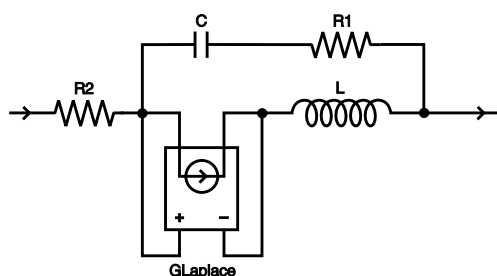


# Modeling Coilcraft RF Inductors

This data allows you to create a model that adequately simulates the behavior of Coilcraft RF inductors from 1 MHz to 1.8 GHz.

## PSPICE Equivalent of Circuit

An equivalent PSPICE model of a practical inductor is illustrated in schematic form below.



The component values R1, R2, C, and L can be taken from the accompanying tables.

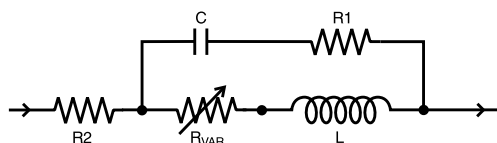
- GLaplace is a model for the ac inductor resistance. The GLaplace statement defines a frequency dependent current which simulates the frequency dependent resistance. GLaplace consists of the two equations:

$$\text{EXPR} = V(\% \text{ IN+}, \% \text{ IN-}) * H$$

$$\text{XFORM} = \frac{1}{\sqrt{1+S/2\pi}}$$

## Using Other Simulation Software

- If your particular modeling program does not support use of the Laplace transform, you may substitute a variable resistor that has a value of  $k * \sqrt{f}$ .



- $R_{VAR} = k * \sqrt{f}$  (k can be taken from the accompanying tables).
- k and H are constants which relate to the skin effect and other inductor losses.
- All required values can be taken from the accompanying tables.

## 0402CS Series

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H      |
|-------------|----|-------|-------|-------|----------|--------|
| 0402CS-1N0  | 2  | 0.001 | 0.2   | 1.3   | 6.00E-06 | 104000 |
| 0402CS-2N0  | 2  | 0.001 | 0.1   | 2.2   | 9.80E-06 | 68000  |
| 0402CS-2N2  | 1  | 0.01  | 0.2   | 2.2   | 8.00E-06 | 86500  |
| 0402CS-3N3  | 2  | 0.001 | 0.09  | 3.4   | 1.20E-05 | 54000  |
| 0402CS-3N6  | 2  | 0.001 | 0.1   | 3.6   | 1.30E-05 | 50000  |
| 0402CS-3N9  | 2  | 0.001 | 0.05  | 3.9   | 1.30E-05 | 51000  |
| 0402CS-5N1  | 2  | 0.001 | 0.05  | 5.1   | 1.70E-05 | 39500  |
| 0402CS-5N6  | 2  | 0.001 | 0.05  | 5.6   | 1.75E-05 | 38000  |
| 0402CS-6N2  | 2  | 0.001 | 0.05  | 6.3   | 2.20E-05 | 30500  |
| 0402CS-7N5  | 2  | 0.001 | 0.05  | 7.5   | 2.60E-05 | 26000  |
| 0402CS-8N2  | 2  | 0.001 | 0.12  | 8.4   | 2.70E-05 | 23500  |
| 0402CS-9N0  | 2  | 0.001 | 0.08  | 8.9   | 2.80E-05 | 23300  |
| 0402CS-10N  | 2  | 0.001 | 0.08  | 10.1  | 3.10E-05 | 21500  |
| 0402CS-11N  | 2  | 0.001 | 0.09  | 10.8  | 3.50E-05 | 18600  |
| 0402CS-12N  | 2  | 0.001 | 0.09  | 12    | 3.90E-05 | 16700  |
| 0402CS-15N  | 2  | 0.001 | 0.1   | 15    | 5.10E-05 | 12900  |
| 0402CS-19N  | 2  | 0.001 | 0.1   | 18    | 6.00E-05 | 11000  |
| 0402CS-23N  | 3  | 0.001 | 0.11  | 22    | 7.00E-05 | 9000   |
| 0402CS-27N  | 4  | 0.001 | 0.1   | 26    | 8.00E-05 | 7700   |
| 0402CS-36N  | 5  | 0.001 | 0.1   | 36    | 1.20E-04 | 5200   |
| 0402CS-40N  | 7  | 0.001 | 0.11  | 40    | 1.30E-04 | 4600   |

