



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

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

Ambient temperature -40°C to +85°C with I_{rms} current, +85°C to +125°C with derated current

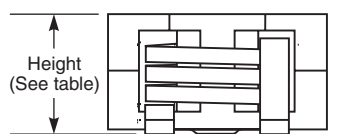
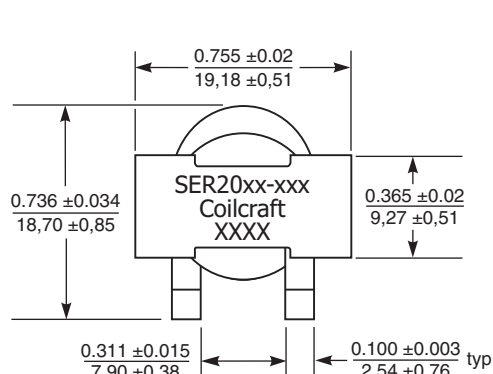
Storage temperature Component: -40°C to +125°C.
Packaging: -40°C to +80°C

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)

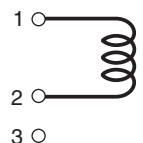
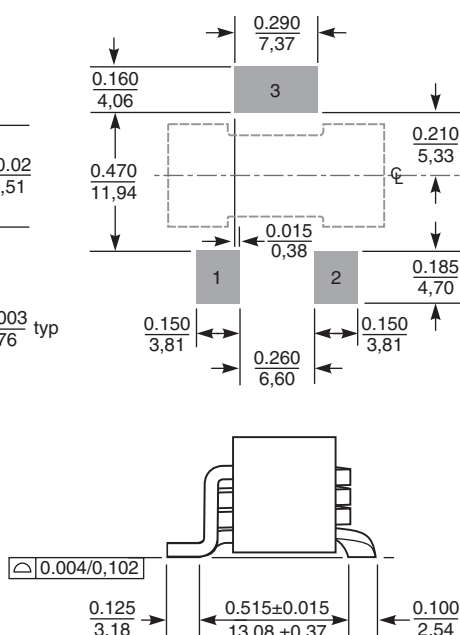
Failures in Time (FIT) / Mean Time Between Failures (MTBF)
38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

PCB washing Only pure water or alcohol recommended



*Width of flat area on winding

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

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 ¹	Inductance $\pm 20\%$ ² (μ H)	DCR max ³ (m Ω)	DCR typ ³ (m Ω)	SRF typ ⁴ (MHz)	Isat ⁵ (A)	Irms (A) ⁶		Height (mm)
						20°C rise	40°C rise	
SER2009-301ML	0.30	0.740	0.630	550	100	41	54	8,64
SER2010-301ML	0.30	1.00	0.900	182	100	36	45	9,40
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
SER2010-601ML	0.60	1.00	0.900	115	70	36	45	9,40
SER2011-601ML	0.60	1.34	1.20	124	90	30	40	10,67
SER2012-601ML	0.60	1.60	1.44	115	97	25	35	11,94
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
SER2010-801ML	0.80	1.00	0.900	92	53	36	45	9,40
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
SER2014-801ML	0.80	2.15	1.94	104	98	21	27	13,97
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
SER2010-102ML	1.0	1.00	0.900	81	42	36	45	9,40
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
SER2014-102ML	1.0	2.15	1.94	88	70	21	27	13,97
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
SER2010-202ML	2.0	1.00	0.900	48	27	36	45	9,40
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
SER2014-202ML	2.0	2.15	1.94	62	45	21	27	13,97
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.

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. DCR measured on a Keithley 580 micro-ohmmeter.

4. SRF measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture.

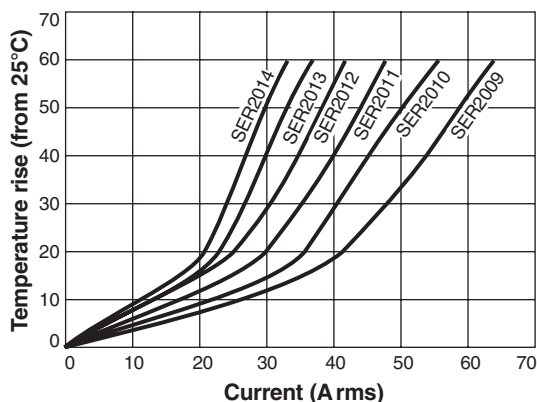
5. DC current at which the inductance drops 10% (typ) from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

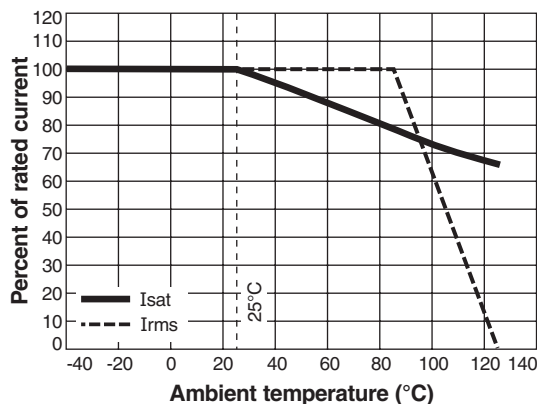
7. Electrical specifications at 25°C.

