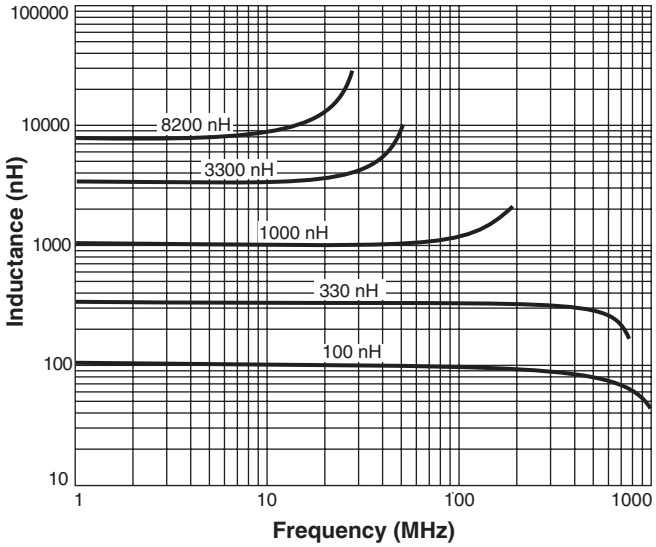
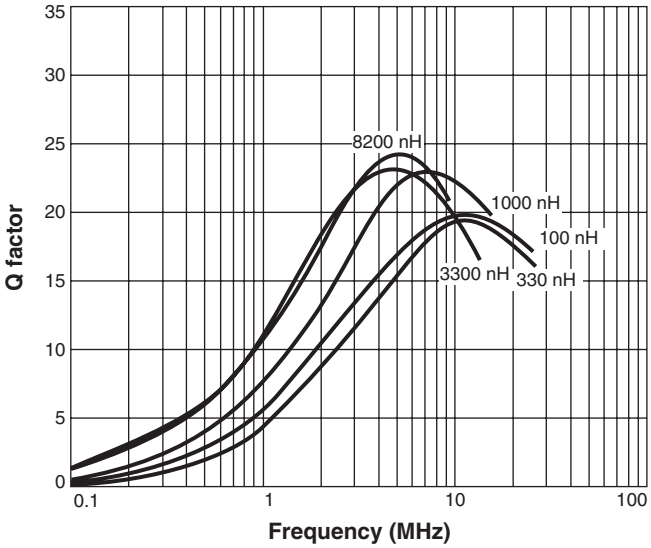
Chip Inductors – 0603LS (1608)

- 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 optional

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

Weight 4.8 – 6.2 mg

Ambient temperature –40°C to +85°C with Irms current, +85°C to +100°C with derated current

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

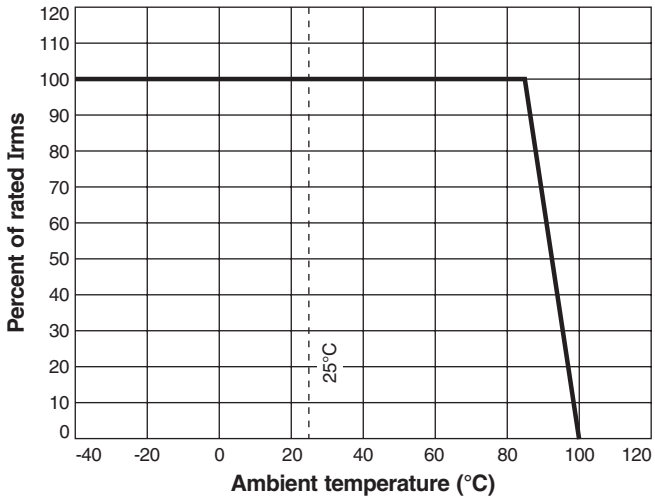
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

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, 1.17 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Irms Derating



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Chip Inductors – 0603LS Series

