Chip Inductors - 0805CS (2012)

RoHS/ REACH COMPLIANT

Halogen Free

AEC Q200 +125°C

- Exceptional Q values, even at high frequencies
- Tight tolerances – 2% for most; 1% for some values
- Wirewound construction provides the highest SRFs in 0805 size

Part number[1]	Inductance[2] (nH)	Percent tolerance[3]	Q min[4]	SRF typ[5] (MHz)	DCR max[6] (Ohms)	Irms[7] (mA)	Color code[8]
0805CS-020XJE_	2.8 @ 250 MHz	**5**	80 @ 1500 MHz	12200	0.06	800	Gray
0805CS-3N0XJE_	3.0 @ 250 MHz	**5**	65 @ 1500 MHz	12200	0.06	800	White
0805CS-030XJE_	3.3 @ 250 MHz	**5**	50 @ 1500 MHz	12200	0.08	600	Black
0805CS-050XJE_	5.6 @ 250 MHz	**5**	65 @ 1000 MHz	5900	0.08	600	Orange
0805CS-060XJE_	6.8 @ 250 MHz	**5**	50 @ 1000 MHz	5600	0.11	600	Brown
0805CS-070XJE_	7.5 @ 250 MHz	**5**	50 @ 1000 MHz	4800	0.14	600	Green
0805CS-080X_E_	8.2 @ 250 MHz	**5,2**	50 @ 1000 MHz	4400	0.12	600	Red
0805CS-100X_E_	10 @ 250 MHz	**5,2**	60 @ 500 MHz	4300	0.10	600	Blue
0805CS-120X_E_	12 @ 250 MHz	**5,2**	50 @ 500 MHz	4000	0.15	600	Orange
0805CS-150X_E_	15 @ 250 MHz	**5,2**	50 @ 500 MHz	3200	0.17	600	Yellow
0805CS-180X_E_	18 @ 250 MHz	**5,2**	50 @ 500 MHz	3100	0.20	600	Green
0805CS-220X_E_	22 @ 250 MHz	**5,2**	55 @ 500 MHz	2600	0.22	500	Blue
0805CS-240X_E_	24 @ 250 MHz	**5,2**	50 @ 500 MHz	2400	0.22	500	Gray
0805CS-270X_E_	27 @ 250 MHz	**5,2**	55 @ 500 MHz	2580	0.25	500	Violet
0805CS-330X_E_	33 @ 250 MHz	**5,2,**1	60 @ 500 MHz	2150	0.27	500	Gray
0805CS-360X_E_	36 @ 250 MHz	**5,2,**1	55 @ 500 MHz	1900	0.27	500	Orange
0805CS-390X_E_	39 @ 250 MHz	**5,2,**1	60 @ 500 MHz	2000	0.29	500	White
0805CS-430X_E_	43 @ 200 MHz	**5,2,**1	60 @ 500 MHz	1800	0.34	500	Yellow
0805CS-470X_E_	47 @ 200 MHz	**5,2,**1	60 @ 500 MHz	1700	0.31	500	Black
0805CS-560X_E_	56 @ 200 MHz	**5,2,**1	60 @ 500 MHz	1600	0.34	500	Brown
0805CS-680X_E_	68 @ 200 MHz	**5,2,**1	60 @ 500 MHz	1500	0.38	500	Red
0805CS-820X_E_	82 @ 150 MHz	**5,2,**1	65 @ 500 MHz	1330	0.42	400	Orange
0805CS-910X_E_	91 @ 150 MHz	**5,2,**1	65 @ 500 MHz	1330	0.48	400	Black
0805CS-101X_E_	100 @ 150 MHz	**5,2,**1	65 @ 500 MHz	1250	0.46	400	Yellow
0805CS-111X_E_	110 @ 150 MHz	**5,2**	50 @ 250 MHz	1100	0.48	400	Brown
0805CS-121X_E_	120 @ 150 MHz	**5,2,1**	50 @ 250 MHz	1100	0.51	400	Green
0805CS-151X_E_	150 @ 100 MHz	**5,2,1**	50 @ 250 MHz	920	0.56	400	Blue
0805CS-181X_E_	180 @ 100 MHz	**5,2,**1	50 @ 250 MHz	920	0.64	400	Violet
0805CS-221X_E_	220 @ 100 MHz	**5,2**	50 @ 250 MHz	820	0.70	400	Gray
0805CS-241X_E_	240 @ 100 MHz	**5,2**	44 @ 250 MHz	770	1.00	350	Red

Continued on next page

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

0805CS-241XGEC

Tolerance: **F** = 1% **G** = 2% **J** = 5%
(Table shows stock tolerances in bold.)