## 0603CS Series

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H      |
|-------------|----|-------|-------|-------|----------|--------|
| 0603CS-1N6  | 1  | 0.001 | 0.05  | 1.6   | 6.00E-06 | 116000 |
| 0603CS-1N8  | 1  | 0.01  | 0.01  | 1.65  | 6.10E-06 | 115000 |
| 0603CS-3N6  | 1  | 0.001 | 0.05  | 3.6   | 1.30E-05 | 53500  |
| 0603CS-3N9  | 1  | 0.01  | 0.08  | 3.5   | 1.15E-05 | 61000  |
| 0603CS-4N3  | 1  | 0.001 | 0.05  | 4.2   | 1.38E-05 | 50500  |
| 0603CS-4N7  | 1  | 0.001 | 0.05  | 4.6   | 1.75E-05 | 39800  |
| 0603CS-5N1  | 1  | 0.001 | 0.05  | 5.2   | 2.00E-05 | 34800  |
| 0603CS-6N8  | 1  | 0.04  | 0.08  | 6.6   | 1.77E-05 | 39800  |
| 0603CS-7N5  | 1  | 0.001 | 0.08  | 7.6   | 2.05E-05 | 34100  |
| 0603CS-8N7  | 1  | 0.001 | 0.15  | 8.4   | 2.40E-05 | 29400  |
| 0603CS-9N5  | 1  | 0.001 | 0.02  | 9.8   | 3.15E-05 | 22000  |
| 0603CS-10N  | 1  | 0.025 | 0.075 | 9.7   | 2.60E-05 | 27000  |
| 0603CS-11N  | 7  | 0.001 | 0.04  | 11.1  | 2.70E-05 | 20200  |
| 0603CS-12N  | 1  | 0.03  | 0.013 | 10.6  | 2.40E-05 | 23500  |
| 0603CS-15N  | 2  | 0.035 | 0.09  | 14    | 3.20E-05 | 21800  |
| 0603CS-16N  | 6  | 0.05  | 0.08  | 16.5  | 3.20E-05 | 15800  |
| 0603CS-18N  | 2  | 0.01  | 0.135 | 17    | 3.80E-05 | 18500  |
| 0603CS-22N  | 5  | 0.01  | 0.011 | 20    | 4.30E-05 | 15900  |
| 0603CS-24N  | 6  | 0.08  | 0.1   | 24    | 4.10E-05 | 12500  |
| 0603CS-27N  | 1  | 0.25  | 0.085 | 26    | 5.65E-05 | 12000  |
| 0603CS-30N  | 4  | 0.08  | 0.12  | 30    | 5.00E-05 | 11200  |
| 0603CS-33N  | 19 | 0.01  | 0.09  | 32    | 6.90E-05 | 10200  |
| 0603CS-36N  | 4  | 0.08  | 0.12  | 35.5  | 6.50E-05 | 9000   |
| 0603CS-39N  | 20 | 0.01  | 0.08  | 39    | 9.00E-05 | 7800   |

(continued)

# Modeling Coilcraft RF Inductors

|            |    |      |       |      |          |      |
|------------|----|------|-------|------|----------|------|
| 0603CS-43N | 6  | 0.08 | 0.1   | 42   | 7.50E-05 | 7500 |
| 0603CS-47N | 15 | 0.01 | 0.09  | 45   | 1.00E-04 | 7000 |
| 0603CS-56N | 20 | 0.01 | 0.086 | 54   | 1.18E-04 | 6000 |
| 0603CS-68N | 15 | 0.01 | 0.078 | 67   | 1.45E-04 | 4800 |
| 0603CS-72N | 28 | 0.01 | 0.06  | 71   | 1.60E-04 | 4400 |
| 0603CS-82N | 25 | 0.01 | 0.063 | 80.5 | 1.65E-04 | 4300 |
| 0603CS-R10 | 70 | 0.01 | 0.079 | 95   | 2.00E-04 | 3500 |
| 0603CS-R11 | 80 | 0.01 | 0.07  | 112  | 2.30E-04 | 3000 |
| 0603CS-R12 | 85 | 0.01 | 0.074 | 120  | 2.40E-04 | 2900 |
| 0603CS-R15 | 25 | 0.4  | 0.1   | 180  | 0.00027  | 1800 |
| 0603CS-R18 | 25 | 0.6  | 0.097 | 220  | 0.00033  | 1650 |
| 0603CS-R22 | 45 | 0.6  | 0.09  | 280  | 0.00039  | 1150 |
| 0603CS-R27 | 45 | 0.8  | 0.09  | 330  | 0.00039  | 1100 |

## 0805CS and HS Series

| Part number | R1  | R2    | C(pF)  | L(nH) | k        | H     |
|-------------|-----|-------|--------|-------|----------|-------|
| 0805CS-030  | 3   | 0.075 | 0.14   | 3.1   | 7.40E-06 | 95000 |
| 0805CS-060  | 4   | 0.081 | 0.1    | 6.4   | 1.62E-05 | 44500 |
| 0805CS-080  | 0.5 | 0.018 | 0.1471 | 8.2   | 1.80E-05 | 39000 |
| 0805CS-120  | 0.5 | 0.25  | 0.12   | 12    | 2.70E-05 | 25000 |
| 0805CS-150  | 9   | 0.13  | 0.13   | 14.2  | 3.80E-05 | 24000 |
| 0805CS-180  | 5   | 0.01  | 0.1    | 18    | 3.50E-05 | 19500 |
| 0805CS-220  | 10  | 0.05  | 0.13   | 22    | 4.40E-05 | 16000 |
| 0805CS-270  | 20  | 0.25  | 0.17   | 27    | 4.30E-05 | 13700 |
| 0805CS-330  | 10  | 0.18  | 0.123  | 31    | 4.70E-05 | 15200 |
| 0805CS-390  | 15  | 0.1   | 0.105  | 37    | 5.50E-05 | 12700 |
| 0805CS-470  | 30  | 0.01  | 0.13   | 47    | 9.60E-05 | 7300  |
| 0805CS-560  | 30  | 0.01  | 0.115  | 55.5  | 1.06E-04 | 7100  |
| 0805CS-680  | 25  | 0.01  | 0.105  | 68    | 1.09E-04 | 6400  |
| 0805CS-820  | 15  | 0.01  | 0.12   | 82    | 1.20E-04 | 5800  |
| 0805CS-101  | 25  | 0.001 | 0.1    | 96    | 1.40E-04 | 5000  |
| 0805CS-121  | 45  | 0.09  | 0.11   | 120   | 1.60E-04 | 4100  |
| 0805CS-151  | 35  | 0.01  | 0.118  | 145   | 2.50E-04 | 3100  |
| 0805CS-181  | 30  | 0.01  | 0.11   | 180   | 2.50E-04 | 2800  |
| 0805CS-221  | 40  | 0.1   | 0.084  | 215   | 2.90E-04 | 2400  |
| 0805CS-271  | 60  | 0.01  | 0.005  | 250   | 1.50E-03 | 470   |
| 0805CS-331  | 60  | 0.01  | 0.0021 | 315   | 2.00E-03 | 339   |
| 0805CS-391  | 60  | 0.01  | 0.002  | 375   | 2.30E-03 | 280   |

