



# Filter Inductors – 1812FS Series



- Magnetically shielded chip inductors
- Provides high performance in transmit and receive filters
- 29 inductance values from 1.0 – 1000  $\mu$ H

**Core material** Ceramic/Ferrite

**Terminations** RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 0.33 – 0.36 g

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  with  $I_{\text{rms}}$  current,  $+85^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  with derated current

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .  
Packaging:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

**Resistance to soldering heat** Max three 40 second reflows at  $+260^{\circ}\text{C}$ , parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)**  $+200$  to  $+700$  ppm/ $^{\circ}\text{C}$

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at  $<30^{\circ}\text{C}$  / 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** 600/7" reel; 2200/13" reel. Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 3.9 mm pocket depth

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

Part number <sup>1</sup>	L <sup>2</sup> ( $\mu$ H)	% <sup>3</sup> tol	Q <sup>4</sup> min	DCR <sup>5</sup> max (Ohms)	SRF <sup>6</sup> typ (MHz)	Isat <sup>7</sup> (mA)	Irms <sup>8</sup> (mA)
1812FS-102_L_	1.0	<b>10,5</b>	30	0.070	320	3100	2950
1812FS-122_L_	1.2	<b>10,5</b>	35	0.110	280	2800	2600
1812FS-152_L_	1.5	<b>10,5</b>	20	0.105	200	2100	2850
1812FS-222_L_	2.2	<b>10,5</b>	30	0.120	175	1800	2700
1812FS-242_L_	2.4	<b>10,5</b>	25	0.175	160	1900	2050
1812FS-272_L_	2.7	<b>10,5</b>	30	0.200	165	1400	2100
1812FS-332_L_	3.3	<b>10,5</b>	33	0.185	160	1400	1900
1812FS-392_L_	3.9	<b>10,5</b>	32	0.195	145	1300	1700
1812FS-472_L_	4.7	<b>10,5</b>	28	0.15	125	1000	1800
1812FS-562_L_	5.6	<b>10,5</b>	35	0.40	110	1000	1650
1812FS-682_L_	6.8	<b>10,5</b>	35	0.35	110	850	1450
1812FS-103_L_	10	<b>10,5</b>	35	0.55	90	710	1400
1812FS-153_L_	15	<b>10,5</b>	40	0.75	75	680	1150
1812FS-223_L_	22	<b>10,5</b>	45	0.85	15	600	855
1812FS-333_L_	33	<b>10,5</b>	45	1.1	10	540	820
1812FS-393_L_	39	<b>10,5</b>	45	1.1	9.8	500	710
1812FS-473_L_	47	<b>10,5</b>	45	1.2	8.0	390	645
1812FS-683_L_	68	<b>10,5</b>	45	1.8	22.0	260	650
1812FS-104_L_	100	<b>10,5</b>	45	2.5	4.5	260	520
1812FS-154_L_	150	<b>10,5</b>	40	3.8	3.4	220	475
1812FS-224_L_	220	<b>10,5</b>	45	5.4	3.0	180	390
1812FS-274_L_	270	<b>10,5</b>	35	6.5	2.0	150	350
1812FS-334_L_	330	<b>10,5</b>	45	6.8	3.0	150	310
1812FS-394_L_	390	<b>10,5</b>	35	7.6	2.6	140	310
1812FS-474_L_	470	<b>10,5</b>	35	8.7	2.1	130	280
1812FS-564_L_	560	<b>10,5</b>	20	11.2	1.60	110	280
1812FS-684_L_	680	<b>10,5</b>	25	12.7	1.90	100	250
1812FS-824_L_	820	<b>10,5</b>	25	16.8	1.45	90	210
1812FS-105_L_	1000	<b>10,5</b>	30	19.5	1.68	90	160

1. When ordering, specify **tolerance, termination and packaging** codes:

1812FS-105 J L C

**Tolerance:** J = 5% K = 10%

(Table shows stock tolerances in bold.)

**Termination:** L = Silver-palladium-platinum-glass frit terminations  
Special order: T = RoHS tin-silver-copper (95.5/4/0.5)  
or S = non-RoHS tin-lead (63/37).

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

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

D = 13" machine-ready reel. EIA-481 embossed plastic tape (2200 parts per full reel).

- Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc using a Coilcraft SMD-A fixture in an Agilent/HP 4263B impedance analyzer.
  - Tolerances in bold are stocked for immediate shipment.
  - Q measured at 1 MHz on an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
  - DCR measured on a 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  $40^{\circ}\text{C}$  temperature rise from  $25^{\circ}\text{C}$  ambient.
  - Electrical specifications at  $25^{\circ}\text{C}$ .
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Coilcraft**<sup>®</sup>

Specifications subject to change without notice.  
Please check our website for latest information.

