b>182</b>	<b>100</b>	<b>36</b>	<b>45</b>	<b>9,40</b>
SER2009-501ML_	0.50	0.740	0.630	544	60	41	54	8,64
SER2010-501ML_	0.50	1.00	0.900	148	81	36	45	9,40
SER2011-501ML_	0.50	1.34	1.20	161	100	30	40	10,67
SER2009-601ML_	0.60	0.740	0.630	648	49	41	54	8,64
<b>SER2010-601ML_</b>	<b>0.60</b>	<b>1.00</b>	<b>0.900</b>	<b>115</b>	<b>70</b>	<b>36</b>	<b>45</b>	<b>9,40</b>
SER2011-601ML_	0.60	1.34	1.20	124	90	30	40	10,67
<b>SER2012-601ML_</b>	<b>0.60</b>	<b>1.60</b>	<b>1.44</b>	<b>115</b>	<b>97</b>	<b>25</b>	<b>35</b>	<b>11,94</b>
SER2009-681ML_	0.68	0.740	0.630	454	45	41	54	8,64
SER2010-681ML_	0.68	1.00	0.900	136	62	36	45	9,40
SER2011-681ML_	0.68	1.34	1.20	135	78	30	40	10,67
SER2012-681ML_	0.68	1.60	1.44	103	85	25	35	11,94
SER2013-681ML_	0.68	1.82	1.70	104	98	23	30	12,95
SER2009-801ML_	0.80	0.740	0.630	567	38	41	54	8,64
<b>SER2010-801ML_</b>	<b>0.80</b>	<b>1.00</b>	<b>0.900</b>	<b>92</b>	<b>53</b>	<b>36</b>	<b>45</b>	<b>9,40</b>
SER2011-801ML_	0.80	1.34	1.20	113	70	30	40	10,67
SER2012-801ML_	0.80	1.60	1.44	91	75	25	35	11,94
SER2013-801ML_	0.80	1.82	1.70	93	85	23	30	12,95
<b>SER2014-801ML_</b>	<b>0.80</b>	<b>2.15</b>	<b>1.94</b>	<b>104</b>	<b>98</b>	<b>21</b>	<b>27</b>	<b>13,97</b>
SER2009-901ML_	0.90	0.740	0.630	557	33	41	54	8,64
SER2010-901ML_	0.90	1.00	0.900	96	48	36	45	9,40
SER2011-901ML_	0.90	1.34	1.20	104	62	30	40	10,67
SER2012-901ML_	0.90	1.60	1.44	85	69	25	35	11,94
SER2013-901ML_	0.90	1.82	1.70	98	73	23	30	12,95
SER2014-901ML_	0.90	2.15	1.94	102	87	21	27	13,97
SER2009-102ML_	1.0	0.740	0.630	488	29	41	54	8,64
<b>SER2010-102ML_</b>	<b>1.0</b>	<b>1.00</b>	<b>0.900</b>	<b>81</b>	<b>42</b>	<b>36</b>	<b>45</b>	<b>9,40</b>
SER2011-102ML_	1.0	1.34	1.20	97	56	30	40	10,67
SER2012-102ML_	1.0	1.60	1.44	75	64	25	35	11,94
SER2013-102ML_	1.0	1.82	1.70	98	68	23	30	12,95
<b>SER2014-102ML_</b>	<b>1.0</b>	<b>2.15</b>	<b>1.94</b>	<b>88</b>	<b>70</b>	<b>21</b>	<b>27</b>	<b>13,97</b>
SER2009-122ML_	1.2	0.740	0.630	81	28	41	54	8,64
SER2010-122ML_	1.2	1.00	0.900	69	37	36	45	9,40
SER2011-122ML_	1.2	1.34	1.20	81	49	30	40	10,67
SER2012-122ML_	1.2	1.60	1.44	73	54	25	35	11,94
SER2013-122ML_	1.2	1.82	1.70	82	58	23	30	12,95
SER2014-122ML_	1.2	2.15	1.94	78	63	21	27	13,97
SER2009-202ML_	2.0	0.740	0.630	40	16	41	54	8,64
<b>SER2010-202ML_</b>	<b>2.0</b>	<b>1.00</b>	<b>0.900</b>	<b>48</b>	<b>27</b>	<b>36</b>	<b>45</b>	<b>9,40</b>
SER2011-202ML_	2.0	1.34	1.20	56	37	30	40	10,67
SER2012-202ML_	2.0	1.60	1.44	51	35	25	35	11,94
SER2013-202ML_	2.0	1.82	1.70	61	40	23	30	12,95
<b>SER2014-202ML_</b>	<b>2.0</b>	<b>2.15</b>	<b>1.94</b>	<b>62</b>	<b>45</b>	<b>21</b>	<b>27</b>	<b>13,97</b>
SER2013-362ML_	3.6	1.82	1.70	38	25	23	30	12,95
SER2013-402ML_	4.0	1.82	1.70	35	20	23	30	12,95
SER2014-402ML_	4.0	2.15	1.94	36	25	21	27	13,97
SER2013-472ML_	4.7	1.82	1.70	30	18	23	30	12,95