## 0805HQ Series

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H      |
|-------------|----|-------|-------|-------|----------|--------|
| 0805HQ-2N5  | 5  | 0.001 | 0.019 | 2.7   | 4.90E-06 | 127000 |
| 0805HQ-5N6  | 5  | 0.001 | 0.001 | 5.9   | 1.30E-05 | 54000  |
| 0805HQ-6N2  | 5  | 0.001 | 0.045 | 6.5   | 1.02E-05 | 51500  |
| 0805HQ-12N  | 6  | 0.001 | 0.08  | 12.8  | 1.70E-05 | 26800  |
| 0805HQ-16N  | 6  | 0.07  | 0.075 | 16.8  | 2.00E-05 | 22500  |
| 0805HQ-18N  | 7  | 0.03  | 0.1   | 19    | 2.00E-05 | 21500  |
| 0805HQ-20N  | 7  | 0.04  | 0.16  | 21    | 2.00E-05 | 20500  |
| 0805HQ-27N  | 6  | 0.09  | 0.14  | 27    | 2.25E-05 | 19000  |
| 0805HQ30N   | 6  | 0.1   | 0.16  | 30    | 4.00E-05 | 12500  |
| 0805HQ-39N  | 9  | 0.06  | 0.15  | 41    | 3.80E-05 | 11500  |
| 0805HQ-48N  | 9  | 0.06  | 0.177 | 48    | 4.60E-05 | 9600   |
| 0805HQ-51N  | 9  | 0.06  | 0.175 | 49    | 5.00E-05 | 9000   |

## 0805HT Series

| Part number | R1   | R2    | C(pF) | L(nH) | k        | H     |
|-------------|------|-------|-------|-------|----------|-------|
| 0805HT-1N8  | 0.01 | 0.01  | 0.1   | 2     | 9.10E-06 | 76400 |
| 0805HT-3N9  | 1    | 0.001 | 0.2   | 3.8   | 1.05E-05 | 67000 |
| 0805HT-4N7  | 0.5  | 0.03  | 0.1   | 4.75  | 1.55E-05 | 44800 |
| 0805HT-6N8  | 2    | 0.07  | 0.03  | 7.2   | 2.60E-05 | 27000 |
| 0805HT-8N2  | 1    | 0.02  | 0.07  | 8.1   | 2.30E-05 | 30200 |
| 0805HT-10N  | 45   | 0.001 | 0.1   | 9.8   | 1.90E-05 | 37000 |
| 0805HT-12N  | 30   | 0.001 | 0.1   | 11    | 2.50E-05 | 28000 |
| 0805HT-15N  | 33   | 0.001 | 0.11  | 14.8  | 2.80E-05 | 25000 |
| 0805HT-18N  | 40   | 0.001 | 0.1   | 17    | 3.30E-05 | 21300 |
| 0805HT-22N  | 12   | 0.005 | 0.065 | 21.5  | 5.30E-05 | 13300 |
| 0805HT-27N  | 8    | 0.01  | 0.125 | 26    | 6.00E-05 | 11700 |
| 0805HT-33N  | 9    | 0.01  | 0.088 | 33    | 6.70E-05 | 10500 |
| 0805HT-39N  | 10   | 0.01  | 0.078 | 37.5  | 8.00E-05 | 8800  |
| 0805HT-47N  | 12   | 0.001 | 0.082 | 45    | 9.80E-05 | 7200  |
| 0805HT-56N  | 25   | 0.01  | 0.065 | 55.5  | 1.17E-04 | 5900  |
| 0805HT-68N  | 20   | 0.01  | 0.086 | 66    | 1.40E-04 | 5000  |
| 0805HT-82N  | 22   | 0.01  | 0.075 | 80    | 1.60E-05 | 4400  |
| 0805HT-R10  | 90   | 0.01  | 0.078 | 100   | 1.80E-04 | 3900  |
| 0805HT-R12  | 85   | 0.01  | 0.082 | 120   | 2.00E-04 | 3500  |
| 0805HT-R15  | 75   | 0.01  | 0.085 | 150   | 2.65E-04 | 2650  |

