

# Chip Inductors– 0805HQ (2012)



The 0805HQ Series offers our highest Q factors in an 0805 form factor. In addition, current handling has been improved with significantly lower DCR values.

Like all Coilcraft wire wound ceramic chip inductors, the 0805HQ Series provides exceptional SRFs, tight inductance tolerance and batch consistency.

For even higher Qs, consider our surface mount spring inductors that combine the high Q of an air wound coil with the convenience of automatic placement.

Coilcraft **Designer's Kit C325** contains samples of all 5% inductance tolerance parts. To order, contact Coilcraft or visit <http://order.coilcraft.com>.

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance <sup>3</sup>	Q min <sup>4</sup>	SRF min <sup>5</sup> (GHz)	DCR max <sup>6</sup> (Ohms)	Irms <sup>7</sup> (A)	Color code <sup>8</sup>
0805HQ-2N5XJL_	2.5 @ 250 MHz	<b>5</b>	80 @ 1500 MHz	10.30	0.020	1.6	Black
0805HQ-5N6XJL_	5.6 @ 250 MHz	<b>5</b>	98 @ 1500 MHz	6.10	0.035	1.6	Brown
0805HQ-6N2XJL_	6.2 @ 250 MHz	<b>5</b>	88 @ 1000 MHz	4.75	0.035	1.6	Red
0805HQ-12NX_L_	12 @ 250 MHz	<b>5,2</b>	80 @ 1000 MHz	3.00	0.045	1.6	Orange
0805HQ-16NX_L_	16 @ 250 MHz	<b>5,2</b>	72 @ 500 MHz	2.95	0.060	1.5	Yellow
0805HQ-18NX_L_	18 @ 250 MHz	<b>5,2</b>	75 @ 500 MHz	2.55	0.060	1.4	Green
0805HQ-20NX_L_	20 @ 250 MHz	<b>5,2</b>	70 @ 500 MHz	2.05	0.055	1.4	Blue
0805HQ-27NX_L_	27 @ 250 MHz	<b>5,2</b>	75 @ 500 MHz	2.00	0.070	1.3	Violet
0805HQ-30NX_L_	30 @ 250 MHz	<b>5,2</b>	65 @ 500 MHz	1.95	0.095	1.2	Gray
0805HQ-39NX_L_	39 @ 250 MHz	<b>5,2</b>	65 @ 500 MHz	1.60	0.110	1.1	White
0805HQ-48NX_L_	48 @ 200 MHz	<b>5,2</b>	65 @ 500 MHz	1.40	0.095	1.2	Black
0805HQ-51NX_L_	51 @ 200 MHz	<b>5,2</b>	65 @ 500 MHz	1.40	0.120	1.0	Brown

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

0805HQ-51NXJLC

- Tolerance:** G = 2% J = 5% (Table shows stock tolerances in bold.)
- Termination:** L = RoHS compliant silver-palladium-platinum-glass frit.  
E = Halogen free component. RoHS compliant without exemption 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 4286 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. For SRF less than 6 GHz, measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture. For SRF greater than 6 GHz, measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture.
6. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF840 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.

**Core material** Ceramic

**Environmental** RoHS compliant, halogen free optional

**Terminations** RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 10.5– 12.5 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)** +25 to +125 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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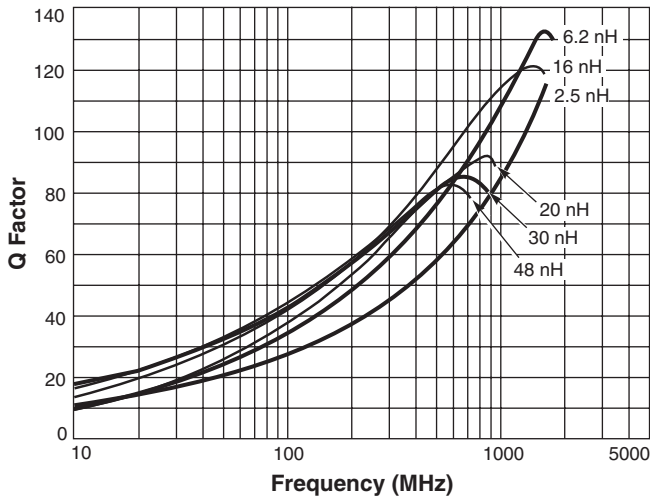
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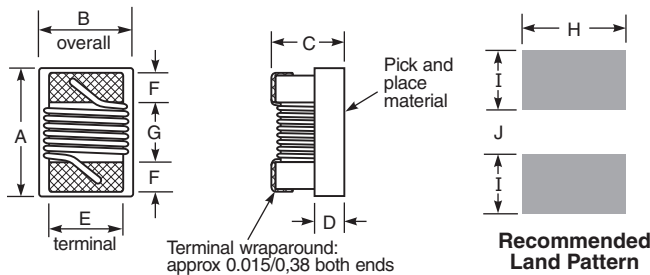
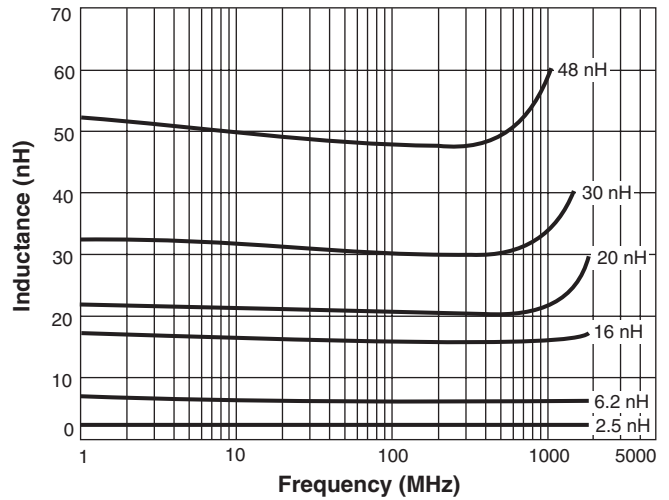
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# Chip Inductors 0805HQ Series (2012)

## Typical Q vs Frequency



## Typical L vs Frequency



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.



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Authorized Distributor

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