Parts shown in bold are included in Coilcraft Designer's Kit C374.

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

**SER2014-202ML D**

**Termination:** L = RoHS compliant tin-silver over copper.  
**Special order:**

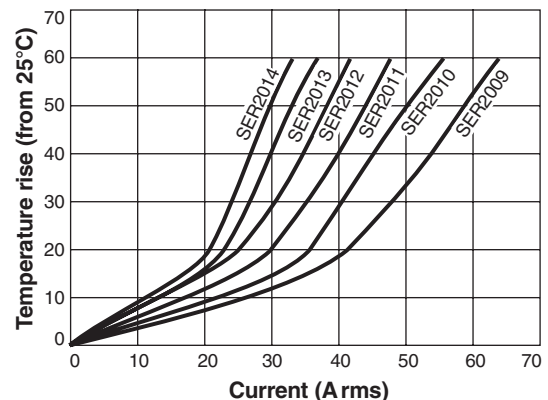
T = RoHS tin-silver-copper (95.5/4/0.5)  
or S = non-RoHS tin-lead (63/37).

**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape.

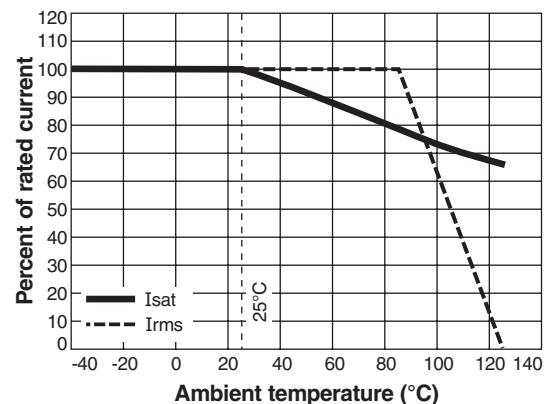
B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter D instead.

- Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.
- DCR measured on a Keithley 580 micro-ohmmeter.
- SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.
- DC current at which the inductance drops 10% (typ) from its value without current.
- Current that causes the specified temperature rise from 25°C ambient.
- Electrical specifications at 25°C.  
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