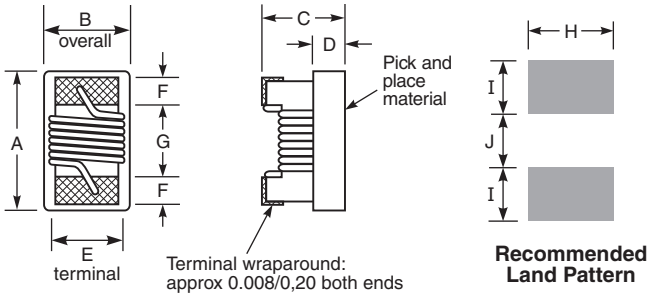
Part number[1]	Inductance[2] (nH)	Percent tolerance	Q min[3]	SRF min[4] (MHz)	DCR max[5] (Ohms)	Irms[6] (A)	Color code	Overall width
0603LS-47NX_L_	47 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1500	0.075	1.40	Black	B1
0603LS-51NX_L_	51 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1400	0.075	1.00	Violet	B1
0603LS-72NX_L_	72 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1400	0.12	1.40	Brown	B1
0603LS-101X_L_	100 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1150	0.13	1.40	Red	B1
0603LS-121X_L_	120 @ 7.9 MHz	**5,2**	12 @ 7.9 MHz	1100	0.15	1.40	Orange	B1
0603LS-151X_L_	150 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	1050	0.15	1.30	Yellow	B1
0603LS-181X_L_	180 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	950	0.15	1.30	Green	B1
0603LS-241X_L_	240 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	800	0.16	0.95	Violet	B1
0603LS-271X_L_	270 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	775	0.30	0.71	Gray	B1
0603LS-331X_L_	330 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	725	0.46	0.56	White	B1
0603LS-391X_L_	390 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	620	0.51	0.50	Black	B1
0603LS-471X_L_	470 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	540	0.62	0.42	Brown	B1
0603LS-561X_L_	560 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	525	0.44	0.55	Red	B1
0603LS-681X_L_	680 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	260	0.52	0.47	Orange	B2
0603LS-781X_L_	780 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	460	0.83	0.39	Yellow	B1
0603LS-821X_L_	820 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	410	0.69	0.40	Green	B1
0603LS-102X_L_	1000 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	190	0.81	0.40	Blue	B2
0603LS-122X_L_	1200 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	160	0.87	0.37	Violet	B2
0603LS-152X_L_	1500 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	100	0.96	0.35	Gray	B2
0603LS-182X_L_	1800 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	80	1.1	0.35	White	B2
0603LS-222X_L_	2200 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	68	1.2	0.32	Black	B2
0603LS-272X_L_	2700 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	60	1.5	0.28	Brown	B2
0603LS-332X_L_	3300 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	42	1.5	0.28	Red	B2
0603LS-392X_L_	3900 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	40	1.6	0.28	Orange	B2
0603LS-472X_L_	4700 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	34	2.1	0.26	Yellow	B2
0603LS-562X_L_	5600 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	32	2.6	0.24	Green	B2
0603LS-682X_L_	6800 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	31	3.1	0.20	Black	B2
0603LS-782X_L_	7800 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	28	3.5	0.20	Blue	B2
0603LS-822X_L_	8200 @ 7.9 MHz	**5,2**	15 @ 7.9 MHz	26	3.6	0.19	Violet	B2
0603LS-103X_L_	10,000 @ 2.5 MHz	**5,2**	12 @ 2.5 MHz	25	4.8	0.18	Gray	B2
0603LS-153X_L_	15,000 @ 2.5 MHz	**5,2**	20 @ 2.5 MHz	23	7.1	0.17	White	B2
0603LS-183X_L_	18,000 @ 2.5 MHz	**5,2**	20 @ 2.5 MHz	22	7.6	0.16	Brown	B2
0603LS-223X_L_	22,000 @ 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-822XJLC

   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 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.
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.
7. Electrical specifications at 25°C.

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



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.

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