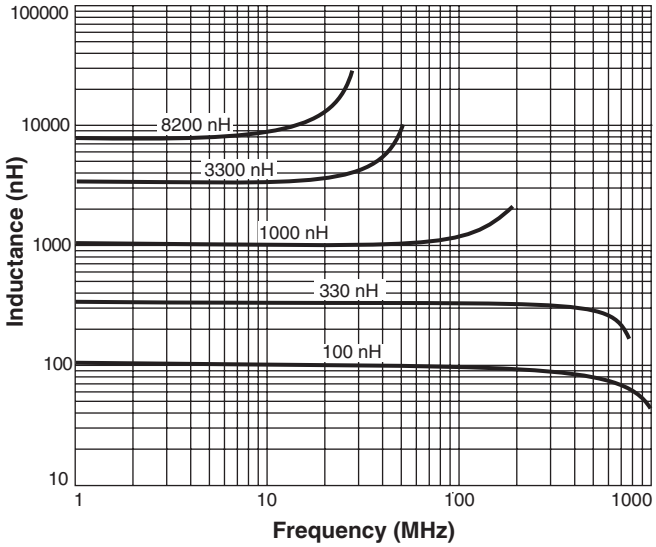
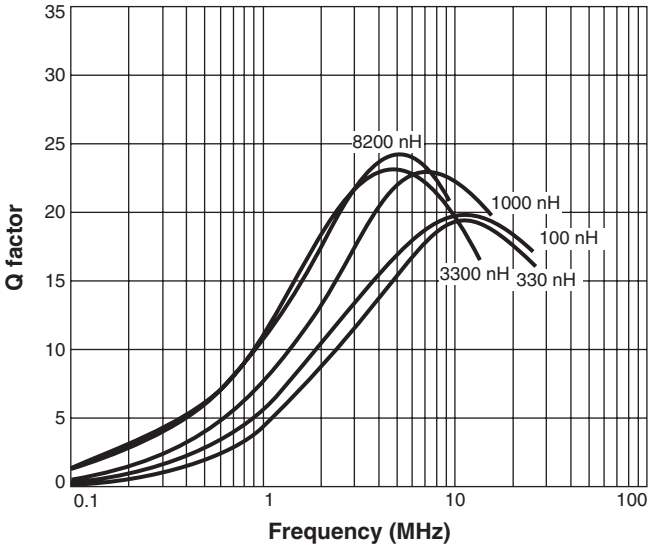
Chip Inductors – 0603LS (1608)

- Higher inductance values than other 0603 inductors
- Ferrite construction for high current handling
- Inductance values: 47 nH – 22 µH; 5% and 2% tolerance

Typical L vs Frequency



Typical Q vs Frequency



Designer's Kit C347 contains 10 each of all 5% values

Core material Ceramic/Ferrite

Environmental RoHS compliant, halogen free

Terminations RoHS matte Sn over Ni over Ag-Pt-glass frit. Other terminations available at additional cost.

Weight 4.8 – 6.2 mg

Ambient temperature –40°C to +85°C with Irms current

Maximum part temperature +100°C (ambient + temp rise)

Storage temperature Component: –40°C to +100°C. Tape and reel packaging: –40°C to +80°C

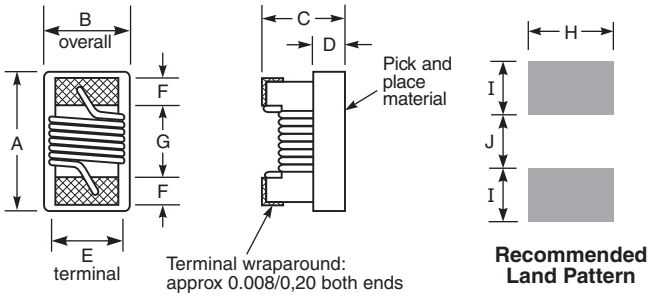
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) +50 to +150 ppm/°C

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

Packaging 2000 per 7″ reel. Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.17 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	C max	D ref	E	F	G	H	I	J	
0.071	See	0.044	0.015	0.030	0.013	0.034	0.040	0.025	0.025	inches
1,80	note	1,12	0,38	0,76	0,33	0,86	1,02	0,64	0,64	mm

