

**PRELIMINARY**

# Chip Inductors - M0805CS Series (2012)

The M0805CS inductors provide exceptional Q values, even at high frequencies. They have a ceramic body and wire wound construction to provide the highest SRFs available in 0805 size.

This robust version of Coilcraft's standard 0805CS series features a high temperature encapsulant that allows operation in ambient temperatures up to 155°C and a leach-resistant base metalization with 63/37 tin-lead terminations that ensures the best possible board adhesion.

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance	Q min <sup>3</sup>	SRF typ <sup>4</sup> (MHz)	DCR max <sup>5</sup> (Ohms)	I <sub>rms</sub> <sup>6</sup> (mA)	Color code
M0805CS-020X	2.8 @ 250 MHz	5	80 @ 1500 MHz	12200	0.06	800	Gray
M0805CS-3N0X	3.0 @ 250 MHz	5	65 @ 1500 MHz	12200	0.06	800	White
M0805CS-030X	3.3 @ 250 MHz	5	50 @ 1500 MHz	12200	0.08	600	Black
M0805CS-050X	5.6 @ 250 MHz	5	65 @ 1000 MHz	5900	0.08	600	Orange
M0805CS-060X	6.8 @ 250 MHz	5	50 @ 1000 MHz	5600	0.11	600	Brown
M0805CS-070X	7.5 @ 250 MHz	5	50 @ 1000 MHz	4800	0.14	600	Green
M0805CS-080X	8.2 @ 250 MHz	5,2	50 @ 1000 MHz	4400	0.12	600	Red
M0805CS-100X	10 @ 250 MHz	5,2	60 @ 500 MHz	4300	0.10	600	Blue
M0805CS-120X	12 @ 250 MHz	5,2	50 @ 500 MHz	4000	0.15	600	Orange
M0805CS-150X	15 @ 250 MHz	5,2	50 @ 500 MHz	3200	0.17	600	Yellow
M0805CS-180X	18 @ 250 MHz	5,2	50 @ 500 MHz	3100	0.20	600	Green
M0805CS-220X	22 @ 250 MHz	5,2	55 @ 500 MHz	2600	0.22	500	Blue
M0805CS-240X	24 @ 250 MHz	5,2	50 @ 500 MHz	2400	0.22	500	Gray
M0805CS-270X	27 @ 250 MHz	5,2	55 @ 500 MHz	2580	0.25	500	Violet
M0805CS-330X	33 @ 250 MHz	5,2,1	60 @ 500 MHz	2150	0.27	500	Gray
M0805CS-360X	36 @ 250 MHz	5,2,1	55 @ 500 MHz	1900	0.27	500	Orange
M0805CS-390X	39 @ 250 MHz	5,2,1	60 @ 500 MHz	2000	0.29	500	White
M0805CS-430X	43 @ 200 MHz	5,2,1	60 @ 500 MHz	1800	0.34	500	Yellow
M0805CS-470X	47 @ 200 MHz	5,2,1	60 @ 500 MHz	1700	0.31	500	Black
M0805CS-560X	56 @ 200 MHz	5,2,1	60 @ 500 MHz	1600	0.34	500	Brown
M0805CS-680X	68 @ 200 MHz	5,2,1	60 @ 500 MHz	1500	0.38	500	Red
M0805CS-820X	82 @ 150 MHz	5,2,1	65 @ 500 MHz	1330	0.42	400	Orange
M0805CS-910X	91 @ 150 MHz	5,2,1	65 @ 500 MHz	1330	0.48	400	Black
M0805CS-101X	100 @ 150 MHz	5,2,1	65 @ 500 MHz	1250	0.46	400	Yellow
M0805CS-111X	110 @ 150 MHz	5,2	50 @ 250 MHz	1100	0.48	400	Brown
M0805CS-121X	120 @ 150 MHz	5,2,1	50 @ 250 MHz	1100	0.51	400	Green
M0805CS-151X	150 @ 100 MHz	5,2,1	50 @ 250 MHz	920	0.56	400	Blue
M0805CS-181X	180 @ 100 MHz	5,2,1	50 @ 250 MHz	920	0.64	400	Violet
M0805CS-221X	220 @ 100 MHz	5,2	50 @ 250 MHz	820	0.70	400	Gray
M0805CS-241X	240 @ 100 MHz	5,2	44 @ 250 MHz	770	1.00	350	Red
M0805CS-271X	270 @ 100 MHz	5,2	48 @ 250 MHz	730	1.00	350	White
M0805CS-331X	330 @ 100 MHz	5,2	48 @ 250 MHz	650	1.40	310	Black
M0805CS-391X	390 @ 100 MHz	5,2	48 @ 250 MHz	600	1.50	290	Brown
M0805CS-471X	470 @ 50 MHz	5,2,1	33 @ 100 MHz	375	1.76	250	Violet
M0805CS-561X	560 @ 25 MHz	5,2	23 @ 50 MHz	330	1.90	230	Orange
M0805CS-681X	680 @ 25 MHz	5,2	23 @ 50 MHz	310	2.20	190	Green
M0805CS-821X	820 @ 25 MHz	5,2	23 @ 50 MHz	310	2.35	180	Blue

1. When ordering, please specify **tolerance** code:

↓  
**M0805CS-821X G**

**Tolerance:** F = 1% G = 2% J = 5%

2. Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.

3. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.

4. SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.

5. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.

6. Current that causes a 15°C temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

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



**Critical Products**

These parts are preproduction products for electrical evaluation only.  
Specification subject to change without notice.

