Chip Inductors - 0805CS (2012)

- 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
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

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

0805CS-821XGEC

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 silver-palladium-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).
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 (7500 parts per full reel).

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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S-Parameter files
ON OUR WEB SITE

SPICE models
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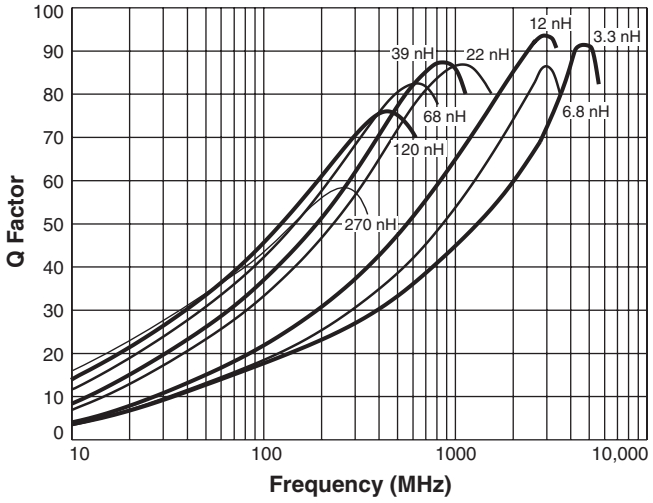
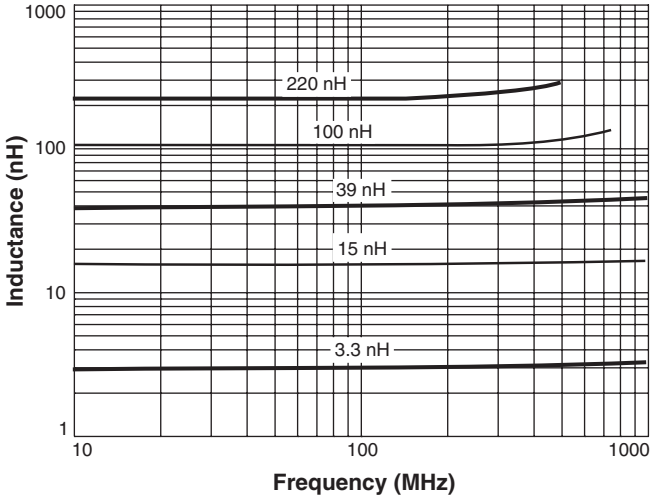
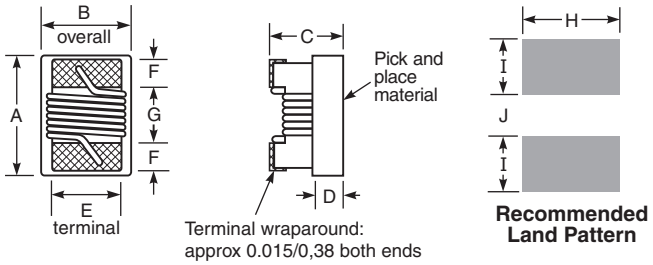
0805CS Series (2012)

Typical Q vs Frequency



Typical L vs Frequency





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	inches
2,29	1,73	1,52	0,51	1,27	0,51	1,02	1,78	1,02	0,76	mm

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

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 RoHS compliant 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)

Failures in Time (FIT) / Mean Time Between Failures (MTBF) One per billion hours / one billion hours, calculated per Telcordia SR-332

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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