## 1008HT Series

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H     |
|-------------|----|-------|-------|-------|----------|-------|
| 1008HT-3N3  | 15 | 0.001 | 0.2   | 3     | 1.00E-05 | 70000 |
| 1008HT-6N8  | 30 | 0.01  | 0.08  | 6.6   | 2.00E-05 | 35000 |
| 1008HT-7N2  | 30 | 0.1   | 0.08  | 7.2   | 2.00E-05 | 34500 |
| 1008HT-12N  | 36 | 0.07  | 0.11  | 11.5  | 2.00E-05 | 35100 |
| 1008HT-15N  | 40 | 0.01  | 0.1   | 15    | 2.80E-05 | 24300 |
| 1008HT-18N  | 44 | 0.01  | 0.1   | 17.3  | 3.30E-05 | 21400 |
| 1008HT-22N  | 51 | 0.001 | 0.105 | 22    | 3.65E-05 | 19200 |
| 1008HT-27N  | 52 | 0.001 | 0.093 | 27    | 4.60E-05 | 15300 |
| 1008HT-33N  | 30 | 0.001 | 0.14  | 34    | 5.60E-05 | 12600 |
| 1008HT-39N  | 30 | 0.001 | 0.13  | 39    | 5.90E-05 | 12100 |
| 1008HT-47N  | 25 | 0.001 | 0.175 | 47    | 8.20E-05 | 8900  |
| 1008HT-56N  | 35 | 0.001 | 0.135 | 56    | 8.60E-05 | 8100  |
| 1008HT-68N  | 35 | 0.001 | 0.126 | 67.5  | 1.00E-04 | 7000  |
| 1008HT-82N  | 35 | 0.001 | 0.115 | 82    | 1.25E-04 | 5700  |
| 1008HT-R10  | 38 | 0.001 | 0.123 | 100   | 1.60E-04 | 4500  |
| 1008HT-R12  | 45 | 0.001 | 0.114 | 120   | 1.75E-04 | 4000  |
| 1008HT-R14  | 45 | 0.001 | 0.12  | 140   | 2.10E-04 | 3400  |
| 1008HT-R15  | 45 | 0.001 | 0.125 | 150   | 2.25E-04 | 3000  |
| 1008HT-R18  | 50 | 0.001 | 0.106 | 180   | 2.80E-04 | 2500  |
| 1008HT-R22  | 50 | 0.001 | 0.122 | 220   | 3.20E-04 | 2200  |
| 1008HT-R24  | 40 | 0.001 | 0.123 | 240   | 3.55E-04 | 1960  |
| 1008HT-R27  | 30 | 0.001 | 0.123 | 270   | 4.10E-04 | 1700  |
| 1008HT-R33  | 42 | 0.001 | 0.125 | 330   | 5.00E-04 | 1400  |
| 1008HT-R39  | 50 | 0.001 | 0.135 | 390   | 5.70E-04 | 1240  |
| 1008HT-R47  | 52 | 0.001 | 0.136 | 470   | 7.10E-04 | 980   |
| 1008HT-R56  | 38 | 0.001 | 0.123 | 560   | 8.50E-04 | 820   |



Specifications subject to change without notice. Document 158-2 Revised 4/13/99

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# Modeling Coilcraft RF Inductors