## Temperature Rise vs Current



## Current Derating



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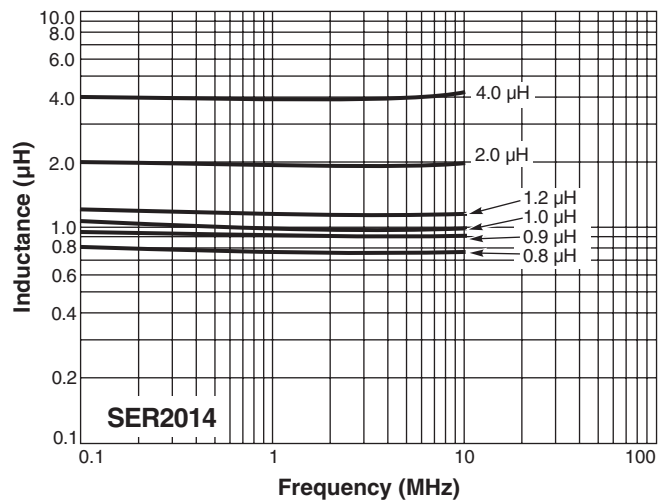
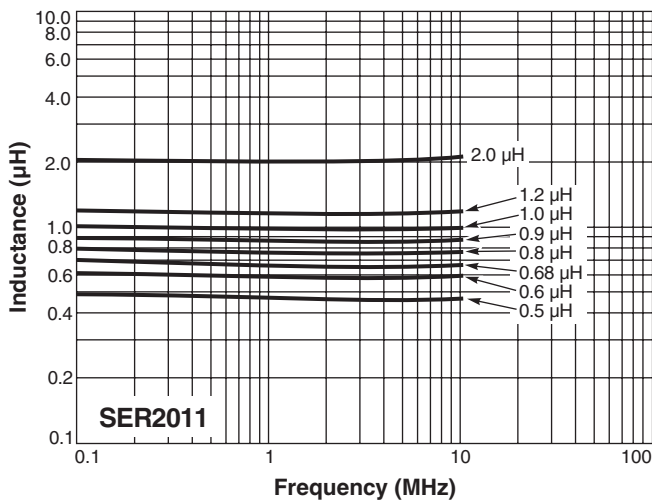
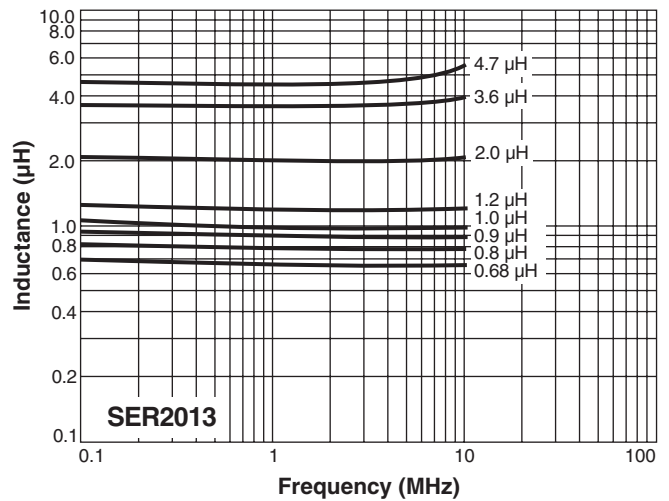
