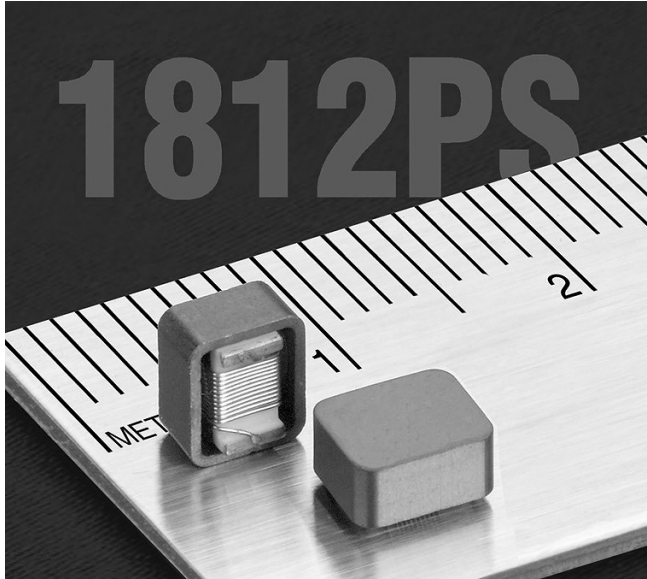




# Shielded High SRF Inductors – 1812PS



- Higher SRF than our other power inductors
- High inductance with tight tolerance
- Excellent current handling for a part this size

**Core material** Ceramic/Ferrite

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

**Terminations** RoHS compliant silver-palladium-platinum-glass frit.

**Weight** 286– 323 mg

**Ambient temperature** –40°C to +105°C with Irms current, +105°C to +145°C with derated current

**Storage temperature** Component: –40°C to +145°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** 600 per 7" reel; 2200 per 13" reel;

Plastic tape: 12 mm wide, 0.25 mm thick, 4 mm pocket spacing, 3.9 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf.

Part number <sup>1</sup>	L <sup>2</sup> (µH)	% tol <sup>3</sup>	Q min <sup>4</sup>	DCR max <sup>5</sup> (Ohms)	SRF typ <sup>6</sup> (MHz)	Isat <sup>7</sup> (A)	Irms <sup>8</sup> (A)
1812PS-102_L_	1.0	<b>10,5</b>	35	0.05	685	2.50	2.70
1812PS-122_L_	1.2	<b>10,5</b>	38	0.06	460	2.00	2.60
1812PS-152_L_	1.5	<b>10,5</b>	38	0.06	460	2.00	2.60
1812PS-222_L_	2.2	<b>10,5</b>	38	0.07	270	1.70	2.40
1812PS-272_L_	2.7	<b>10,5</b>	40	0.08	265	1.40	2.30
1812PS-332_L_	3.3	<b>10,5</b>	40	0.09	225	1.40	2.30
1812PS-392_L_	3.9	<b>10,5</b>	40	0.11	170	1.20	2.20
1812PS-472_L_	4.7	<b>10,5</b>	40	0.11	165	1.15	2.10
1812PS-562_L_	5.6	<b>10,5</b>	40	0.12	155	1.10	2.10
1812PS-682_L_	6.8	<b>10,5</b>	40	0.13	140	1.00	1.90
1812PS-103_L_	10	<b>10,5</b>	40	0.17	120	0.90	1.70
1812PS-153_L_	15	<b>10,5</b>	40	0.26	100	0.70	1.45
1812PS-223_L_	22	<b>10,5</b>	40	0.33	45	0.54	1.20
1812PS-333_L_	33	<b>10,5</b>	40	0.40	30	0.46	1.10
1812PS-393_L_	39	<b>10,5</b>	48	0.56	30	0.40	1.00
1812PS-473_L_	47	<b>10,5</b>	50	0.87	28	0.35	0.80
1812PS-683_L_	68	<b>10,5</b>	50	1.08	17	0.32	0.67
1812PS-823_L_	82	<b>10,5</b>	55	1.25	17	0.28	0.65
1812PS-104_L_	100	<b>10,5</b>	60	1.32	14	0.27	0.65
1812PS-124_L_	120	<b>10,5</b>	60	1.45	12	0.23	0.60
1812PS-154_L_	150	<b>10,5</b>	60	2.20	11	0.20	0.51
1812PS-224_L_	220	<b>10,5</b>	60	2.65	7	0.17	0.47
1812PS-334_L_	330	<b>10,5</b>	60	4.85	5.5	0.15	0.31
1812PS-474_L_	470	<b>10,5</b>	50	5.85	4.0	0.12	0.31
1812PS-564_L_	560	<b>10,5</b>	40	6.10	2.6	0.11	0.28
1812PS-684_L_	680	<b>10,5</b>	40	6.60	2.3	0.10	0.28
1812PS-824_L_	820	<b>10,5</b>	30	7.35	1.8	0.09	0.25
1812PS-105_L_	1000	<b>10,5</b>	28	10.00	1.8	0.08	0.22

- When ordering, specify **tolerance** and **packaging** codes:

1812PS-105JLC

**Tolerance:** **J** = 5% **K** = 10%  
(Table shows stock tolerances in bold.)

**Packaging:** **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (600 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 (2200 parts per full reel).