## 1008CS and HS Series

| Part number | R1  | R2    | C(pF)  | L(nH) | k        | H     |
|-------------|-----|-------|--------|-------|----------|-------|
| 1008CS-040  | 1   | 0.05  | 0.03   | 3.7   | 1.58E-05 | 44000 |
| 1008CS-080  | 8   | 0.06  | 0.12   | 7.7   | 2.40E-05 | 28700 |
| 1008CS-100  | 6   | 0.05  | 0.13   | 9.6   | 2.00E-05 | 34800 |
| 1008CS-120  | 13  | 0.01  | 0.15   | 12    | 2.05E-05 | 34000 |
| 1008CS-150  | 8   | 0.01  | 0.22   | 13    | 2.70E-05 | 26000 |
| 1008CS-180  | 35  | 0.01  | 0.97   | 18    | 3.70E-05 | 19000 |
| 1008CS-220  | 22  | 0.04  | 0.15   | 21    | 3.30E-05 | 21000 |
| 1008CS-270  | 20  | 0.01  | 0.25   | 26.5  | 3.90E-05 | 18500 |
| 1008CS-330  | 21  | 0.01  | 0.145  | 32    | 5.00E-05 | 14000 |
| 1008CS-390  | 25  | 0.01  | 0.185  | 39    | 5.60E-05 | 12400 |
| 1008CS-470  | 21  | 0.01  | 0.145  | 46    | 7.00E-05 | 10200 |
| 1008CS-560  | 20  | 0.01  | 0.209  | 54    | 7.50E-05 | 9300  |
| 1008CS-680  | 16  | 0.01  | 0.159  | 66.5  | 7.20E-05 | 9500  |
| 1008CS-820  | 20  | 0.01  | 0.23   | 81    | 1.10E-04 | 6300  |
| 1008CS-101  | 15  | 0.01  | 0.17   | 95    | 1.35E-04 | 5200  |
| 1008CS-121  | 27  | 0.01  | 0.16   | 115   | 1.60E-04 | 4400  |
| 1008CS-151  | 25  | 0.01  | 0.17   | 147   | 1.85E-04 | 3800  |
| 1008CS-181  | 20  | 1     | 0.165  | 175   | 2.50E-04 | 2700  |
| 1008CS-221  | 40  | 0.001 | 0.16   | 220   | 2.70E-03 | 2600  |
| 1008CS-271  | 40  | 0.01  | 0.135  | 260   | 3.30E-04 | 2100  |
| 1008CS-331  | 25  | 0.01  | 0.158  | 330   | 3.80E-04 | 1850  |
| 1008CS-391  | 45  | 0.01  | 0.1815 | 375   | 4.10E-04 | 1700  |
| 1008CS-471  | 50  | 0.01  | 0.175  | 470   | 5.30E-04 | 1300  |
| 1008CS-561  | 50  | 0.01  | 0.2    | 560   | 6.90E-04 | 1000  |
| 1008CS-621  | 80  | 0.01  | 0.167  | 620   | 7.00E-04 | 1000  |
| 1008CS-681  | 50  | 0.01  | 0.17   | 670   | 7.80E-04 | 900   |
| 1008CS-751  | 45  | 0.01  | 0.179  | 750   | 9.50E-04 | 740   |
| 1008CS-821  | 35  | 0.01  | 0.187  | 820   | 1.05E-03 | 680   |
| 1008CS-911  | 50  | 0.01  | 0.177  | 925   | 1.10E-03 | 640   |
| 1008CS-102  | 80  | 0.01  | 0.217  | 1000  | 1.20E-03 | 590   |
| 1008CS-122  | 85  | 0.01  | 0.216  | 1200  | 1.30E-03 | 520   |
| 1008CS-152  | 85  | 0.01  | 0.3    | 1500  | 1.70E-03 | 410   |
| 1008CS-182  | 90  | 0.01  | 0.29   | 1800  | 2.20E-03 | 320   |
| 1008CS-222  | 80  | 0.01  | 0.36   | 2200  | 2.75E-03 | 280   |
| 1008CS-272  | 95  | 0.01  | 0.285  | 2700  | 3.40E-03 | 220   |
| 1008CS-332  | 155 | 0.01  | 0.4    | 3300  | 4.40E-03 | 160   |
| 1008CS-392  | 150 | 0.01  | 0.465  | 3900  | 4.80E-03 | 150   |
| 1008CS-472  | 90  | 0.01  | 0.45   | 4700  | 5.90E-03 | 120   |

## 1008HQ Series

| Part number | R1  | R2    | C(pF) | L(nH) | k        | H     |
|-------------|-----|-------|-------|-------|----------|-------|
| 1008HQ-3N0  | 6   | 0.001 | 0.001 | 3.4   | 8.00E-06 | 88500 |
| 1008HQ-4N1  | 11  | 0.001 | 0.01  | 4.4   | 8.90E-06 | 80500 |
| 1008HQ-7N8  | 16  | 0.001 | 0.015 | 8.4   | 1.35E-05 | 36800 |
| 1008HQ-10N  | 16  | 0.001 | 0.015 | 10.8  | 1.45E-05 | 33000 |
| 1008HQ-12N  | 6   | 0.035 | 0.13  | 12.8  | 1.25E-05 | 32000 |
| 1008HQ-18N  | 6   | 0.035 | 0.09  | 18.6  | 1.95E-05 | 23000 |
| 1008HQ-22N  | 6   | 0.035 | 0.17  | 22.2  | 1.90E-05 | 22300 |
| 1008HQ-33N  | 5   | 0.035 | 0.17  | 33    | 2.80E-05 | 17000 |
| 1008HQ-39N  | 7.5 | 0.08  | 0.25  | 39    | 2.90E-05 | 14000 |
| 1008HQ-47N  | 7.5 | 0.08  | 0.18  | 47    | 3.50E-05 | 12200 |
| 1008HQ-56N  | 8   | 0.08  | 0.217 | 56    | 3.90E-05 | 10800 |
| 1008HQ-68N  | 9   | 0.1   | 0.185 | 68    | 5.10E-05 | 8600  |
| 1008HQ-82N  | 9   | 0.1   | 0.19  | 82    | 5.10E-05 | 8700  |
| 1008HQ-R10  | 13  | 0.1   | 0.259 | 100   | 7.10E-05 | 5800  |

