Ferrite Chip Inductors – 0603AF

- Higher inductance values than ceramic 0603 inductors
- Heavier gauge wire for low DCR
- Ferrite construction for high current handling
- Inductance values from 15 nH to 10 µH

Part number[1]	Inductance[2] ±5% (nH)	Q typ[3]	Impedance typ (Ohms) 100 MHz	Impedance typ (Ohms) 500 MHz	SRF typ[4] (MHz)	DCR max[5] (Ohms)	Irms[6] (A)	Color code[7]
0603AF-15NXJE_	15 @ 7.9 MHz	13 @ 7.9 MHz	10	42	3500	0.023	2.1	Yellow
0603AF-33NXJE_	33 @ 7.9 MHz	13 @ 7.9 MHz	19	90	2300	0.028	1.9	Red
0603AF-47NXJE_	47 @ 7.9 MHz	13 @ 7.9 MHz	42	210	2250	0.052	1.7	White
0603AF-72NXJE_	72 @ 7.9 MHz	15 @ 7.9 MHz	60	385	1800	0.065	1.5	Blue
0603AF-111XJE_	110 @ 7.9 MHz	15 @ 7.9 MHz	70	350	1230	0.060	1.6	Red
0603AF-121XJE_	120 @ 7.9 MHz	15 @ 7.9 MHz	76	410	1150	0.089	1.4	Black
0603AF-241XJE_	240 @ 7.9 MHz	15 @ 7.9 MHz	140	810	900	0.12	0.85	Violet
0603AF-271XJE_	270 @ 7.9 MHz	15 @ 7.9 MHz	173	1023	750	0.22	0.68	Brown
0603AF-361XJE_	360 @ 7.9 MHz	15 @ 7.9 MHz	210	1310	700	0.21	0.65	Blue
0603AF-421XJE_	420 @ 7.9 MHz	11 @ 7.9 MHz	250	1925	685	0.33	0.61	Red
0603AF-471XJE_	470 @ 7.9 MHz	15 @ 7.9 MHz	306	2253	575	0.37	0.61	Orange
0603AF-561XJE_	560 @ 7.9 MHz	16 @ 7.9 MHz	371	3180	515	0.49	0.53	Blue
0603AF-681XJE_	680 @ 7.9 MHz	16 @ 7.9 MHz	420	3620	530	0.46	0.49	Orange
0603AF-821XJE_	820 @ 7.9 MHz	16 @ 7.9 MHz	507	3300	325	0.58	0.42	Green
0603AF-102XJE_	1000 @ 7.9 MHz	17 @ 7.9 MHz	663	9823	400	0.84	0.40	Black
0603AF-152XJE_	1500 @ 7.9 MHz	17 @ 7.9 MHz	944	17,830	330	1.30	0.28	Orange
0603AF-222XJE_	2200 @ 7.9 MHz	16 @ 2.5 MHz	5220	129	85	1.10	0.32	Red
0603AF-472XJE_	4700 @ 7.9 MHz	16 @ 7.9 MHz	2100	220	60	1.50	0.26	Yellow
0603AF-103XJE_	10000 @ 2.5 MHz	12 @ 2.5 MHz	1400	150	40	4.50	0.18	Gray

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

0603AF-102XJEW

Termination: E = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.
Special order:
R = RoHS compliant matte tin over nickel over silver-platinum-glass frit
Q = RoHS tin-silver-copper (95.5/4/0.5) or
P = 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.

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. Click for temperature derating information.
7. Each part is marked with a single dot. The color dots are not unique identifiers and correspond to multiple inductance values.
8. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Designer’s Kit C439 contains 10 each of all values

Core material Ferrite

Environmental RoHS compliant, halogen free

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

Weight 4.3 – 5.7 mg

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

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

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 +300 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 Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

