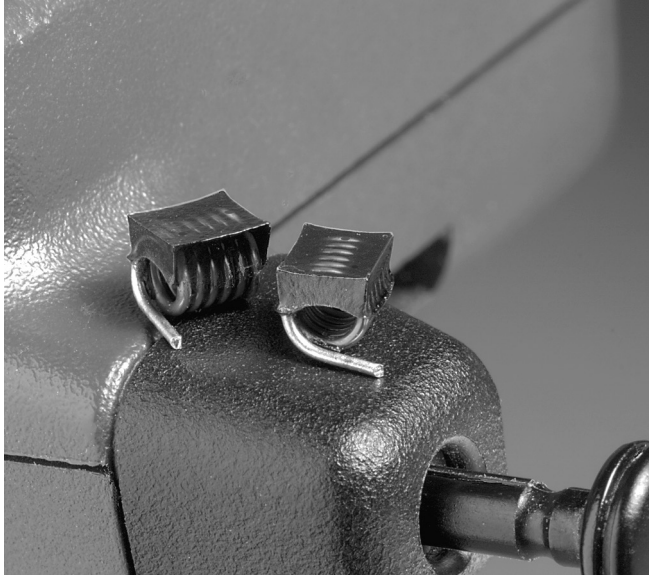




Midi Spring[®] Air Core Inductors



- Air core inductors feature high Q and current handling
- Acrylic top provides a flat surface for pick and place
- Solder coated leads ensure reliable soldering

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

Weight 0.10–0.16 g

Ambient temperature –40°C to +125°C with Irms current

Maximum part temperature +140°C (ambient + temp rise)

Storage temperature Component: –40°C to +140°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

Temperature Coefficient of Inductance (TCL) +5 to +70 ppm/°C

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

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

0.22 per billion hours / 4.545E+09 hours, calculated per Telcordia SR-332

Packaging 500/7" reel; 2000/13" reel Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 4.33 mm pocket depth
Recommended pick and place nozzle: OD: 0.110"; ID: 0.091"

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

Part number ¹	Inductance ² (nH)	Percent tolerance ³	Q ⁴		Test freq. (MHz)	SRF min ⁵ (GHz)	DCR max ⁶ (mOhm)	Irms ⁷ (A)
			typ	min				
1812SMS-22N_L_	22	5,2	135	100	150	3.2	4.2	3.0
1812SMS-27N_L_	27	5,2	135	100	150	2.7	4.0	3.5
1812SMS-33N_L_	33	5,2	130	100	150	2.5	4.8	3.0
1812SMS-39N_L_	39	5,2	135	100	150	2.1	4.4	3.0
1812SMS-47N_L_	47	5,2	135	100	150	2.1	5.6	3.0
1812SMS-56N_L_	56	5,2	125	100	150	1.5	6.2	3.0
1812SMS-68N_L_	68	5,2	120	100	150	1.5	8.2	2.5
1812SMS-82N_L_	82	5,2	120	100	150	1.3	9.4	2.5
1812SMS-R10_L_	100	5,2	115	100	150	1.2	12.3	1.7
1812SMS-R12_L_	120	5,2	125	100	150	1.1	17.3	1.5
1812SMS-R15_L_	150	5,2	145	100	150	0.75	33.0	1.2

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

1812SMS-R12GLC

Tolerance: G = 2% J = 5%

Termination: L = RoHS compliant tin-silver (96.5/3.5) over copper.
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, 500 parts per full reel. Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked, 2000 parts per full reel.

2. Inductance tested at 150 MHz on an Agilent/HP 4286A LCR meter or equivalent with a Coilcraft SMD-A test fixture and correlation.

