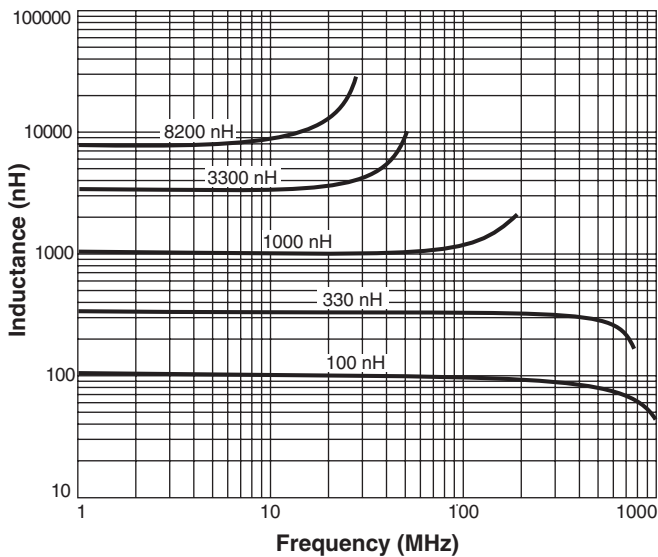




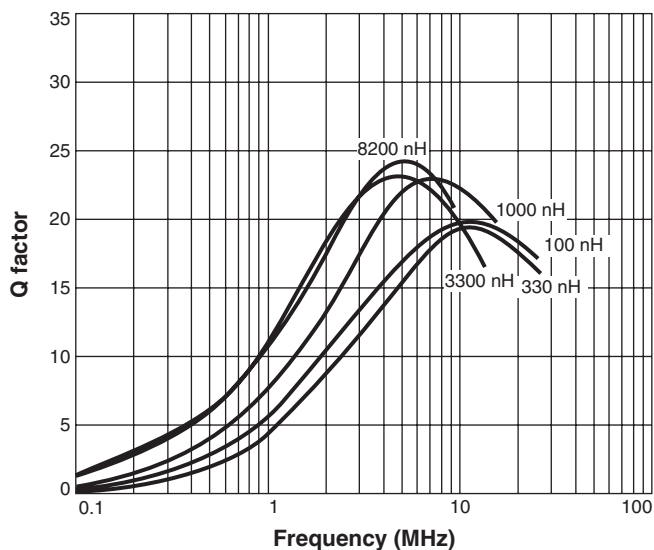
Chip Inductors - 0603LS Series (1608)

- Higher inductance values than other 0603 inductors
- Ferrite construction for high current handling
- Inductance values: 47 nH – 22 μ H; 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

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 $+85^{\circ}\text{C}$ with I_{rms} current, $+85^{\circ}\text{C}$ to $+100^{\circ}\text{C}$ with derated current

Storage temperature Component: -40°C to $+100^{\circ}\text{C}$.
Packaging: -40°C to $+80^{\circ}\text{C}$

Resistance to soldering heat Max three 40 second reflows at $+260^{\circ}\text{C}$, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) $+50$ to $+150$ ppm/ $^{\circ}\text{C}$

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ}\text{C}$ / 85% relative humidity)

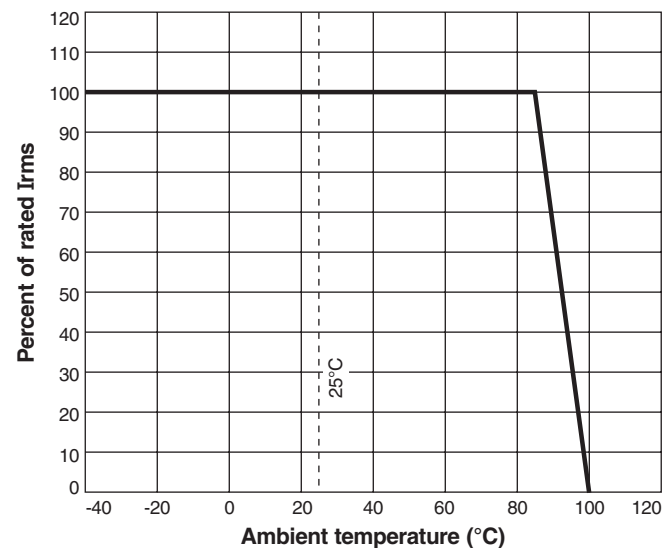
Failures in Time (FIT) / Mean Time Between Failures (MTBF)

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, 1.1 mm pocket depth

PCB washing Only pure water or alcohol recommended

I_{rms} Derating



Coilcraft[®]

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

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Chip Inductors – 0603LS Series