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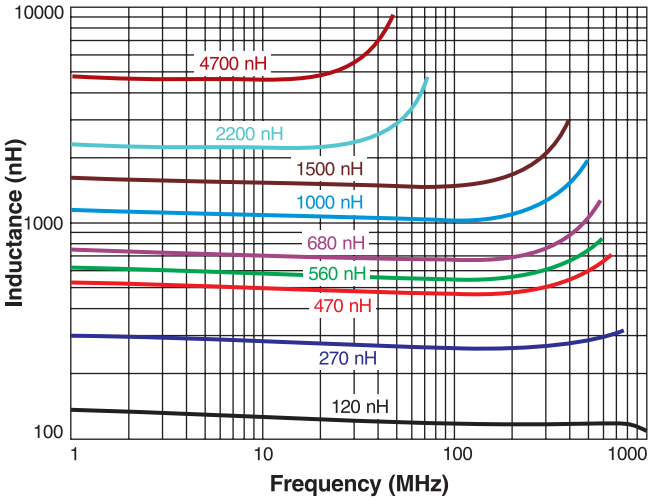
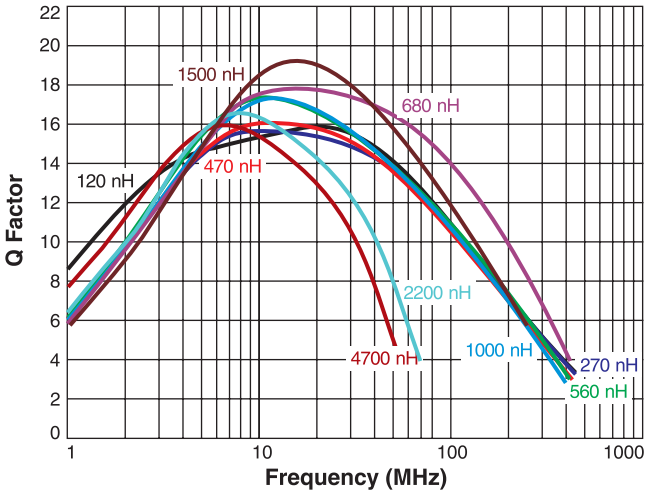
Document 773-1 Revised 10/12/15

Ferrite Chip Inductors – 0603AF Series

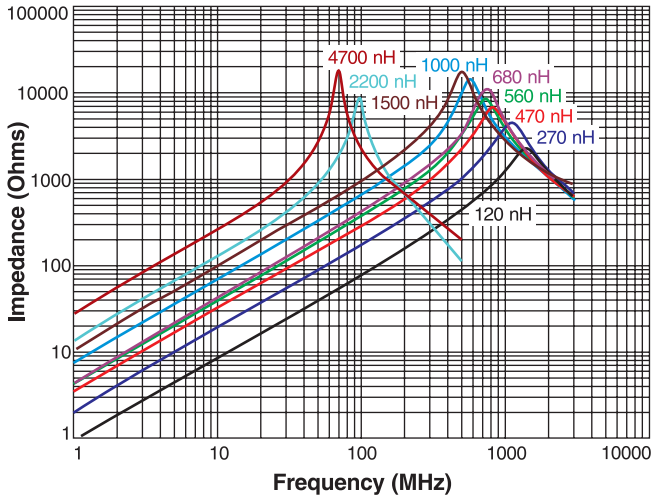
Typical L vs Frequency

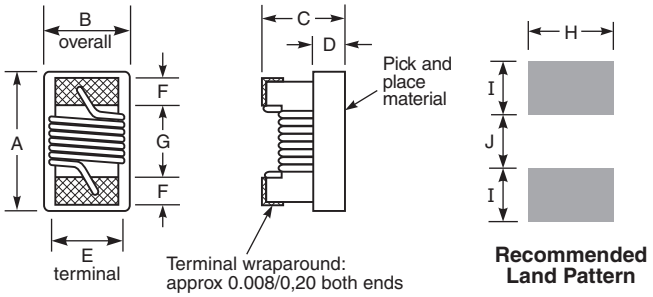


Typical Q vs Frequency



Typical Impedance vs Frequency





A max	B max	C max	D ref	E	F	G	H	I	J	
0.071	0.044	0.036	0.015	0.030	0.013	0.034	0.040	0.025	0.025	inches
1,80	1,12	0,91	0,38	0,76	0,33	0,86	1,02	0,64	0,64	mm

Note: 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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Document 773-2 Revised 10/12/15