3. Tolerances in bold are stocked for immediate shipment.

4. Q tested at 150 MHz on an Agilent/HP 4291A Impedance Analyzer with an Agilent/HP 16193 test fixture or equivalents.

5. SRF tested on the Agilent/HP 8753D Network Analyzer or equivalent and a Coilcraft CCF1248 test fixture.

6. DCR tested on the Cambridge Technology Model 510 Micro-ohmmeter or equivalent.

7. Current that causes a 15°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

8. Electrical specifications at 25°C.

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

For part marking data see www.coilcraft.com/colrcode.cfm.



www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com

UK +44-1236-730595 sales@coilcraft-europe.com

Taiwan +886-2-2264 3646 sales@coilcraft.com.tw

China +86-21-6218 8074 sales@coilcraft.com.cn

Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 184-1 Revised 05/17/21

© Coilcraft Inc. 2021

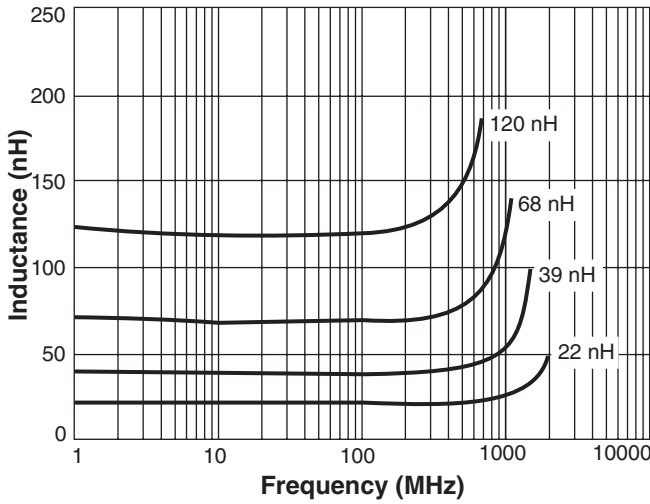
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

Designer's Kit C318 contains 12 each of all 5% values.
 Designer's Kit C318-2 contains 12 each of all 2% values.

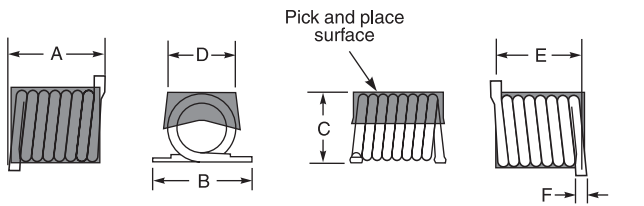
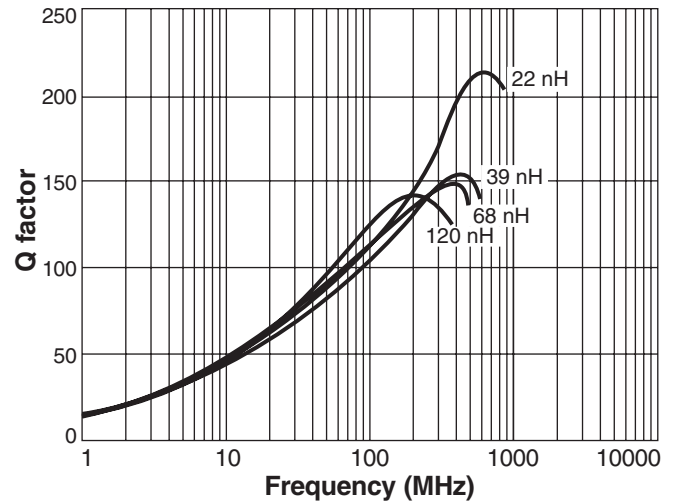


Midi Spring® Air Core Inductors

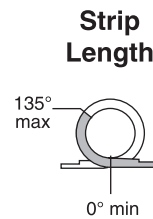
Typical L vs Frequency



Typical Q vs Frequency

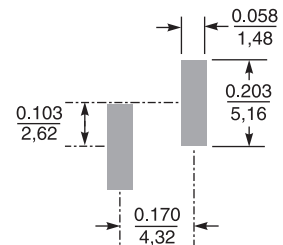


A max	B max	C max	D	E	F max
0.195	0.250	0.165	0.140 ±0.010	0.170 ±0.015	0.030
4,95	6,35	4,20	3,56 ±0,25	4,32 ±0,38	0,76



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

Recommended Land Pattern



S-Parameter files
ON OUR WEB SITE

SPICE models
ON OUR WEB SITE



US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 184-2 Revised 05/17/21

© Coilcraft Inc. 2021

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.