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
0603AF-15NXJR_	15 @ 7.9 MHz	13 @ 7.9 MHz	10	42	3500	0.023	2.1	Yellow
0603AF-33NXJR_	33 @ 7.9 MHz	13 @ 7.9 MHz	19	90	2300	0.028	1.9	Red
0603AF-111XJR_	110 @ 7.9 MHz	15 @ 7.9 MHz	70	350	1230	0.060	1.6	Red
0603AF-121XJR_	120 @ 7.9 MHz	15 @ 7.9 MHz	76	410	1150	0.089	1.4	Black
0603AF-241XJR_	240 @ 7.9 MHz	15 @ 7.9 MHz	140	810	900	0.12	0.85	Violet
0603AF-271XJR_	270 @ 7.9 MHz	15 @ 7.9 MHz	173	1023	750	0.22	0.68	Brown
0603AF-471XJR_	470 @ 7.9 MHz	15 @ 7.9 MHz	306	2253	575	0.37	0.61	Orange
0603AF-561XJR_	560 @ 7.9 MHz	16 @ 7.9 MHz	371	3180	515	0.49	0.53	Blue
0603AF-681XJR_	680 @ 7.9 MHz	16 @ 7.9 MHz	420	3620	530	0.46	0.49	Orange
0603AF-821XJR_	820 @ 7.9 MHz	16 @ 7.9 MHz	507	3300	325	0.58	0.42	Green
0603AF-102XJR_	1000 @ 7.9 MHz	17 @ 7.9 MHz	663	9823	400	0.84	0.40	Black
0603AF-222XJR_	2200 @ 7.9 MHz	16 @ 7.9 MHz	5220	129	85	1.10	0.32	Red
0603AF-472XJR_	4700 @ 7.9 MHz	16 @ 7.9 MHz	2100	220	60	1.50	0.26	Yellow
0603AF-103XJR_	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-102XJRW

Termination: R = RoHS compliant matte tin over nickel over silver-platinum-glass frit.
Special order: **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.
7. 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

Environmental RoHS compliant without exemption, halogen free

Core material Ferrite

Terminations RoHS compliant matte tin over nickel over silver-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, +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 +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 Only pure water or alcohol recommended

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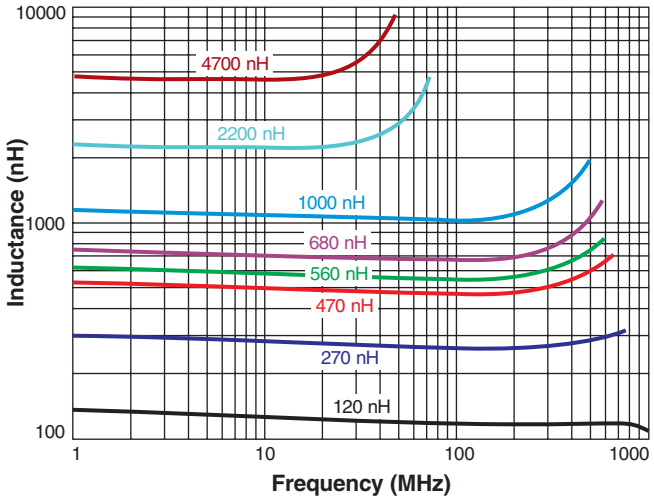
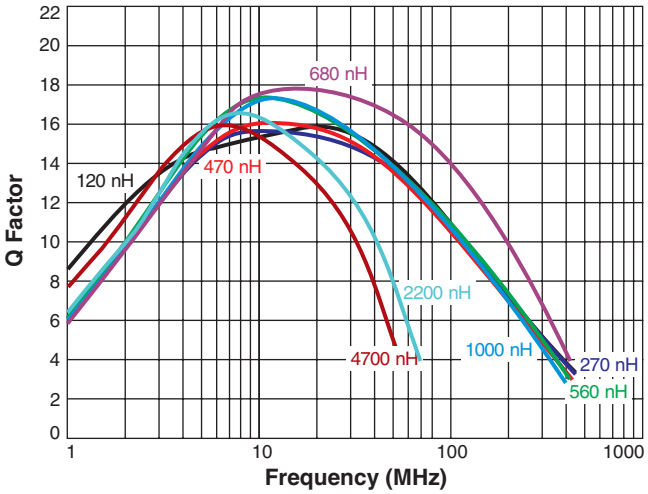
Ferrite Chip Inductors – 0603AF Series

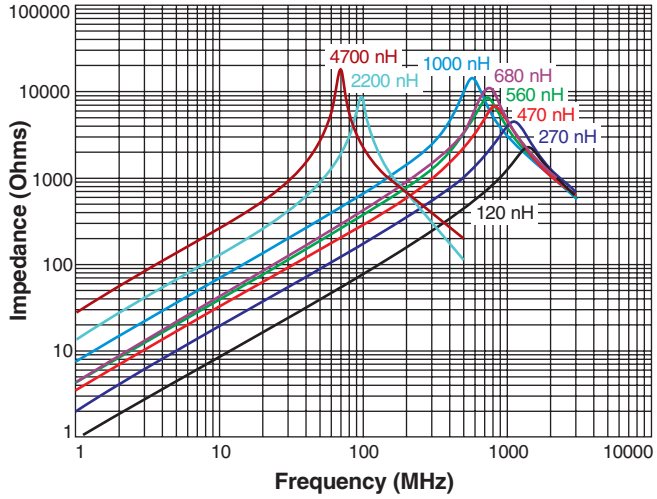
Typical L vs Frequency



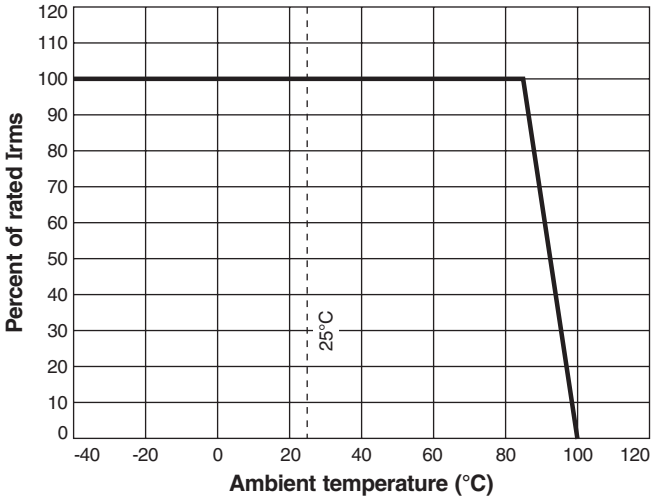
Typical Q vs Frequency

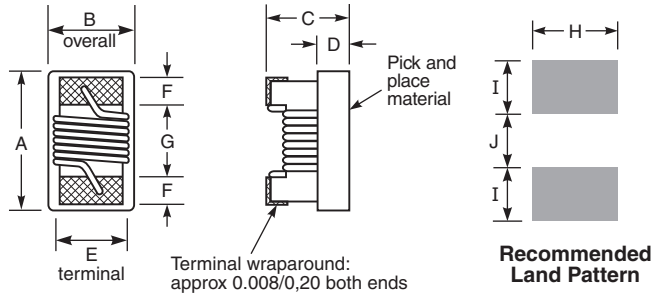


Typical Impedance vs Frequency



Irms Derating





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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