

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 features a high temperature encapsulant that allows operation in ambient temperature up to 155°C and a leach-resistant base metalization with 63/37 tin-lead terminations that ensure the best possible board adhesion.

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	SRF typ ⁴ (MHz)	DCR max ⁵ (Ohms)	I _{rms} ⁶ (mA)	Color code
M0805CS-020X_S_	2.8 @ 250 MHz	5	80 @ 1500 MHz	12200	0.06	800	Gray
M0805CS-3N0X_S_	3.0 @ 250 MHz	5	65 @ 1500 MHz	12200	0.06	800	White
M0805CS-030X_S_	3.3 @ 250 MHz	5	50 @ 1500 MHz	12200	0.08	600	Black
M0805CS-050X_S_	5.6 @ 250 MHz	5	65 @ 1000 MHz	5900	0.08	600	Orange
M0805CS-060X_S_	6.8 @ 250 MHz	5	50 @ 1000 MHz	5600	0.11	600	Brown
M0805CS-070X_S_	7.5 @ 250 MHz	5	50 @ 1000 MHz	4800	0.14	600	Green
M0805CS-080X_S_	8.2 @ 250 MHz	5,2	50 @ 1000 MHz	4400	0.12	600	Red
M0805CS-100X_S_	10 @ 250 MHz	5,2	60 @ 500 MHz	4300	0.10	600	Blue
M0805CS-120X_S_	12 @ 250 MHz	5,2	50 @ 500 MHz	4000	0.15	600	Orange
M0805CS-150X_S_	15 @ 250 MHz	5,2	50 @ 500 MHz	3200	0.17	600	Yellow
M0805CS-180X_S_	18 @ 250 MHz	5,2	50 @ 500 MHz	3100	0.20	600	Green
M0805CS-220X_S_	22 @ 250 MHz	5,2	55 @ 500 MHz	2600	0.22	500	Blue
M0805CS-240X_S_	24 @ 250 MHz	5,2	50 @ 500 MHz	2400	0.22	500	Gray
M0805CS-270X_S_	27 @ 250 MHz	5,2	55 @ 500 MHz	2580	0.25	500	Violet
M0805CS-330X_S_	33 @ 250 MHz	5,2,1	60 @ 500 MHz	2150	0.27	500	Gray
M0805CS-360X_S_	36 @ 250 MHz	5,2,1	55 @ 500 MHz	1900	0.27	500	Orange
M0805CS-390X_S_	39 @ 250 MHz	5,2,1	60 @ 500 MHz	2000	0.29	500	White
M0805CS-430X_S_	43 @ 200 MHz	5,2,1	60 @ 500 MHz	1800	0.34	500	Yellow
M0805CS-470X_S_	47 @ 200 MHz	5,2,1	60 @ 500 MHz	1700	0.31	500	Black
M0805CS-560X_S_	56 @ 200 MHz	5,2,1	60 @ 500 MHz	1600	0.34	500	Brown
M0805CS-680X_S_	68 @ 200 MHz	5,2,1	60 @ 500 MHz	1500	0.38	500	Red
M0805CS-820X_S_	82 @ 150 MHz	5,2,1	65 @ 500 MHz	1330	0.42	400	Orange
M0805CS-910X_S_	91 @ 150 MHz	5,2,1	65 @ 500 MHz	1330	0.48	400	Black
M0805CS-101X_S_	100 @ 150 MHz	5,2,1	65 @ 500 MHz	1250	0.46	400	Yellow
M0805CS-111X_S_	110 @ 150 MHz	5,2	50 @ 250 MHz	1100	0.48	400	Brown
M0805CS-121X_S_	120 @ 150 MHz	5,2,1	50 @ 250 MHz	1100	0.51	400	Green
M0805CS-151X_S_	150 @ 100 MHz	5,2,1	50 @ 250 MHz	920	0.56	400	Blue
M0805CS-181X_S_	180 @ 100 MHz	5,2,1	50 @ 250 MHz	920	0.64	400	Violet
M0805CS-221X_S_	220 @ 100 MHz	5,2	50 @ 250 MHz	820	0.70	400	Gray
M0805CS-241X_S_	240 @ 100 MHz	5,2	44 @ 250 MHz	770	1.00	350	Red
M0805CS-271X_S_	270 @ 100 MHz	5,2	48 @ 250 MHz	730	1.00	350	White
M0805CS-331X_S_	330 @ 100 MHz	5,2	48 @ 250 MHz	650	1.40	310	Black
M0805CS-391X_S_	390 @ 100 MHz	5,2	48 @ 250 MHz	600	1.50	290	Brown
M0805CS-471X_S_	470 @ 50 MHz	5,2,1	33 @ 100 MHz	375	1.76	250	Violet
M0805CS-561X_S_	560 @ 25 MHz	5,2	23 @ 50 MHz	330	1.90	230	Orange
M0805CS-681X_S_	680 @ 25 MHz	5,2	23 @ 50 MHz	310	2.20	190	Green
M0805CS-821X_S_	820 @ 25 MHz	5,2	23 @ 50 MHz	310	2.35	180	Blue

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

M0805CS-821XGSC

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

Packaging: C = 7" machine-ready reel with crush-resistant insert.
EIA-481 embossed plastic tape (2000 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.

