



HIGH CURRENT

Chip Inductors - 0603HC Series (1608)

With their high current ratings and ultra-small size, these chip inductors are ideal for today's high frequency, low voltage applications like mobile phones. They feature continuous current ratings up to 2.4 Amps DC and will

handle transient currents up to 50% higher. At low inductance values, their Q factors are also higher than our standard 0603CS Series.

Part number ¹	Inductance ² (nH)	Percent tolerance ³	Q min ⁴	900 MHz		1.7 GHz		SRF min ⁵ (MHz)	DCR max ⁶ (Ohms)	I _{rms} ⁷ (A)	Color code
				L typ	Q typ	L typ	Q typ				
0603HC-1N6XJL_	1.6	5	24	1.67	49	1.65	63	12500	0.030	2.4	Black
0603HC-3N6XJL_	3.6	5	24	3.65	70	3.75	90	5900	0.048	2.3	Brown
0603HC-3N9XJL_	3.9	5	25	3.74	70	3.90	90	5900	0.054	2.2	Red
0603HC-6N8XJL_	6.8	5	35	6.72	70	7.10	75	5800	0.054	2.1	Orange
0603HC-7N5XJL_	7.5	5	38	7.33	70	7.90	68	3700	0.059	2.1	Yellow
0603HC-10NX_L_	10	5,2	38	9.70	73	10.5	57	3700	0.071	2.0	Green
0603HC-12NX_L_	12	5,2	38	12.3	68	14.5	41	3000	0.075	2.0	Blue
0603HC-15NX_L_	15	5,2	38	15.5	65	17.6	40	2800	0.080	1.9	Violet
0603HC-18NX_L_	18	5,2	40	19.5	62	25.0	40	2800	0.099	1.9	Gray
0603HC-22NX_L_	22	5,2	42	24.0	61	31.5	26	2400	0.099	1.8	White
0603HC-24NX_L_	24	5,2	42	25.8	55	35.0	21	2400	0.105	1.8	Black

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

0603HC-24NX J L W

Tolerance: G = 2% J = 5% (Table shows stock tolerances in bold.)

Termination: 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: W = 7" machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel).

U = Less than full reel. In tape, but not machine ready.
To have a leader and trailer added (\$25 charge), use code letter W instead.

- Inductance measured at 250 MHz using Coilcraft SMD-A fixture in Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.
 - Tolerances in bold are stocked for immediate shipment.
 - Q measured at 250 MHz using Agilent/HP 4291A with Agilent/HP 16193 test fixture.
 - SRF measured using Agilent/HP 8720D network analyzer and Coilcraft SMD-D test fixture.
 - DCR measured on micro-ohmmeter and Coilcraft CCF858 test fixture.
 - Current that causes a 20°C temperature rise from 25°C ambient.
 - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Designer's Kit C339 contains 10 of each of all 5% parts

Core material Ceramic

Terminations RoHS compliant matte tin over nickel over silver platinum-glass frit.

Weight 3.3 – 3.7 mg

Ambient temperature –40°C to +125°C with I_{rms} current, +125°C to +145°C with derated current

Storage temperature Component: –40°C to +155°C.
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 per 7" reel. Paper tape: 8 mm wide, 1.0 mm thick, 4 mm pocket spacing

PCB washing Only pure water or alcohol recommended

COILCRAFT ACCURATE
PRECISION REPEATABLE
MEASUREMENTS
SEE INDEX **TEST FIXTURES**

Coilcraft®

Specifications subject to change without notice.
Please check our website for latest information.

Document 218-1 Revised 10/03/08

1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail info@coilcraft.com Web <http://www.coilcraft.com>