## 1008LS Series

| Part number | R1  | R2    | C(pF) | L(nH) | k        | H    |
|-------------|-----|-------|-------|-------|----------|------|
| 1008LS-122  | 280 | 0.001 | 0.22  | 1180  | 1.15E-03 | 610  |
| 1008LS-152  | 280 | 0.001 | 0.27  | 1500  | 1.35E-03 | 510  |
| 1008LS-182  | 310 | 0.001 | 0.23  | 1800  | 1.50E-03 | 470  |
| 1008LS-222  | 300 | 0.001 | 0.23  | 2200  | 1.70E-03 | 420  |
| 1008LS-272  | 325 | 0.001 | 0.23  | 2700  | 2.10E-03 | 340  |
| 1008LS-332  | 325 | 0.001 | 0.31  | 3300  | 2.60E-03 | 270  |
| 1008LS-392  | 325 | 0.001 | 0.35  | 3900  | 3.20E-03 | 220  |
| 1008LS-472  | 325 | 0.001 | 0.36  | 4700  | 3.90E-03 | 180  |
| 1008LS-562  | 325 | 0.001 | 0.385 | 5600  | 4.40E-03 | 160  |
| 1008LS-682  | 325 | 0.001 | 0.393 | 6800  | 5.60E-03 | 125  |
| 1008LS-822  | 325 | 0.001 | 0.39  | 8200  | 6.30E-03 | 110  |
| 1008LS-103  | 325 | 0.001 | 0.35  | 10000 | 7.40E-03 | 95   |
| 1812LS-104  | 300 | 0.001 | 2.1   | 100   | 2.50E-02 | 29   |
| 1812LS-124  | 350 | 0.001 | 1.37  | 120   | 3.10E-02 | 23   |
| 1812LS-154  | 350 | 0.001 | 1.17  | 135   | 3.50E-02 | 20.5 |
| 1812LS-184  | 370 | 0.001 | 1.37  | 185   | 4.10E-02 | 18   |
| 1812LS-224  | 390 | 0.001 | 2.6   | 220   | 5.00E-02 | 15   |
| 1812LS-274  | 440 | 0.001 | 1.5   | 272   | 5.70E-02 | 12.3 |
| 1812LS-334  | 480 | 0.001 | 1.75  | 330   | 7.20E-02 | 9.9  |
| 1812LS-394  | 480 | 0.001 | 2.55  | 390   | 7.50E-02 | 9.2  |
| 1812LS-474  | 520 | 0.001 | 4.2   | 470   | 9.80E-02 | 7.7  |
| 1812LS-564  | 520 | 0.001 | 5.2   | 560   | 9.80E-02 | 7.2  |
| 1812LS-684  | 400 | 0.001 | 8.2   | 680   | 1.30E-01 | 6.3  |
| 1812LS-824  | 350 | 0.001 | 7.1   | 820   | 1.40E-01 | 5.6  |
| 1812LS-105  | 350 | 0.001 | 6.9   | 1000  | 1.50E-01 | 4.8  |



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# Modeling Coilcraft RF Inductors

## 1206CS Series

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H     |
|-------------|----|-------|-------|-------|----------|-------|
| 1206CS-030  | 20 | 0.15  | 0.2   | 3.3   | 1.25E-05 | 54000 |
| 1206CS-060  | 10 | 0.65  | 0.15  | 6.4   | 1.40E-05 | 41000 |
| 1206CS-100  | 10 | 0.5   | 0.17  | 10    | 1.45E-05 | 38000 |
| 1206CS-120  | 11 | 0.25  | 0.22  | 12    | 1.60E-05 | 40100 |
| 1206CS-150  | 12 | 0.2   | 0.17  | 15    | 2.30E-05 | 29000 |
| 1206CS-180  | 12 | 0.27  | 0.17  | 18    | 3.40E-05 | 19800 |
| 1206CS-220  | 18 | 0.6   | 0.16  | 22    | 4.00E-05 | 16000 |
| 1206CS-270  | 25 | 0.2   | 0.14  | 27    | 3.50E-05 | 19300 |
| 1206CS-330  | 25 | 0.1   | 0.17  | 33    | 5.00E-05 | 14000 |
| 1206CS-390  | 45 | 0.1   | 0.11  | 39    | 5.10E-05 | 13800 |
| 1206CS-470  | 45 | 0.1   | 0.14  | 47    | 6.00E-05 | 11600 |
| 1206CS-560  | 53 | 0.13  | 0.125 | 56    | 7.30E-05 | 9600  |
| 1206CS-680  | 50 | 0.17  | 0.147 | 68    | 9.00E-05 | 7700  |
| 1206CS-820  | 48 | 0.12  | 0.13  | 82    | 9.30E-05 | 7500  |
| 1206CS-101  | 52 | 0.1   | 0.12  | 100   | 1.15E-04 | 6100  |
| 1206CS-121  | 52 | 0.1   | 0.105 | 120   | 1.50E-04 | 4700  |
| 1206CS-151  | 55 | 0.1   | 0.124 | 150   | 1.90E-04 | 3700  |
| 1206CS-181  | 65 | 0.2   | 0.104 | 180   | 2.10E-04 | 3300  |
| 1206CS-221  | 60 | 0.1   | 0.12  | 228   | 2.70E-04 | 2600  |
| 1206CS-271  | 60 | 0.1   | 0.12  | 270   | 3.30E-04 | 2100  |
| 1206CS-331  | 50 | 0.01  | 0.12  | 330   | 4.15E-04 | 1700  |
| 1206CS-391  | 50 | 0.001 | 0.11  | 390   | 4.90E-04 | 1430  |
| 1206CS-471  | 50 | 0.001 | 0.11  | 470   | 6.00E-04 | 1170  |
| 1206CS-561  | 50 | 0.001 | 0.11  | 560   | 7.40E-04 | 950   |
| 1206CS-681  | 50 | 0.001 | 0.11  | 680   | 8.00E-04 | 870   |
| 1206CS-821  | 50 | 0.001 | 0.1   | 820   | 1.10E-03 | 640   |
| 1206CS-102  | 50 | 0.001 | 0.1   | 1000  | 1.20E-03 | 580   |
| 1206CS-122  | 50 | 0.001 | 0.1   | 1200  | 1.50E-03 | 460   |

