



# Chip Inductors - 0604HQ (1610)

- Combines the exceptionally high Q of an air core inductor with the rugged construction of a ceramic body component.
- Provides intermediate inductance values not available in Coilcraft's 0603, 0402 or 0906 product families

Request free evaluation samples by contacting Coilcraft or visiting [www.coilcraft.com](http://www.coilcraft.com).

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance <sup>3</sup>	Q min <sup>4</sup>	900 MHz		1.7 GHz		SRF min <sup>5</sup> (GHz)	DCR max <sup>6</sup> (Ohms)	Irms <sup>7</sup> (A)	Color code <sup>8</sup>
				L typ	Q typ	L typ	Q typ				
0604HQ-1N1XJL_	1.15	<b>5</b>	25	1.2	40	1.2	136	12.3	0.021	3.0	Black
0604HQ-2N6XJL_	2.6	<b>5</b>	45	2.6	78	2.6	163	9.3	0.026	2.0	Brown
0604HQ-4N5XJL_	4.5	<b>5</b>	50	4.5	103	4.7	155	5.8	0.032	1.8	Red
0604HQ-5N0XJL_	5.0	<b>5</b>	60	4.9	106	5.2	178	5.3	0.032	1.6	Orange
0604HQ-6N8XJL_	6.8	<b>5</b>	60	6.9	101	7.4	172	4.7	0.035	1.8	Yellow
0604HQ-7N6XJL_	7.6	<b>5</b>	60	7.4	109	7.9	137	4.4	0.035	1.5	Green
0604HQ-10NXJL_	10.4	<b>5</b>	60	10.6	103	11.5	160	4.1	0.037	1.5	Blue

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

**0604HQ-10NXJLC**

**Termination:** **L** = RoHS compliant silver-palladium-platinum-glass frit.

**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).

**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 at 500 MHz using a Coilcraft SMD-A fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
- Tolerances in bold are stocked for immediate shipment.
- Q measured at 500 MHz using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- 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.
- 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.
- Temperature coefficient of inductance: +25 to +125 ppm/°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Designer's Kit C351** contains 10 each of all values

**Core material** Ceramic

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

**Weight** 4.6 – 5.6 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)** +25 to +126 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

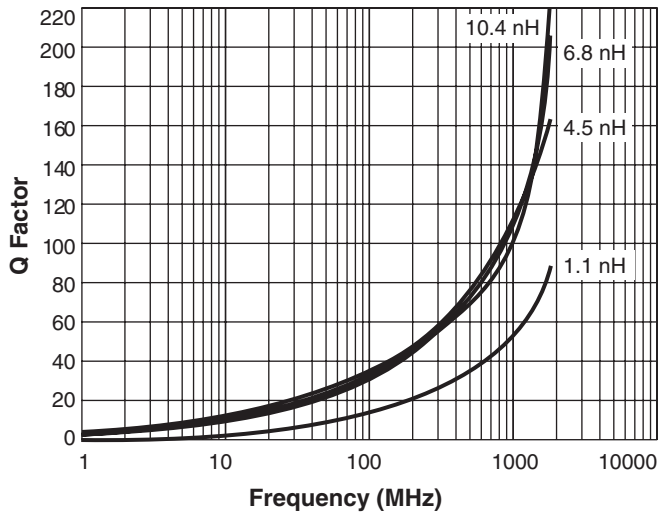
**Packaging** 2000 per 7" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.27 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

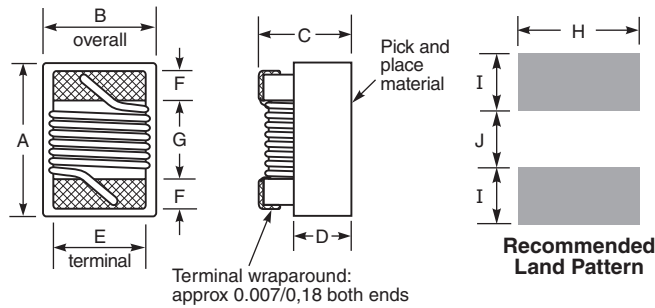
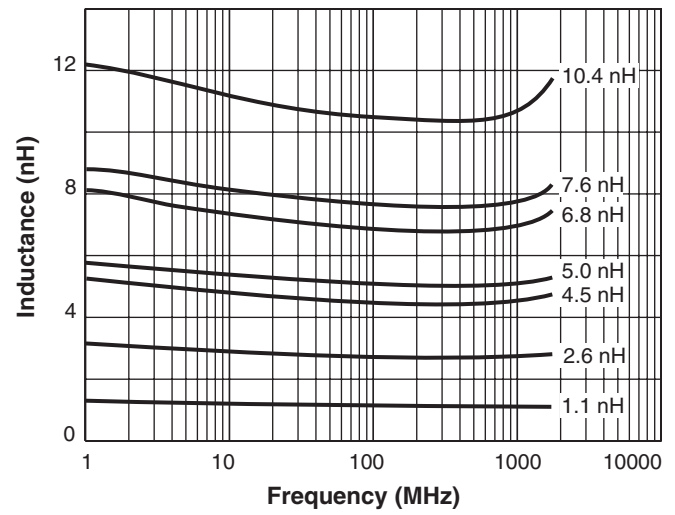


# 0604HQ Series (1610)

## Typical Q vs Frequency



## Typical L vs Frequency



A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
0,073	0,054	0,047	0,025	0,040	0,013	0,034	0,053	0,025	0,025
1,85	1,37	1,19	0,64	1,02	0,33	0,86	1,35	0,63	0,63

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

**S-Parameter files**  
ON OUR WEB SITE  
**SPICE models**  
ON OUR WEB SITE