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

Temperature Rise vs Current



Current Derating



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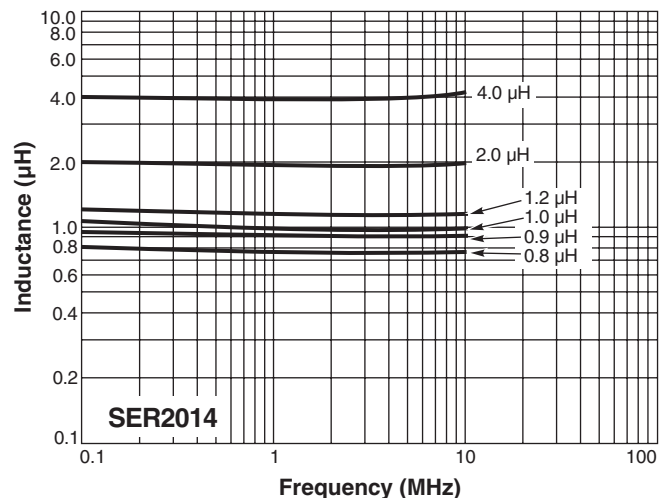
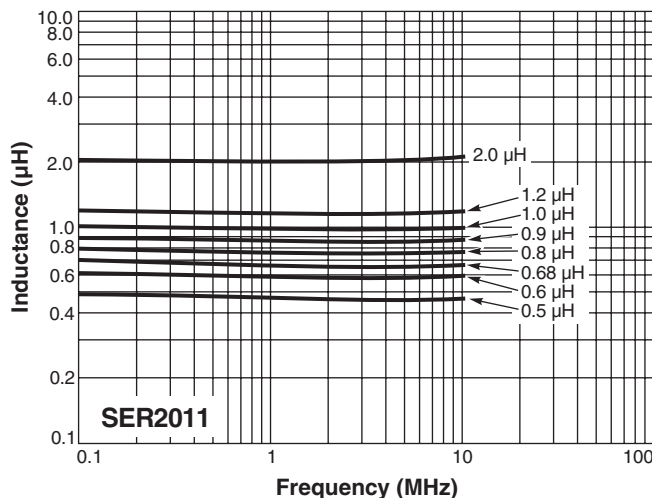