## 1812CS Series

| Part number | R1  | R2    | C(pF) | L(nH) | k        | H   |
|-------------|-----|-------|-------|-------|----------|-----|
| 1812CS-122  | 90  | 0.001 | 0.24  | 1200  | 8.20E-04 | 860 |
| 1812CS-152  | 90  | 0.001 | 0.24  | 1460  | 1.05E-03 | 670 |
| 1812CS-182  | 80  | 0.001 | 0.24  | 1800  | 1.15E-03 | 610 |
| 1812CS-222  | 100 | 0.001 | 0.24  | 2250  | 1.50E-03 | 470 |
| 1812CS-272  | 105 | 0.001 | 0.24  | 2650  | 1.70E-03 | 410 |
| 1812CS-332  | 115 | 0.001 | 0.24  | 3100  | 1.70E-03 | 410 |
| 1812CS-392  | 120 | 0.001 | 0.23  | 3900  | 2.20E-03 | 320 |
| 1812CS-472  | 150 | 0.001 | 0.23  | 4700  | 2.50E-03 | 280 |
| 1812CS-562  | 150 | 0.001 | 0.25  | 5700  | 3.30E-03 | 210 |
| 1812CS-682  | 200 | 0.001 | 0.27  | 6800  | 4.00E-03 | 175 |
| 1812CS-822  | 220 | 0.001 | 0.29  | 8200  | 4.80E-03 | 146 |
| 1812CS-103  | 240 | 0.001 | 0.29  | 10000 | 5.80E-03 | 120 |
| 1812CS-123  | 200 | 0.001 | 0.29  | 12000 | 7.00E-03 | 100 |
| 1812CS-153  | 200 | 0.001 | 0.4   | 15000 | 9.50E-03 | 74  |
| 1812CS-183  | 200 | 0.001 | 0.45  | 18000 | 1.10E-02 | 64  |
| 1812CS-223  | 200 | 0.001 | 0.44  | 21500 | 1.30E-02 | 53  |
| 1812CS-273  | 200 | 0.001 | 1.9   | 27000 | 1.30E-02 | 54  |
| 1812CS-333  | 200 | 0.001 | 1.1   | 33000 | 1.50E-02 | 46  |

## 1812LS Series

| Part number | R1  | R2    | C(pF) | L(μH) | k        | H    |
|-------------|-----|-------|-------|-------|----------|------|
| 1812LS-123  | 200 | 0.001 | 0.35  | 12    | 7.00E-03 | 107  |
| 1812LS-153  | 200 | 0.001 | 0.37  | 15    | 9.00E-03 | 78   |
| 1812LS-183  | 200 | 0.001 | 0.44  | 18    | 1.00E-02 | 70   |
| 1812LS-223  | 250 | 0.001 | 0.41  | 22    | 1.20E-02 | 58   |
| 1812LS-273  | 300 | 0.001 | 0.53  | 27    | 1.20E-02 | 58   |
| 1812LS-333  | 200 | 0.001 | 0.53  | 34    | 1.50E-02 | 46   |
| 1812LS-393  | 200 | 0.001 | 0.79  | 39    | 1.60E-02 | 44   |
| 1812LS-473  | 200 | 0.001 | 0.91  | 48    | 1.60E-02 | 44   |
| 1812LS-563  | 300 | 0.001 | 1.7   | 56    | 1.70E-02 | 41   |
| 1812LS-683  | 300 | 0.001 | 1.8   | 68    | 2.30E-02 | 31   |
| 1812LS-823  | 300 | 0.001 | 2.1   | 82    | 2.30E-02 | 31   |
| 1812LS-104  | 300 | 0.001 | 2.1   | 100   | 2.50E-02 | 29   |
| 1812LS-124  | 350 | 0.001 | 1.37  | 120   | 3.10E-02 | 23   |
| 1812LS-154  | 350 | 0.001 | 1.17  | 135   | 3.50E-02 | 20.5 |
| 1812LS-184  | 370 | 0.001 | 1.37  | 185   | 4.10E-02 | 18   |
| 1812LS-224  | 390 | 0.001 | 2.6   | 220   | 5.00E-02 | 15   |
| 1812LS-274  | 440 | 0.001 | 1.5   | 272   | 5.70E-02 | 12.3 |
| 1812LS-334  | 480 | 0.001 | 1.75  | 330   | 7.20E-02 | 9.9  |
| 1812LS-394  | 480 | 0.001 | 2.55  | 390   | 7.50E-02 | 9.2  |
| 1812LS-474  | 520 | 0.001 | 4.2   | 470   | 9.80E-02 | 7.7  |
| 1812LS-564  | 520 | 0.001 | 5.2   | 560   | 9.80E-02 | 7.2  |
| 1812LS-684  | 400 | 0.001 | 8.2   | 680   | 1.30E-01 | 6.3  |
| 1812LS-824  | 350 | 0.001 | 7.1   | 820   | 1.40E-01 | 5.6  |
| 1812LS-105  | 350 | 0.001 | 6.9   | 1000  | 1.50E-01 | 4.8  |