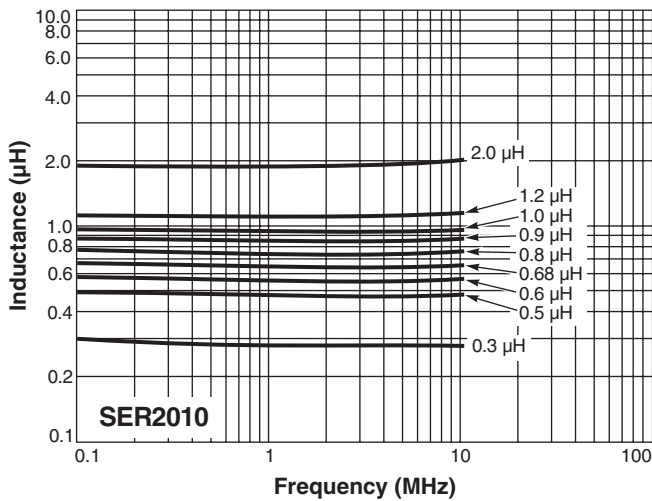
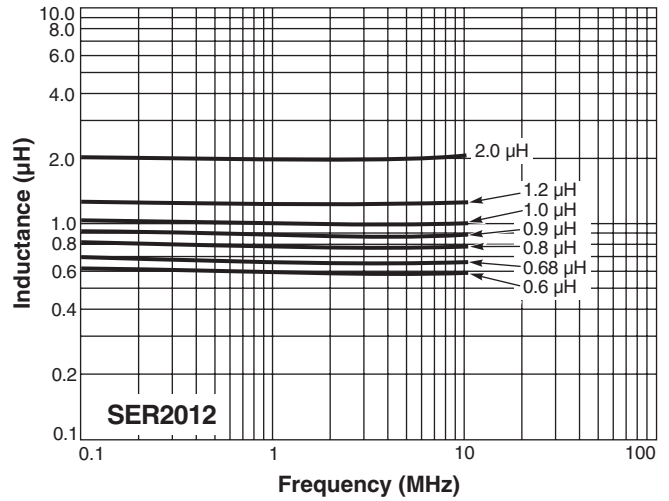
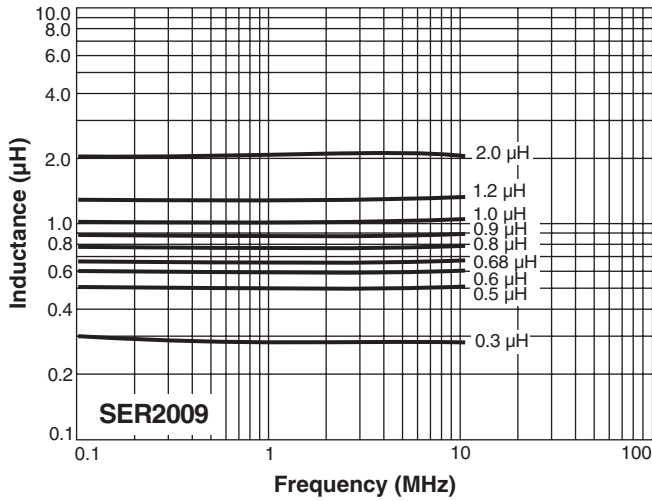
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## L vs Frequency