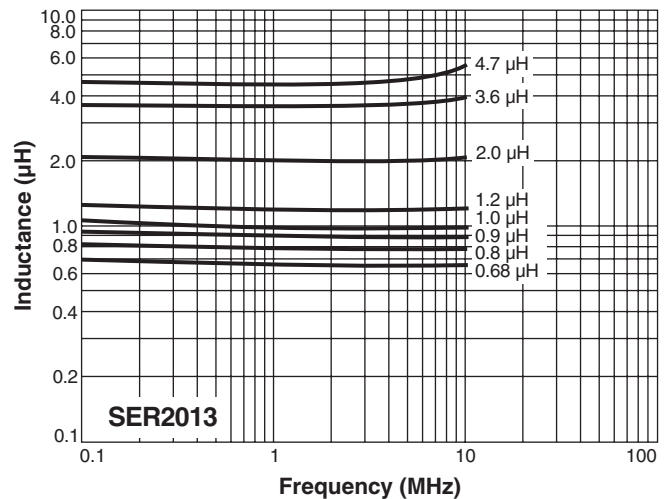
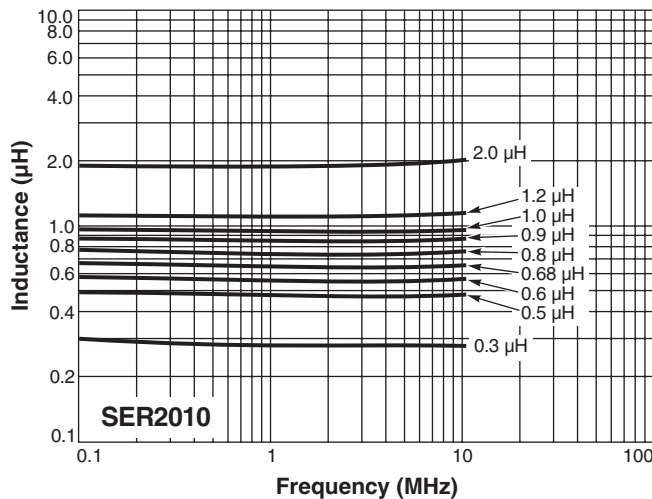
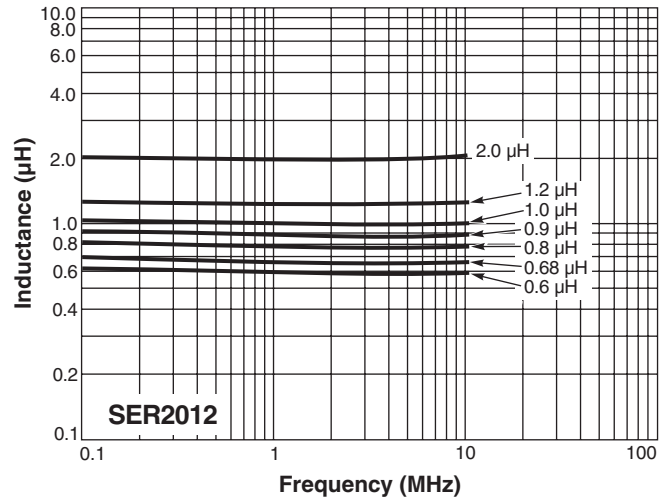
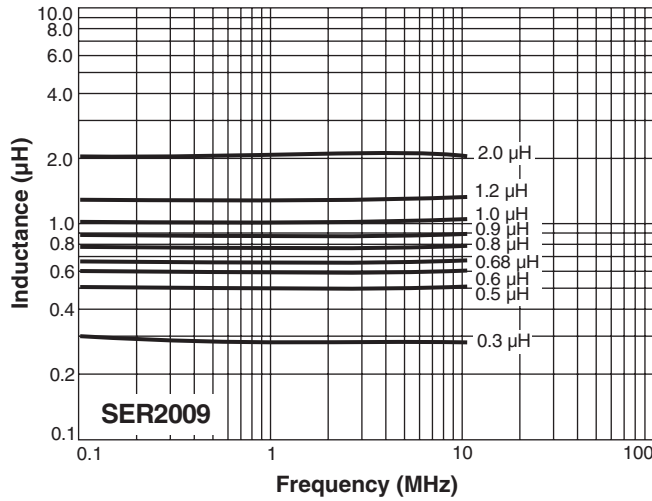
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L vs Frequency



