



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, not halogen-free. Silver-palladium-platinum-glass frit terminations.
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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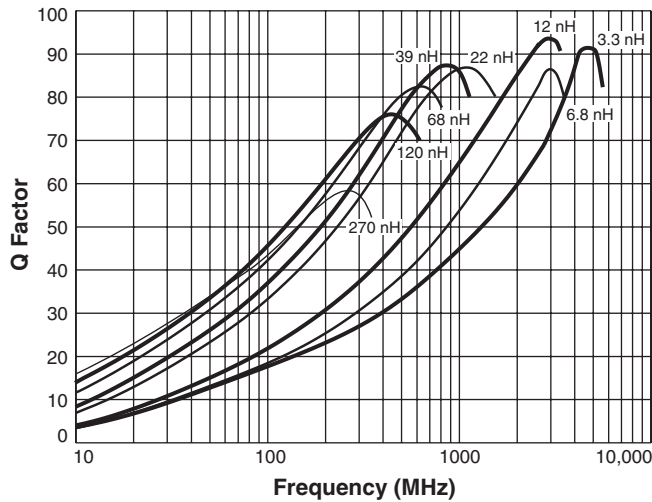
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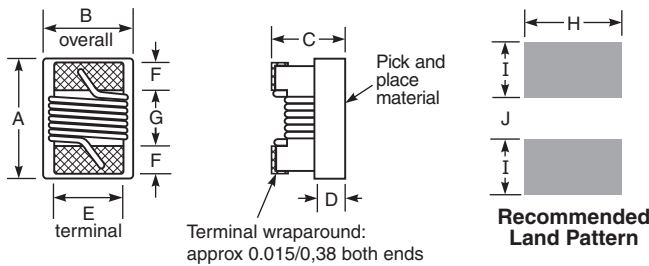
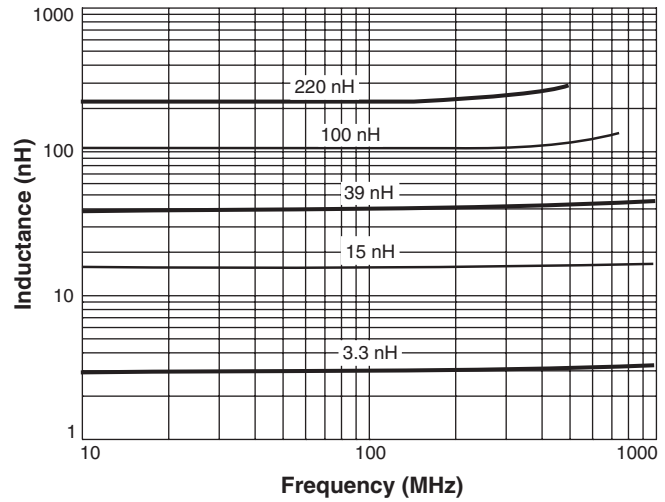
S-Parameter files
ON OUR WEB SITE
SPICE models
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0805CS Series (2012)

Typical Q vs Frequency



Typical L vs Frequency



Terminal wraparound:
approx 0.015/0.38 both ends

| A | B | C | D | E | F | G | H | I | J |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| max | max | max | ref | | | | | | |
| 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 |

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 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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