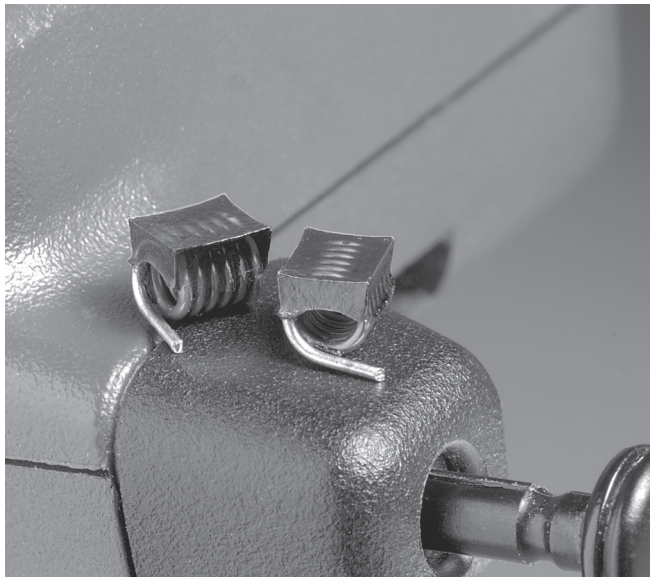




Midi Spring[®] Air Core Inductors



- 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

Weight 0.10–0.16 g

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

Ambient temperature –40°C to +125°C with Irms current, +125°C to +140°C with derated current

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

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)
One per billion hours / one billion 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, 4.2 mm pocket depth

PCB washing Only pure water or alcohol recommended

| 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.

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, 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.

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

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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

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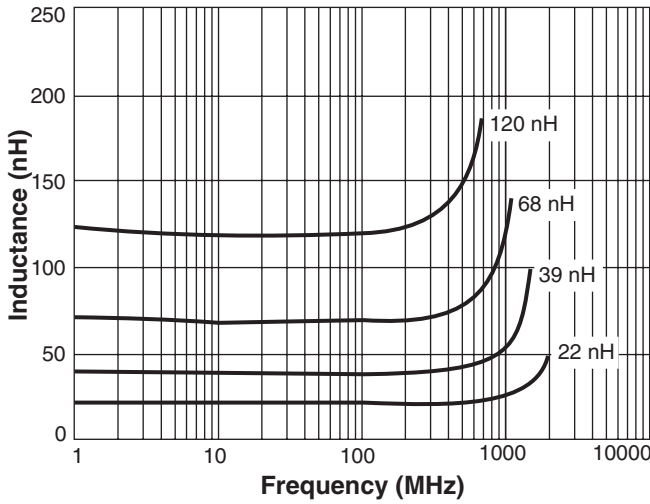
This product may not be used in medical of high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check out web site for latest information.



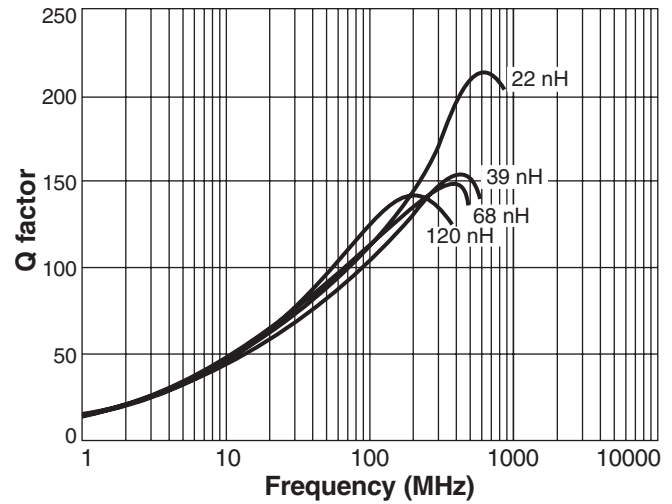
Midi Spring® Air Core Inductors

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

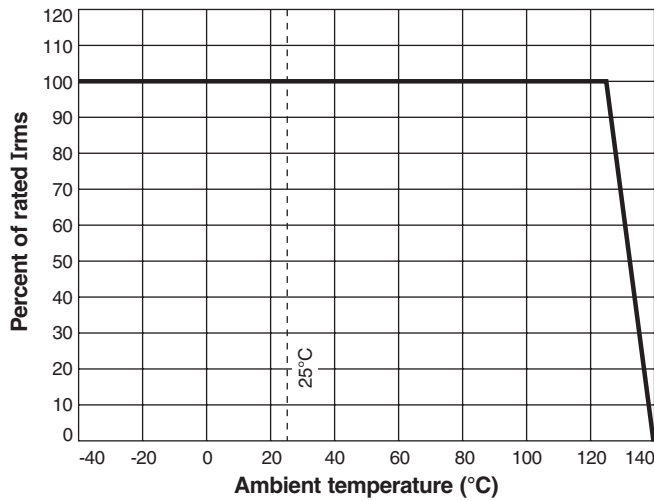
Typical L vs Frequency



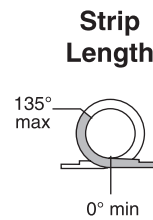
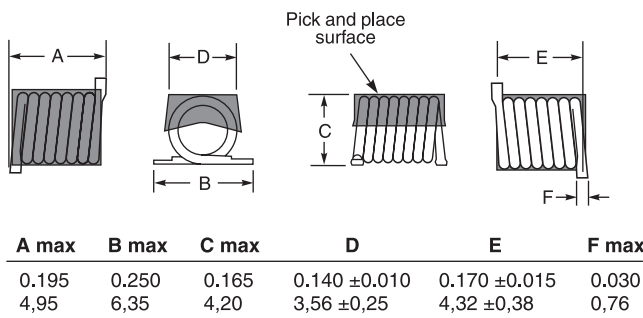
Typical Q vs Frequency



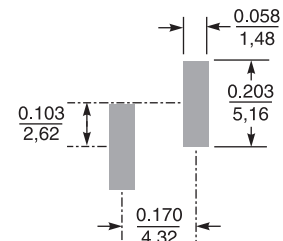
Irms Derating



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



Recommended Land Pattern



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



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