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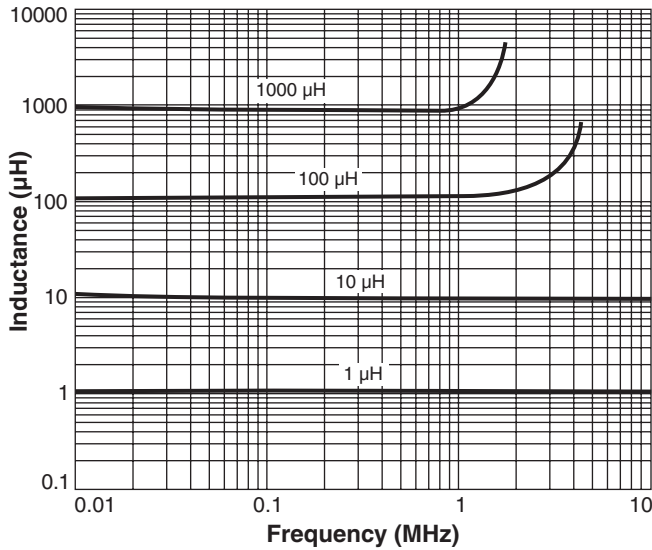
1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail [info@coilcraft.com](mailto:info@coilcraft.com) Web <http://www.coilcraft.com>

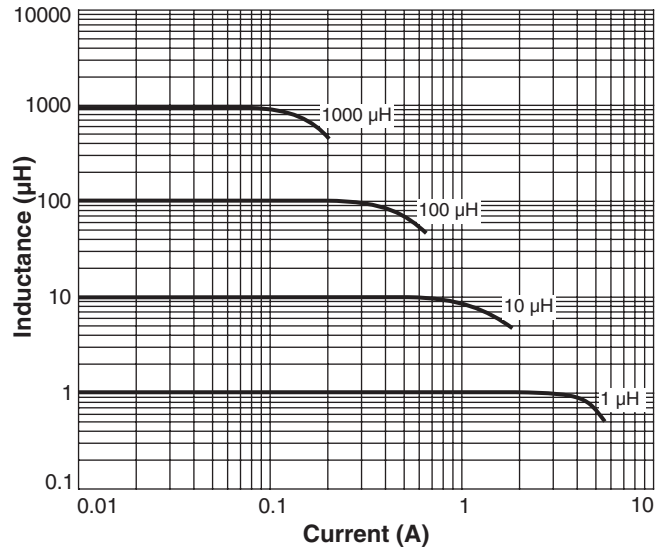


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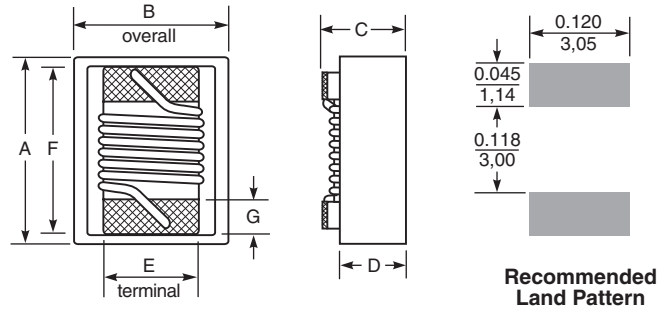
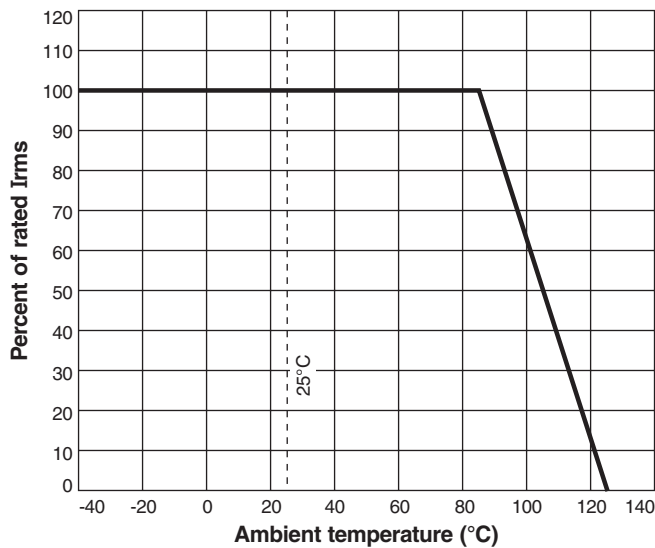
## Typical L vs Frequency



## Typical L vs Current



## Irms Derating



A max	B max	C max	D ref	E ref	F ref	G
0.231	0.196	0.150	0.107	0.100	0.178	0.025 inches
5,87	4,98	3,81	2,72	2,54	4,52	0,64 mm



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1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail info@coilcraft.com Web http://www.coilcraft.com