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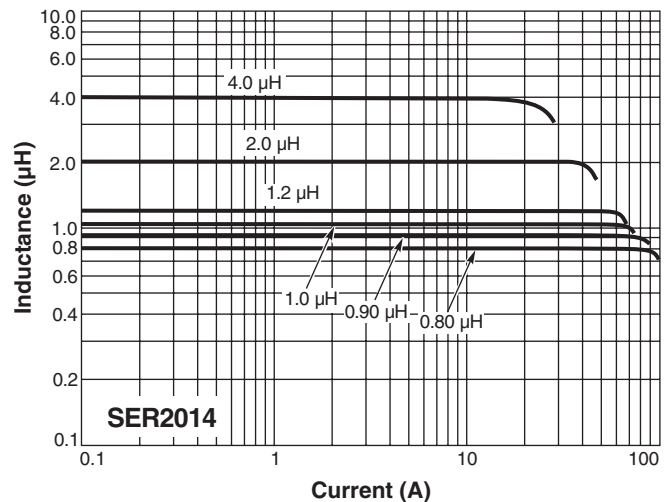
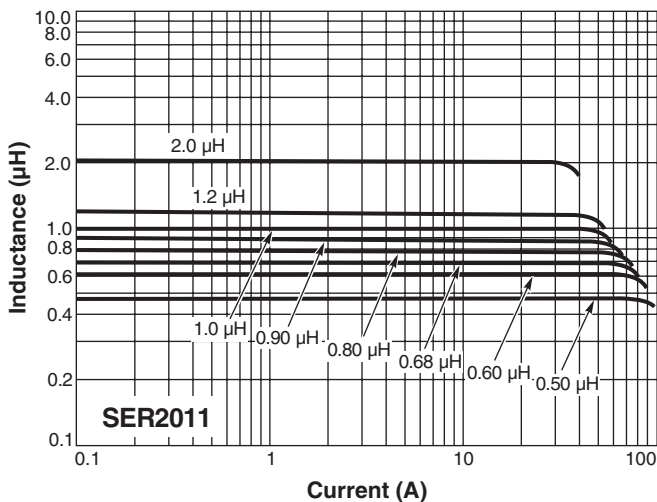
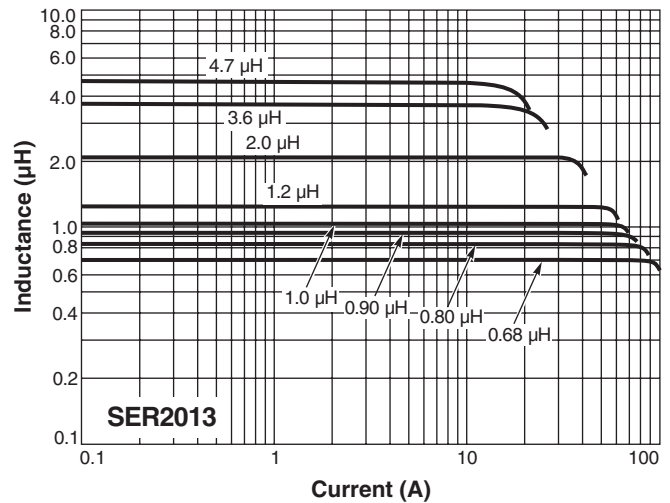
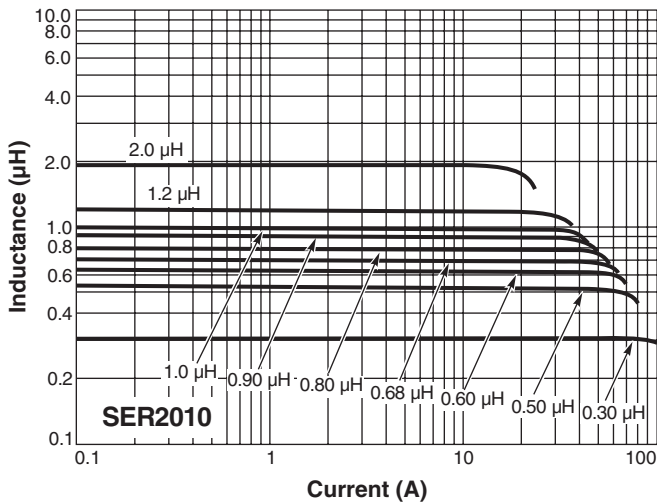
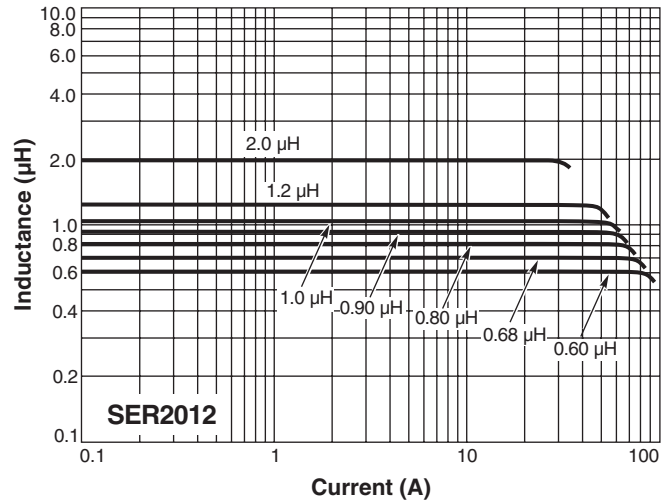
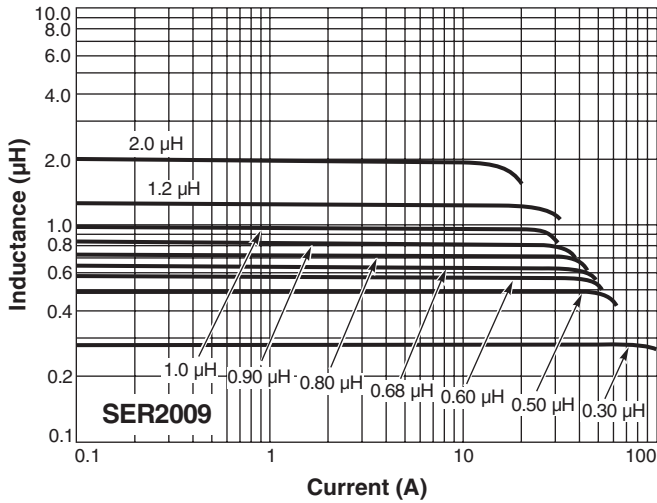
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## L vs Current



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