Termination: **E** = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.
L = RoHS compliant, not halogen-free. Silver-palladium-platinum-glass frit terminations.
R = RoHS compliant matte tin over nickel over silver-platinum-glass frit.
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 (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
D = 13″ machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (7500 parts per full reel).
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.

2. Inductance measured using a Coilcraft SMD-A fixture in an Agilent/ HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
3. Tolerances in bold are stocked for immediate shipment.
4. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
5. SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.
6. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.
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. Each part is marked with a single dot. The color dots are not unique identifiers and correspond to multiple inductance values.
9. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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Specification subject to change without notice.
Please check web site for latest information.

0805CS Series (2012)

Part number[1]	Inductance[2] (nH)	Percent tolerance[3]	Q min[4]	SRF typ[5] (MHz)	DCR max[6] (Ohms)	Irms[7] (mA)	Color code[8]
0805CS-271X_E_	270 @ 100 MHz	**5,2**	48 @ 250 MHz	730	1.00	350	White
0805CS-331X_E_	330 @ 100 MHz	**5,2**	48 @ 250 MHz	650	1.40	310	Black
0805CS-391X_E_	390 @ 100 MHz	**5,2**	48 @ 250 MHz	600	1.50	290	Brown
0805CS-471X_E_	470 @ 50 MHz	**5,2**	33 @ 100 MHz	375	1.76	250	Violet
0805CS-561X_E_	560 @ 25 MHz	**5,2**	23 @ 50 MHz	330	1.90	230	Orange
0805CS-681X_E_	680 @ 25 MHz	**5,2**	23 @ 50 MHz	310	2.20	190	Green
0805CS-821X_E_	820 @ 25 MHz	**5,2**	23 @ 50 MHz	310	2.35	180	Blue
0805CS-102X_E_	1000 @ 25 MHz	**5,2**	20 @ 50 MHz	180	3.20	175	Black
0805CS-122X_E_	1200 @ 25 MHz	**5,2**	22 @ 50 MHz	224	3.50	156	Brown
0805CS-152X_E_	1500 @ 25 MHz	**5,2**	10 @ 25 MHz	82	1.90	200	Brown
0805CS-182X_E_	1800 @ 25 MHz	**5,2**	15 @ 25 MHz	69	2.42	250	Red
0805CS-222X_E_	2200 @ 25 MHz	**5,2**	16 @ 25 MHz	105	4.00	140	Orange
0805CS-272X_E_	2700 @ 25 MHz	**5,2**	18 @ 50 MHz	130	4.50	175	Red
0805CS-332X_E_	3300 @ 25 MHz	**5,2**	22 @ 25 MHz	110	7.50	80	Green
0805CS-472X_E_	4700 @ 25 MHz	**5,2**	14 @ 25 MHz	75	6.20	80	Yellow
0805CS-562X_E_	5600 @ 7.9 MHz	**5,2**	20 @ 10 MHz	75	7.00	100	Violet
0805CS-682X_E_	6800 @ 7.9 MHz	**5,2**	20 @ 10 MHz	65	9.80	80	Gray
0805CS-822X_E_	8200 @ 7.9 MHz	**5,2**	20 @ 10 MHz	65	11	75	White
0805CS-103X_E_	10000 @ 7.9 MHz	**5,2**	20 @ 10 MHz	60	12	70	Black

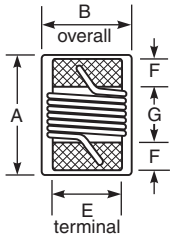
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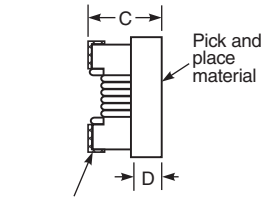
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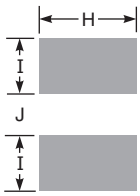
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Recommended Land Pattern

A max	B max	C max	D ref	E	F	G	H	I	J	
0.090	0.068	0.060	0.020	0.050	0.017	0.046	0.070	0.040	0.030	inches
	0.080 (for values -562 and higher)									
2,29	1,73	1,52	0,51	1,27	0,43	1,17	1,78	1,02	0,76	mm
	2,03 (for values -562 and higher)									

Note: Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

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Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Designer’s Kit C303 contains 10 of each 5% part
Designer’s Kit C303-2 contains 10 of each 2% part

Core material Ceramic

Environmental RoHS compliant, halogen free

Terminations Silver-palladium-platinum-glass frit. Other terminations available at additional cost.