Note: B1 = 0.040 ±0.004 in / 1,016 ±0,102 mm
B2 = 0.046 ±0.004 in / 1,169 ±0,102 mm

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

S-Parameter files
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SPICE models
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Chip Inductors – 0603LS Series

Part number[1]	Inductance[2] (nH)	Percent tolerance	Q min[3]	SRF min[4] (MHz)	DCR max[5] (Ohms)	Irms[6] (A)	Color code	Overall width
0603LS-47NX_R_	47 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1500	0.075	1.40	Black	B1
0603LS-51NX_R_	51 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1400	0.075	1.00	Violet	B1
0603LS-72NX_R_	72 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1400	0.12	1.40	Brown	B1
0603LS-101X_R_	100 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1150	0.13	1.40	Red	B1
0603LS-121X_R_	120 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1100	0.15	1.40	Orange	B1
0603LS-151X_R_	150 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	1050	0.15	1.30	Yellow	B1
0603LS-181X_R_	180 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	950	0.15	1.30	Green	B1
0603LS-241X_R_	240 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	800	0.16	0.95	Violet	B1
0603LS-271X_R_	270 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	775	0.30	0.71	Gray	B1
0603LS-331X_R_	330 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	725	0.46	0.56	White	B1
0603LS-391X_R_	390 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	620	0.51	0.50	Black	B1
0603LS-471X_R_	470 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	540	0.62	0.42	Brown	B1
0603LS-561X_R_	560 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	525	0.44	0.55	Red	B1
0603LS-681X_R_	680 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	260	0.52	0.47	Orange	B2
0603LS-781X_R_	780 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	460	0.83	0.39	Yellow	B1
0603LS-821X_R_	820 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	410	0.69	0.40	Green	B1
0603LS-102X_R_	1000 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	190	0.81	0.40	Blue	B2
0603LS-122X_R_	1200 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	160	0.87	0.37	Violet	B2
0603LS-152X_R_	1500 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	100	0.96	0.35	Gray	B2
0603LS-182X_R_	1800 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	80	1.1	0.35	White	B2
0603LS-222X_R_	2200 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	68	1.2	0.32	Black	B2
0603LS-272X_R_	2700 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	60	1.5	0.28	Brown	B2
0603LS-332X_R_	3300 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	42	1.5	0.28	Red	B2
0603LS-392X_R_	3900 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	40	1.6	0.28	Orange	B2
0603LS-472X_R_	4700 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	34	2.1	0.26	Yellow	B2
0603LS-562X_R_	5600 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	32	2.6	0.24	Green	B2
0603LS-682X_R_	6800 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	31	3.1	0.20	Black	B2
0603LS-782X_R_	7800 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	28	3.5	0.20	Blue	B2
0603LS-822X_R_	8200 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	26	3.6	0.19	Violet	B2
0603LS-103X_R_	10000 @ 2.5 MHz	**5,2**	12 @ 2.5 MHz	25	4.8	0.18	Gray	B2
0603LS-153X_R_	15000 @ 2.5 MHz	**5,2**	20 @ 2.5 MHz	23	7.1	0.17	White	B2
0603LS-183X_R_	18000 @ 2.5 MHz	**5,2**	20 @ 2.5 MHz	22	7.6	0.16	Brown	B2
0603LS-223X_R_	22000 @ 2.5 MHz	**5,2**	22 @ 2.5 MHz	19	8.81	0.13	Black	B2

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

   0603LS-223XJRC

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

   Termination: **R =** RoHS matte Sn over Ni over Ag-Pt-glass frit.
   Special order:
   T = RoHS Sn/Ag/Cu (95.5/4.0/0.5)
   S = Not RoHS Sn/Pb (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.
2. Inductance measured at 0.1 Vrms, using Coilcraft SMD-A fixture in Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
3. Q measured on Agilent/HP 4395A with Agilent/HP 16193 test fixture.
4. SRF measured using Agilent/HP 8753D network analyzer with Coilcraft SMD-D test fixture.
5. DCR measured on Cambridge Technology Micro-ohmmeter.
6. Current that causes a 15°C temperature rise from 25°C ambient. Because of their open construction, these parts will not saturate. This information is for reference only and does not represent absolute maximum ratings
7. Electrical specifications at 25°C.

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