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1102 Silver Lake Road  
Cary IL 60013

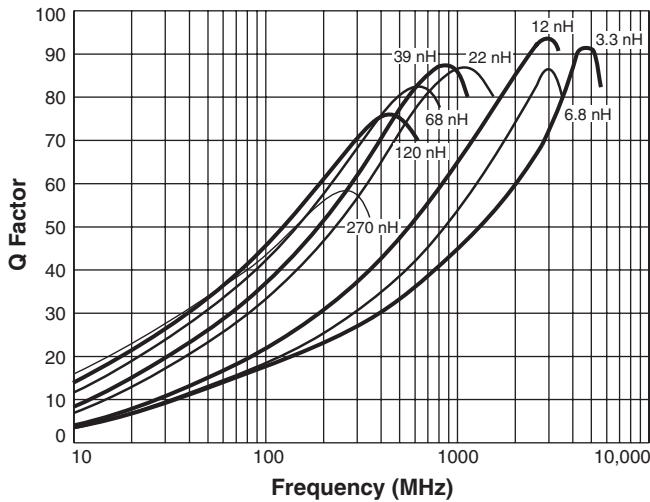
**Phone** 800-981-0363  
**Fax** 847-639-1508

**E-mail** cp@coilcraft.com  
**Web** www.coilcraft.com/cp

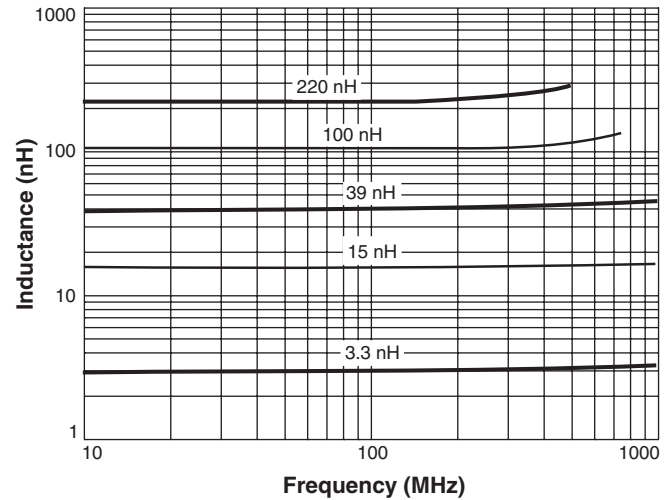
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# M0805CS Series (2012)

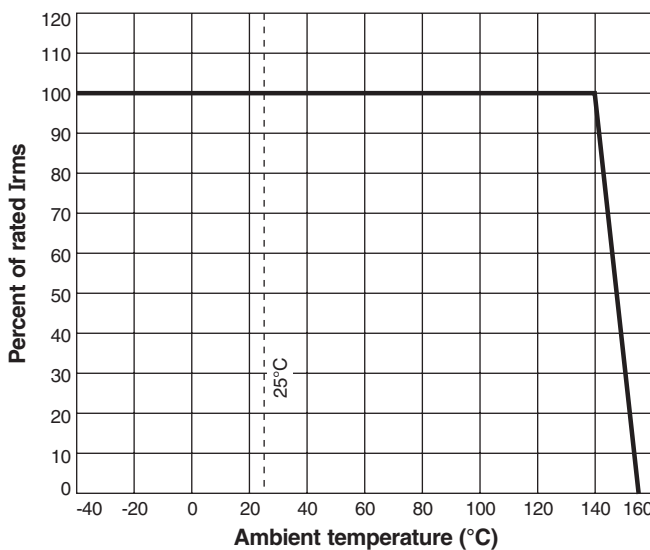
## Typical Q vs Frequency



## Typical L vs Frequency



## Irms Derating



**Core material** Ceramic

**Terminations** Tin-lead (63/37) over silver-palladium-platinum-glass frit

**Ambient temperature** -55°C to +140°C with I<sub>rms</sub> current, +140°C to +155°C with derated current

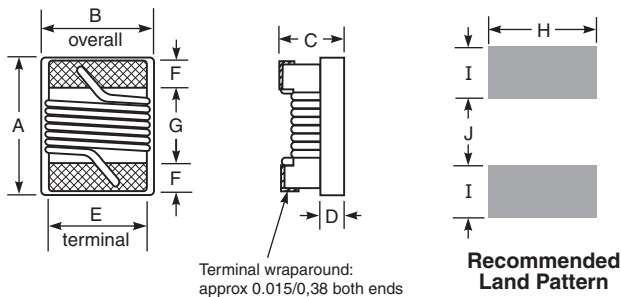
**Storage temperature** Component: -55°C to +155°C.  
Packaging: -55°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)** +25 to +125 ppm/°C

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

**Enhanced Crush-Resistant Packaging** 2000 per 7" reel  
Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.65 mm pocket depth



A max	B max	C max	D ref	E	F	G	H	I	J
0.090	0.068	0.060	0.020	0.050	0.020	0.040	0.070	0.040	0.030
2,29	1,73	1,52	0,51	1,27	0,51	1,02	1,78	1,02	0,76

**COILCRAFT** ACCURATE  
**PRECISION** REPEATABLE  
MEASUREMENTS  
SEE INDEX **TEST FIXTURES**



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1102 Silver Lake Road  
Cary IL 60013

Phone 800-981-0363  
Fax 847-639-1508

E-mail cp@coilcraft.com  
Web www.coilcraft.com/cp