Weight 10.2 – 11.6 mg

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) +100 to +250 ppm/°C

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

Packaging 2000/7″ reel; 7500/13″ reel. Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.65 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

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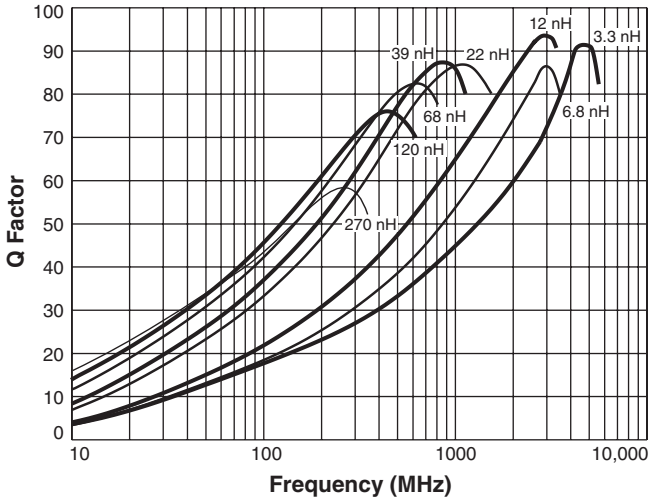
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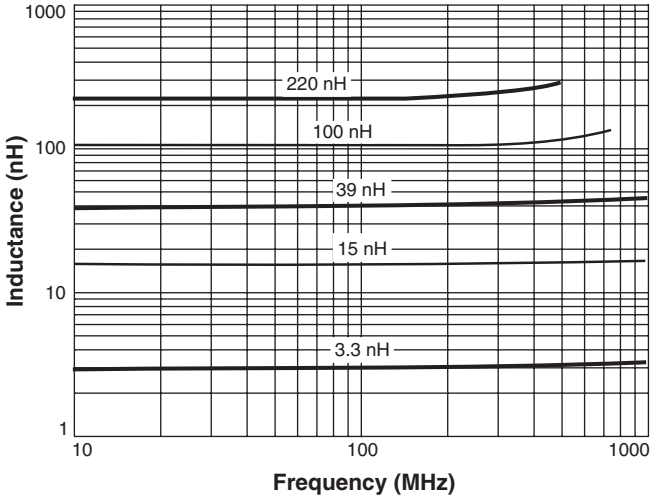
S-Parameter files
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SPICE models
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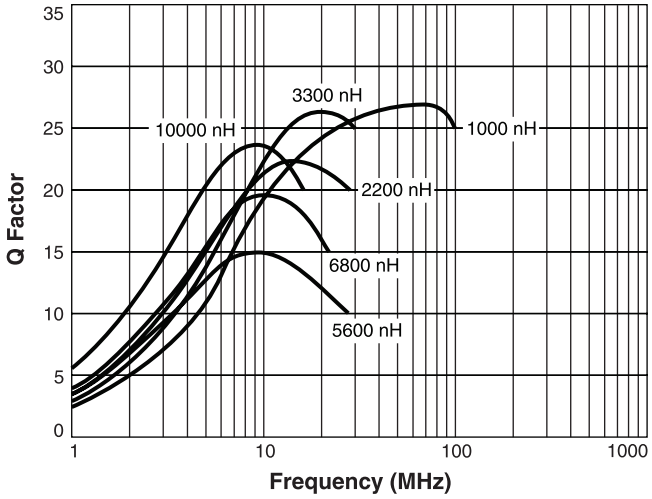
0805CS Series (2012)

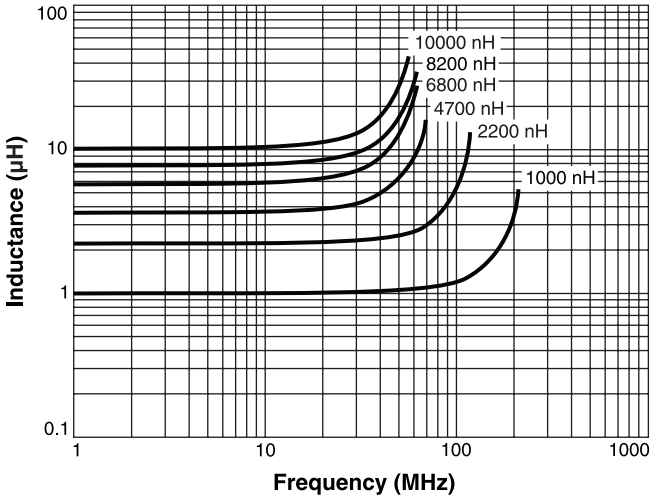
Typical Q vs Frequency



Typical L vs Frequency







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