S-Parameter files

ON OUR WEB SITE OR CD

SPICE models

ON OUR WEB SITE OR CD

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 @ 7.9MHz	5,2	12 @ 7.9MHz	1500	0.075	1.40	Black	B1
0603LS-51NX_L_	51 @ 7.9MHz	5,2	12 @ 7.9MHz	1400	0.075	1.00	Violet	B1
0603LS-72NX_L_	72 @ 7.9MHz	5,2	12 @ 7.9MHz	1400	0.12	1.40	Brown	B1
0603LS-101X_L_	100 @ 7.9MHz	5,2	12 @ 7.9MHz	1150	0.13	1.40	Red	B1
0603LS-121X_L_	120 @ 7.9MHz	5,2	12 @ 7.9MHz	1100	0.15	1.40	Orange	B1
0603LS-151X_L_	150 @ 7.9MHz	5,2	15 @ 7.9MHz	1050	0.15	1.30	Yellow	B1
0603LS-181X_L_	180 @ 7.9MHz	5,2	15 @ 7.9MHz	950	0.15	1.30	Green	B1
0603LS-241X_L_	240 @ 7.9MHz	5,2	15 @ 7.9MHz	800	0.16	0.95	Violet	B1
0603LS-271X_L_	270 @ 7.9MHz	5,2	15 @ 7.9MHz	775	0.30	0.71	Gray	B1
0603LS-331X_L_	330 @ 7.9MHz	5,2	15 @ 7.9MHz	725	0.46	0.56	White	B1
0603LS-391X_L_	390 @ 7.9MHz	5,2	15 @ 7.9MHz	620	0.51	0.50	Black	B1
0603LS-471X_L_	470 @ 7.9MHz	5,2	15 @ 7.9MHz	540	0.62	0.42	Brown	B1
0603LS-561X_L_	560 @ 7.9MHz	5,2	15 @ 7.9MHz	525	0.44	0.55	Red	B1
0603LS-681X_L_	680 @ 7.9MHz	5,2	15 @ 7.9MHz	260	0.52	0.47	Orange	B2
0603LS-781X_L_	780 @ 7.9MHz	5,2	15 @ 7.9MHz	460	0.83	0.39	Yellow	B1
0603LS-821X_L_	820 @ 7.9MHz	5,2	15 @ 7.9MHz	410	0.69	0.40	Green	B2
0603LS-102X_L_	1000 @ 7.9MHz	5,2	15 @ 7.9MHz	190	0.81	0.40	Blue	B2
0603LS-122X_L_	1200 @ 7.9MHz	5,2	15 @ 7.9MHz	160	0.87	0.37	Violet	B2
0603LS-152X_L_	1500 @ 7.9MHz	5,2	15 @ 7.9MHz	100	0.96	0.35	Gray	B2
0603LS-182X_L_	1800 @ 7.9MHz	5,2	15 @ 7.9MHz	80	1.1	0.35	White	B2
0603LS-222X_L_	2200 @ 7.9MHz	5,2	15 @ 7.9MHz	68	1.2	0.32	Black	B2
0603LS-272X_L_	2700 @ 7.9MHz	5,2	15 @ 7.9MHz	60	1.5	0.28	Brown	B2
0603LS-332X_L_	3300 @ 7.9MHz	5,2	15 @ 7.9MHz	42	1.5	0.28	Red	B2
0603LS-392X_L_	3900 @ 7.9MHz	5,2	15 @ 7.9MHz	40	1.6	0.28	Orange	B2
0603LS-472X_L_	4700 @ 7.9MHz	5,2	15 @ 7.9MHz	34	2.1	0.26	Yellow	B2
0603LS-562X_L_	5600 @ 7.9MHz	5,2	15 @ 7.9MHz	32	2.6	0.24	Green	B2
0603LS-682X_L_	6800 @ 7.9MHz	5,2	15 @ 7.9MHz	31	3.1	0.20	Black	B2
0603LS-782X_L_	7800 @ 7.9MHz	5,2	15 @ 7.9MHz	28	3.5	0.20	Blue	B2
0603LS-822X_L_	8200 @ 7.9MHz	5,2	15 @ 7.9MHz	26	3.6	0.19	Violet	B2
0603LS-103X_L_	10,000 @ 2.5MHz	5,2	12 @ 2.5MHz	25	4.8	0.18	Gray	B2
0603LS-153X_L_	15,000 @ 2.5MHz	5,2	20 @ 2.5MHz	23	7.1	0.17	White	B2
0603LS-183X_L_	18,000 @ 2.5MHz	5,2	20 @ 2.5MHz	22	7.6	0.16	Brown	B2
0603LS-223X_L_	22,000 @ 2.5MHz	5,2	22 @ 2.5MHz	19	8.81	0.13	Black	B2

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

0603LS-822X J L C

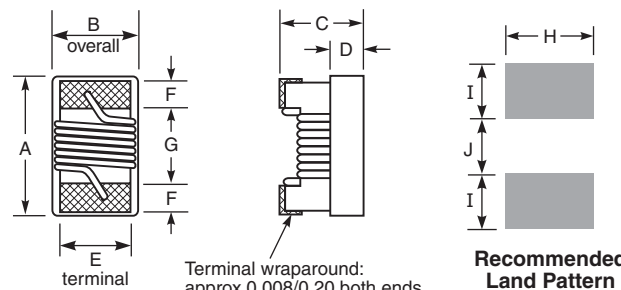
Tolerance: G = 2% J = 5% (Table shows stock tolerances in bold.)

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: 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.

- Inductance measured at 0.1 Vrms, using Coilcraft SMD-A fixture in Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
- Q measured on Agilent/HP 4395A with Agilent/HP 16193 test fixture.
- SRF measured using Agilent/HP 8753D network analyzer with Coilcraft SMD-D test fixture.
- DCR measured on Cambridge Technology Micro-ohmmeter.
- Current that causes a 15°C temperature rise from 25°C ambient. Because of their open construction, these parts will not saturate.
- Electrical specifications at 25°C.
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



Terminal wraparound:
approx 0.008/0,20 both ends

**Recommended
Land Pattern**

A	B	C	D	E	F	G	H	I	J
max		max	ref						
0.071	See	0.044	0.015	0.030	0.013	0.034	0.040	0.025	0.025
1,80	note	1,12	0,38	0,76	0,33	0,86	1,02	0,64	0,64

Note:

B1 = 0.040 ±0.004 in / 1,016 ±0,102 mm

B2 = 0.046 ±0.004 in / 1,169 ±0,102 mm

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

Document 264-2 Revised 10/06/08

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