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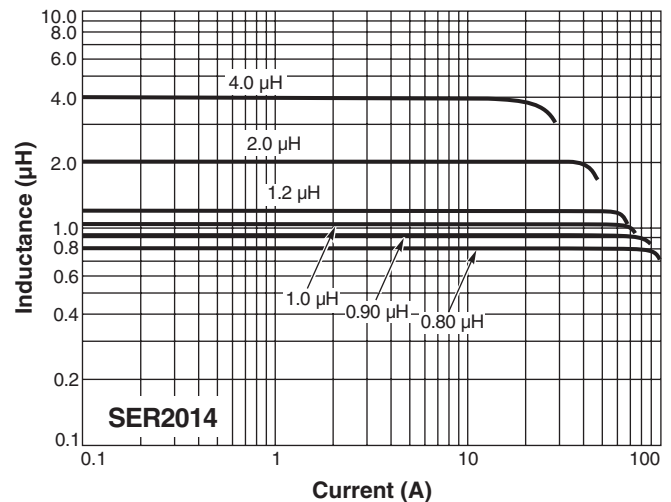
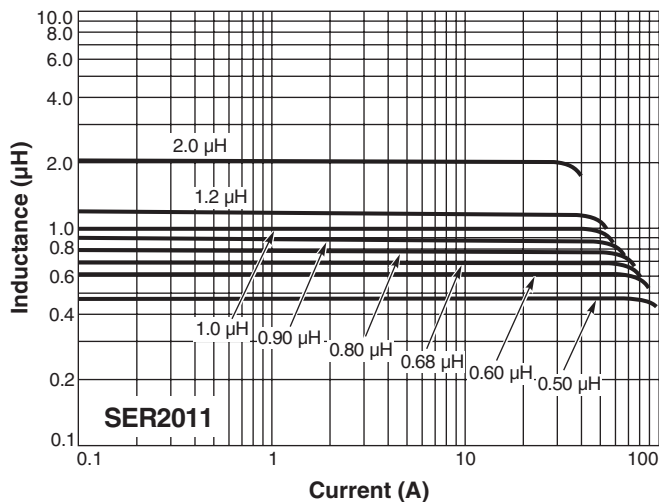
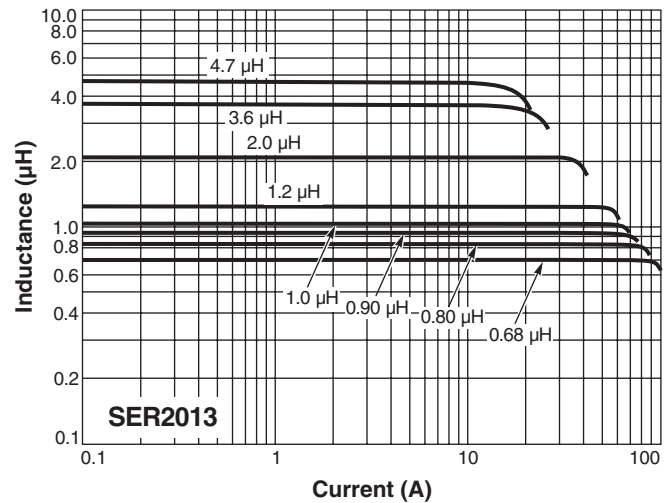
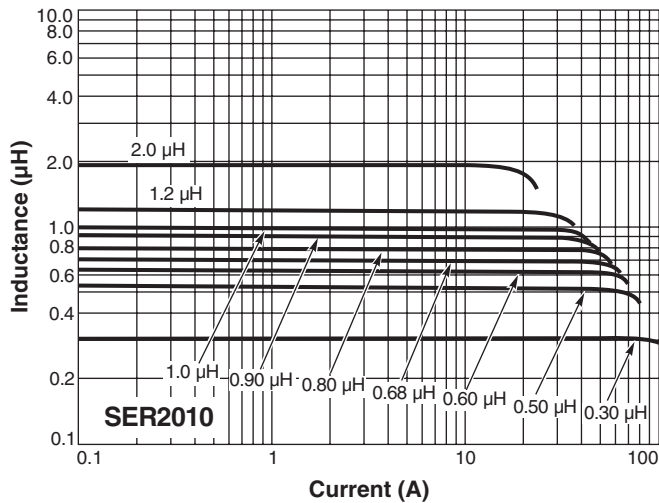
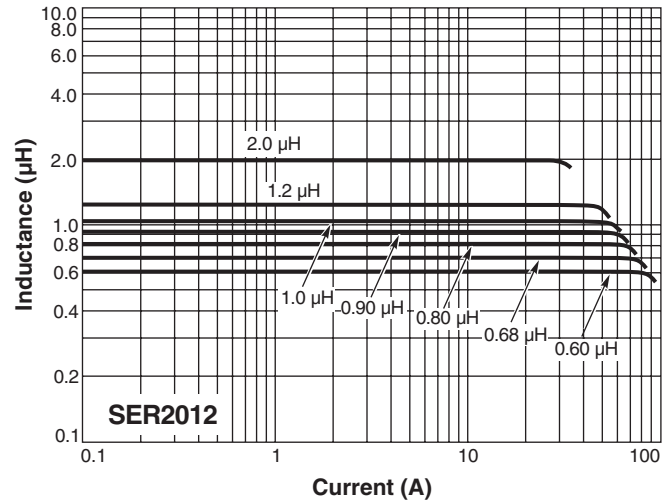
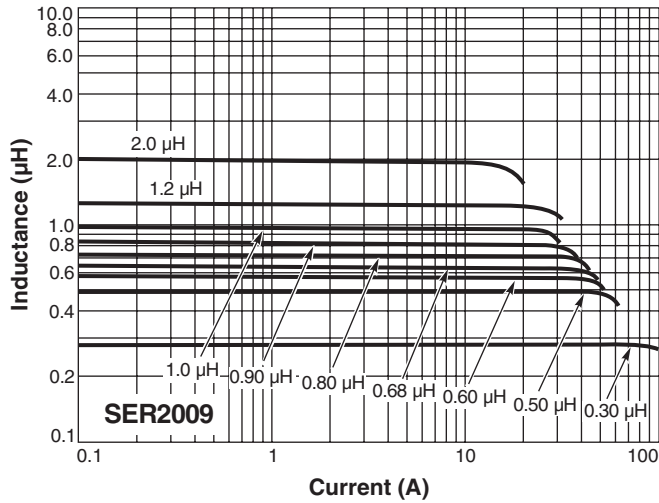
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