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. **Ambient temperature range:** -55°C to +140°C with I_{rms} current
+140°C to +155°C with derated current

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

9. **Resistance to soldering heat:** Three cycles at +260°C max. Each cycle is for a maximum of 40 seconds, allowing parts to cool to room temperature between.

10. Electrical specifications at 25°C.

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



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

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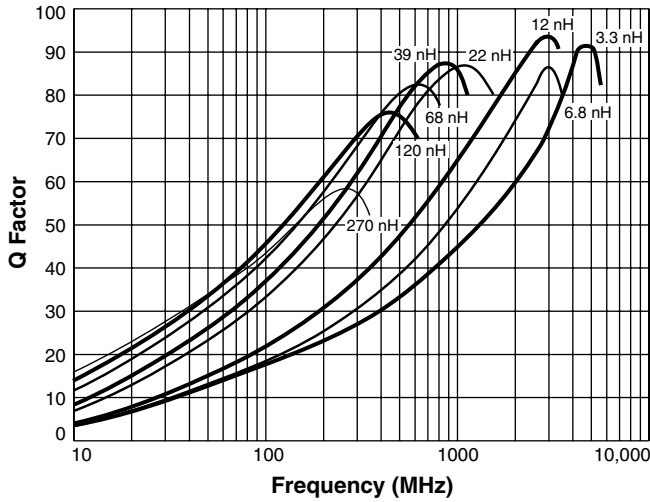
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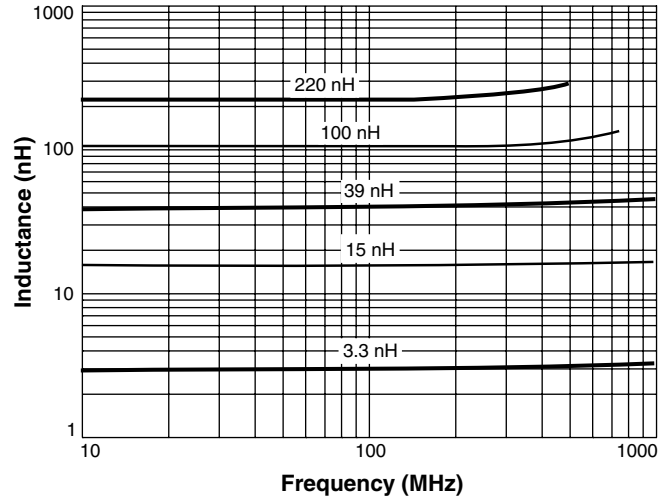
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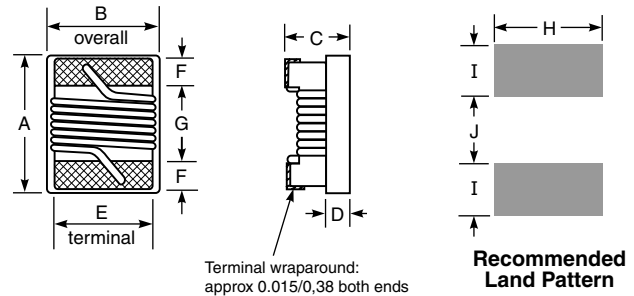
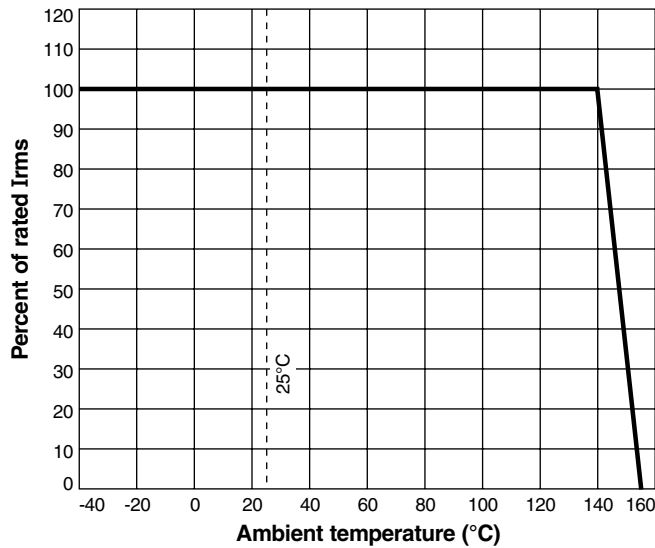
Typical Q vs Frequency



Typical L vs Frequency



Irms Derating



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

Weight: 10.2 – 11.6 mg

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

Tape and reel: 2000/7" reel; 7500/13" reel 8 mm tape width

For packaging data see Tape and Reel Specifications section.

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



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