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# Modeling Coilcraft RF Inductors

## Micro Springs

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H      |
|-------------|----|-------|-------|-------|----------|--------|
| 0906-2      | 14 | 0.003 | 0.22  | 1.65  | 1.00E-06 | 700000 |
| 0906-3      | 18 | 0.003 | 0.12  | 2.55  | 2.70E-06 | 260000 |
| 0906-4      | 22 | 0.003 | 0.1   | 3.8   | 4.50E-06 | 158000 |
| 0906-5      | 35 | 0.003 | 0.085 | 5.3   | 6.50E-06 | 109000 |
| 1606-6      | 45 | 0.001 | 0.06  | 5.35  | 7.20E-06 | 98000  |
| 1606-7      | 55 | 0.001 | 0.055 | 7     | 1.00E-05 | 71000  |
| 1606-8      | 68 | 0.001 | 0.042 | 8     | 1.17E-05 | 60500  |
| 1606-9      | 70 | 0.001 | 0.045 | 9.2   | 1.51E-05 | 46500  |
| 1606-10     | 70 | 0.001 | 0.056 | 11.7  | 1.78E-05 | 40000  |

## Mini Springs

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H      |
|-------------|----|-------|-------|-------|----------|--------|
| A01T        | 8  | 0.001 | 0.23  | 2.6   | 1.00E-06 | 704000 |
| A02T        | 8  | 0.001 | 0.17  | 4.5   | 2.00E-06 | 353000 |
| A03T        | 8  | 0.001 | 0.14  | 7.6   | 5.50E-06 | 128000 |
| A04T        | 8  | 0.001 | 0.15  | 11.4  | 9.50E-06 | 74000  |
| A05T        | 14 | 0.001 | 0.2   | 18.4  | 1.33E-05 | 53000  |
| B06T        | 14 | 0.001 | 0.15  | 16    | 1.28E-05 | 55000  |
| B07T        | 14 | 0.001 | 0.16  | 21    | 1.35E-05 | 52000  |
| B08T        | 23 | 0.001 | 0.14  | 28    | 1.70E-05 | 41500  |
| B09T        | 23 | 0.001 | 0.14  | 35.5  | 2.60E-05 | 27000  |
| B10T        | 12 | 0.001 | 0.235 | 43    | 2.70E-05 | 26000  |

## Midi Springs

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H     |
|-------------|----|-------|-------|-------|----------|-------|
| 1812SMS-22  | 12 | 0.001 | 0.2   | 22    | 1.33E-05 | 53000 |
| 1812SMS-27  | 18 | 0.001 | 0.185 | 26.5  | 1.70E-05 | 42000 |
| 1812SMS-33  | 25 | 0.001 | 0.155 | 33    | 2.20E-05 | 32000 |
| 1812SMS-39  | 24 | 0.001 | 0.217 | 39    | 2.50E-05 | 28000 |
| 1812SMS-47  | 24 | 0.001 | 0.184 | 47    | 2.20E-05 | 32000 |
| 1812SMS-56  | 15 | 0.001 | 0.29  | 56    | 3.50E-05 | 20300 |
| 1812SMS-68  | 15 | 0.001 | 0.22  | 68    | 3.60E-05 | 19600 |
| 1812SMS-82  | 15 | 0.001 | 0.34  | 82    | 5.00E-05 | 14100 |
| 1812SMS-R10 | 20 | 0.001 | 0.26  | 100   | 6.40E-05 | 11000 |
| 1812SMS-R12 | 16 | 0.001 | 0.205 | 1200  | 6.60E-05 | 10800 |

## Maxi Springs

| Part number | R1 | R2    | C(pF) | L(nH) | k        | H     |
|-------------|----|-------|-------|-------|----------|-------|
| 132-09SM    | 2  | 0.001 | 0.393 | 90    | 3.30E-05 | 21300 |
| 132-10SM    | 2  | 0.001 | 0.38  | 110   | 3.20E-05 | 22100 |
| 132-11SM    | 2  | 0.001 | 0.385 | 130   | 4.20E-05 | 16800 |
| 132-12SM    | 2  | 0.001 | 0.39  | 169   | 7.00E-05 | 10300 |
| 132-13SM    | 3  | 0.001 | 0.34  | 200   | 6.00E-05 | 11800 |
| 132-14SM    | 3  | 0.001 | 0.33  | 222   | 9.50E-05 | 7400  |
| 132-15SM    | 4  | 0.001 | 0.38  | 246   | 9.00E-05 | 7850  |
| 132-16SM    | 4  | 0.001 | 0.355 | 307   | 1.20E-04 | 5900  |
| 132-17SM    | 4  | 0.001 | 0.375 | 380   | 1.50E-04 | 4700  |
| 132-18SM    | 4  | 0.001 | 0.4   | 422   | 1.75E-04 | 4050  |
| 132-19SM    | 4  | 0.001 | 0.31  | 491   | 1.85E-04 | 3800  |
| 132-20SM    | 5  | 0.001 | 0.34  | 538   | 2.00E-04 | 3550  |



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