- Inductance measured at 100 kHz, 0.1 Vrms, using a Coilcraft SMD-A fixture in an Agilent/HP 4263B LCR meter.
  - Tolerances in bold are stocked for immediate shipment.
  - Q measured at 1 MHz on an Agilent/HP 4291 with an Agilent/HP 16193 test fixture.
  - DCR measured on micro-ohmmeter and a Coilcraft CCF840 test fixture.
  - 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 a 40°C temperature rise from 25°C ambient.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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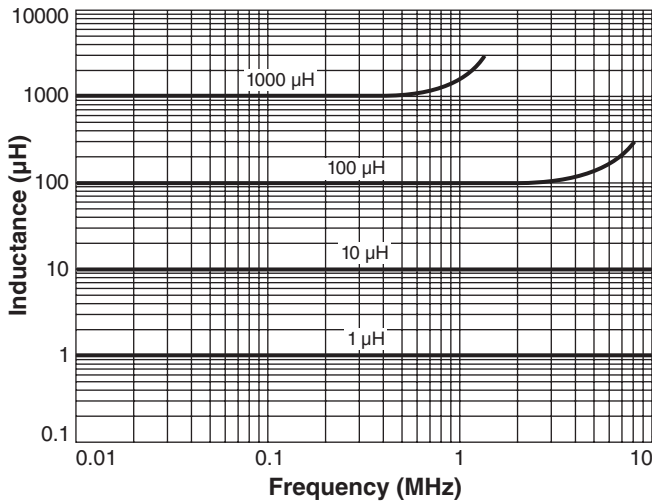
**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
 MEASUREMENTS  
 SEE WEB SITE **TEST FIXTURES**



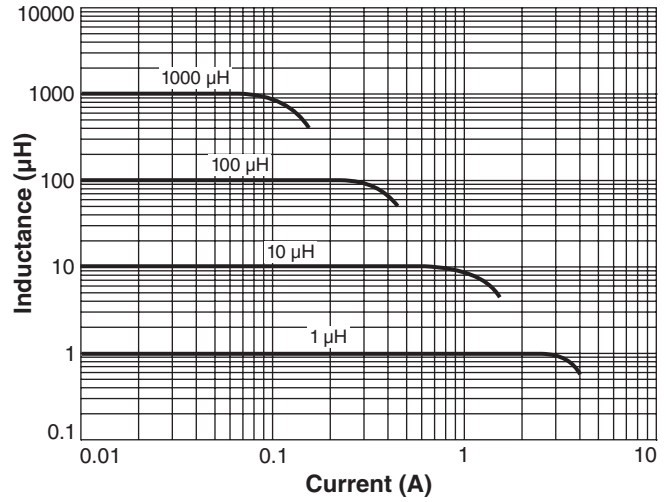
# Power Chip Inductors - 1812PS Series

**S-Parameter files**  
ON OUR WEB SITE  
**SPICE models**  
ON OUR WEB SITE

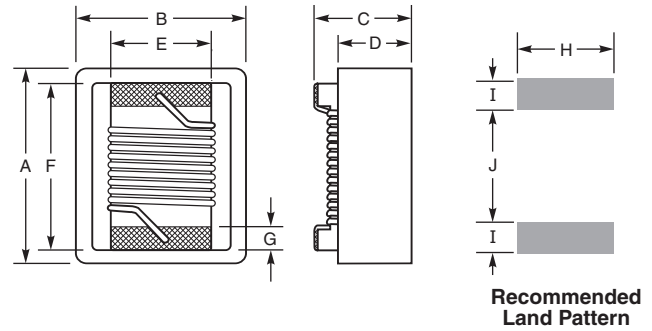
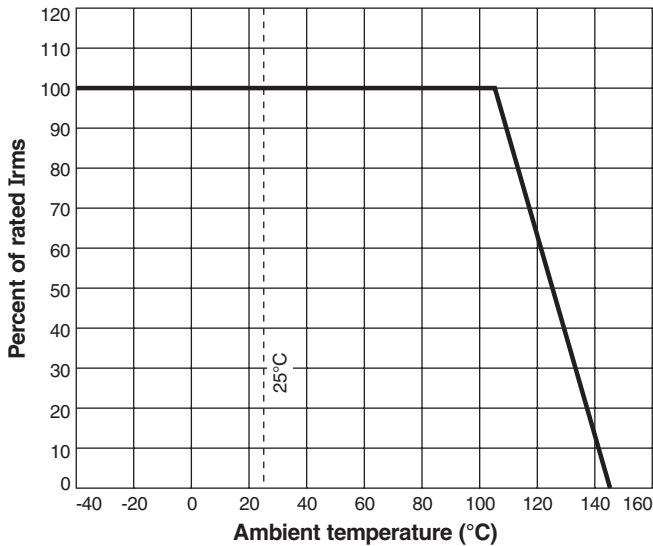
## Typical L vs Frequency



## Typical L vs Current



## Irms Derating



A	B	C	D	E	F	G	H	I	J
max	max	max	ref	ref	ref				
0,231	0,196	0,150	0,107	0,100	0,178	0,025	0,120	0,045	0,118
5,87	4,98	3,81	2,72	2,54	4,52	0,64	3,05	1,14	3,00
									inches
									mm



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