



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 |

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.

- Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
 - Tolerances in bold are stocked for immediate shipment.
 - Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
 - SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.
 - DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.
 - 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.
 - Each part is marked with a single dot. The color dots are not unique identifiers and correspond to multiple inductance values.
 - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.


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Document 100-1 Revised 11/22/21

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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 |

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

0805CS-103XGEC

- 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.

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

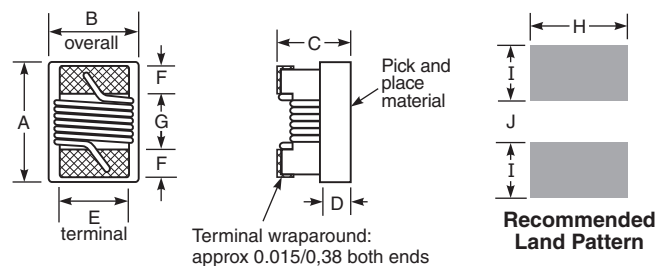
Temperature Coefficient of Inductance (TCL) +100 to +250 ppm/°C

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

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](#).



| 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 |
| | 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 |
| | 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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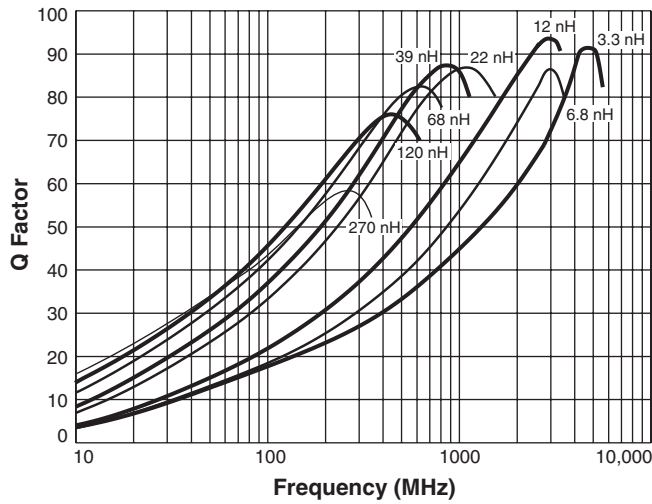
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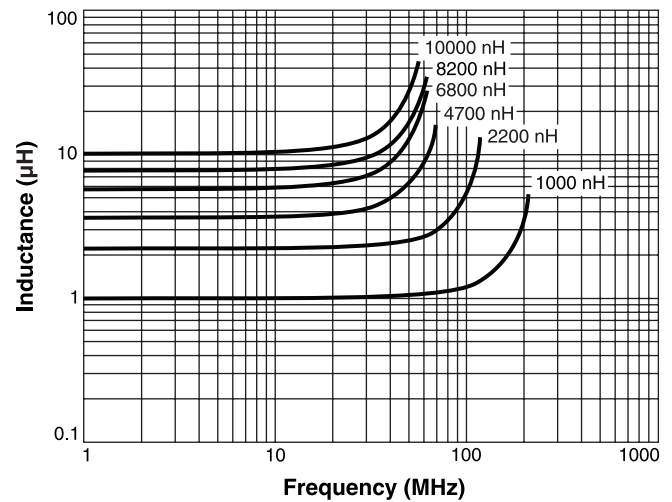
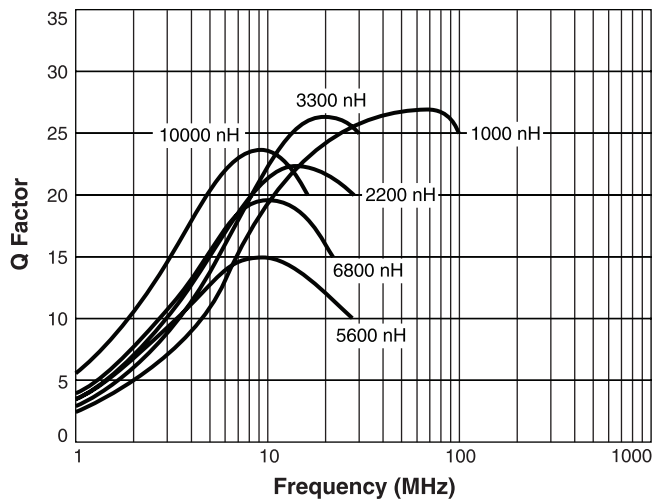
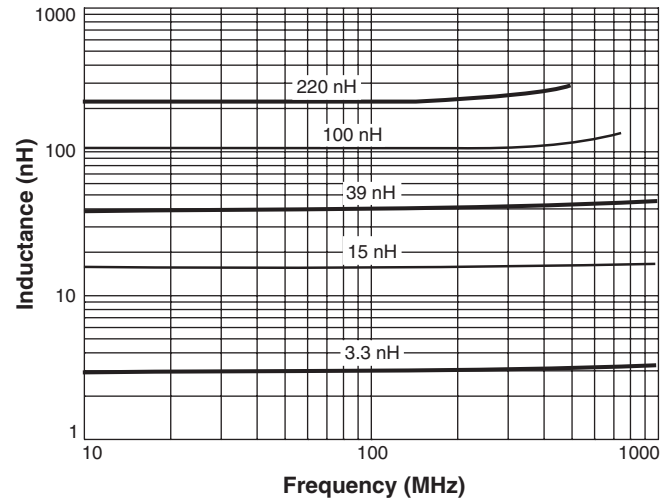
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0805CS Series (2012)

Typical Q vs Frequency



Typical L vs Frequency



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