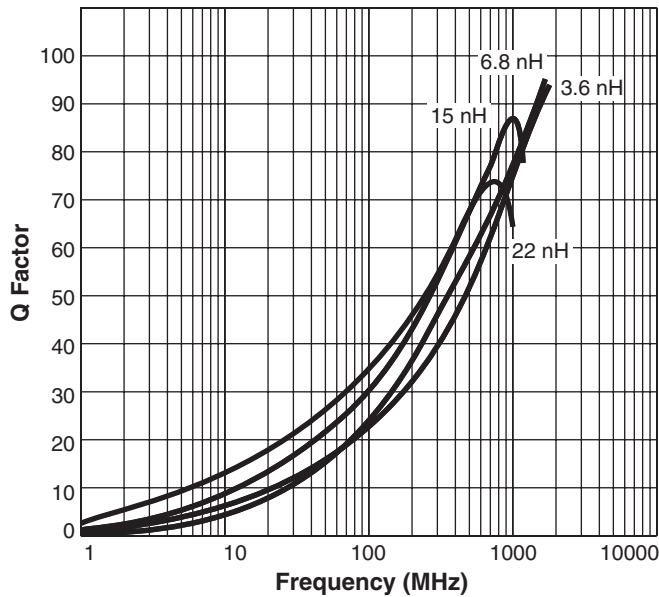


HIGH CURRENT

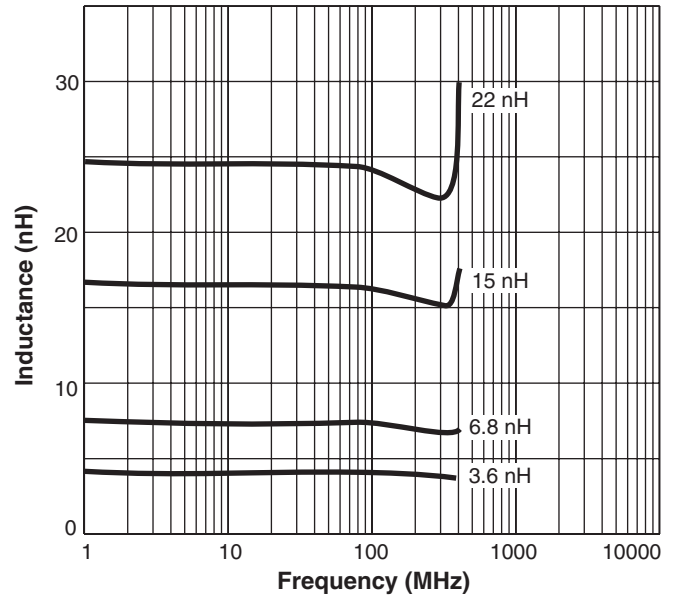
0603HC (1608) Chip Inductors

S-Parameter files
ON OUR WEB SITE OR CD
SPICE models
ON OUR WEB SITE OR CD

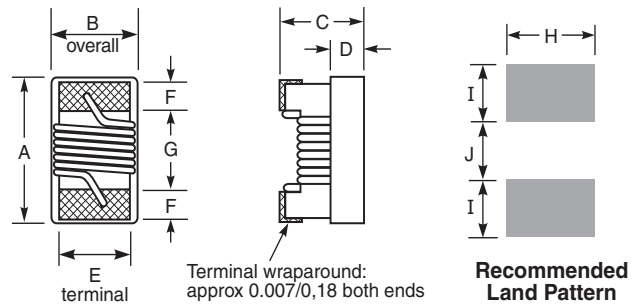
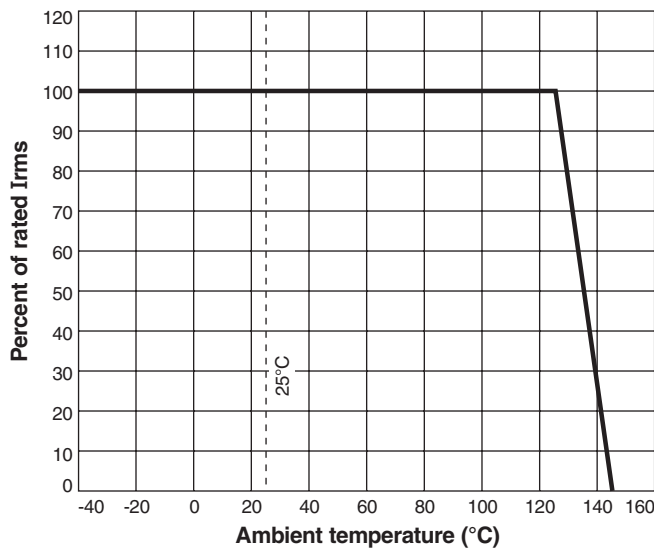
Typical Q vs Frequency



Typical L vs Frequency



Irms Derating



A	B	C	D	E	F	G	H	I	J
max	max	max	ref						
0,071	0,044	0,040	0,015	0,030	0,013	0,034	0,040	0,025	0,025
1,80	1,12	1,02	0,38	0,76	0,33	0,86	1,02	0,64	0,64



Specifications subject to change without notice.
Please check our website for latest information.

Document 218-2 Revised 10/03/08

1102 Silver Lake Road Cary, Illinois 60013 Phone 847/639-6400 Fax 847/639-1469

E-mail info@coilcraft.com Web http://www.coilcraft.com