Chip Inductors – 0402DF (1005)

- Higher inductance values than other 0402 inductors
- Ferrite construction for high current handling
- 25 inductance values from 20 nH to 3.3 µH
- Ideal for use in both mobile and infrastructure equipment
- Equally effective on-board or modular
- Developed for use in cellular applications:
  As a filter element in bandstop and low pass filters
  As a one pole filter or RF choke in cellular bands
- Can also be used for ground-to-ground isolation

Part number[1]	Inductance[2] ±5% (nH)	Impedance typ (Ohms) 900 MHz	1.7 GHz	SRF typ[3] (MHz)	DCR max[4] (Ohms)	Irms[5] (mA)
0402DF-200XJR_	20	90	150	2950	0.049	1400
0402DF-360XJR_	36	150	250	2400	0.055	1300
0402DF-560XJR_	56	250	480	2200	0.061	1200
0402DF-770XJR_	77	350	580	2050	0.072	1100
0402DF-900XJR_	90	400	600	2300	0.079	1000
0402DF-101XJR_	105	530	1000	1660	0.104	850
0402DF-121XJR_	120	515	900	2000	0.090	950
0402DF-141XJR_	140	650	1075	1450	0.141	750
0402DF-151XJR_	150	700	1170	1800	0.130	830
0402DF-181XJR_	180	850	1460	1680	0.172	730
0402DF-221XJR_	220	1100	2050	1560	0.240	600
0402DF-271XJR_	270	1300	2150	1480	0.265	590
0402DF-301XJR_	300	1725	2630	1400	0.340	490
0402DF-331XJR_	330	2100	2750	1340	0.435	430
0402DF-361XJR_	360	2150	3100	1200	0.475	420
0402DF-421XJR_	420	2175	3350	1100	0.510	400
0402DF-471XJR_	470	2550	3670	1070	0.670	340
0402DF-531XJR_	530	3950	3050	1000	0.715	330
0402DF-591XJR_	590	4770	3090	960	0.780	320
0402DF-701XJR_	700	5750	1830	600	1.30	230
0402DF-771XJR_	770	4900	1800	585	1.35	220
0402DF-901XJR_	900	7130	4470	760	1.50	230
0402DF-102XJR_	1000	280	180	235	1.05	190
0402DF-222XJR_	2200	200	120	125	1.80	170
0402DF-332XJR_	3300	160	80	80	2.20	150

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

   0402DF-771XJRW

   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 7.9 MHz using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286 impedance analyzer.
3. SRF measured using Agilent/HP 8753D network analyzer and Coilcraft SMD-D test fixture.
4. DCR measured on Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.
5. Current that causes a 15°C temperature rise from 25°C ambient. Because of their open construction, these parts will not saturate.

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

Core material Ferrite
Environmental RoHS compliant without exemption, halogen free
Terminations RoHS compliant matte tin over nickel over silver-platinum-glass frit.
Weight 0.9 – 1.1 mg
Ambient temperature –40°C to +85°C with Irms current
Maximum part temperature +100°C (Ambient + temperature 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) +25 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. Paper tape: 8 mm wide, 0.68 mm thick, 2 mm pocket spacing
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

COILCRAFT PRECISION TEST FIXTURES
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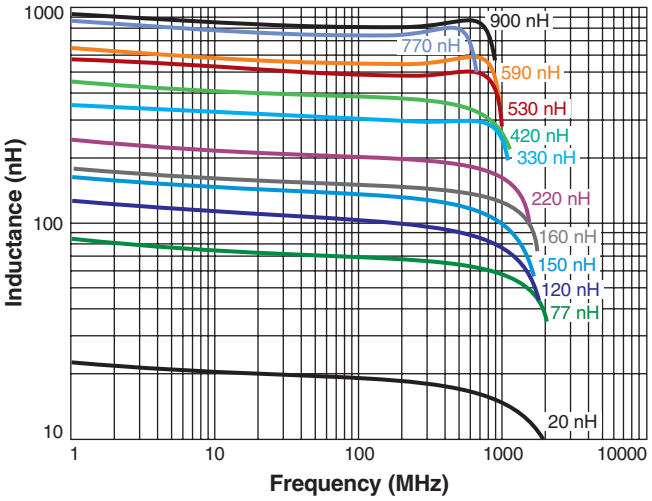
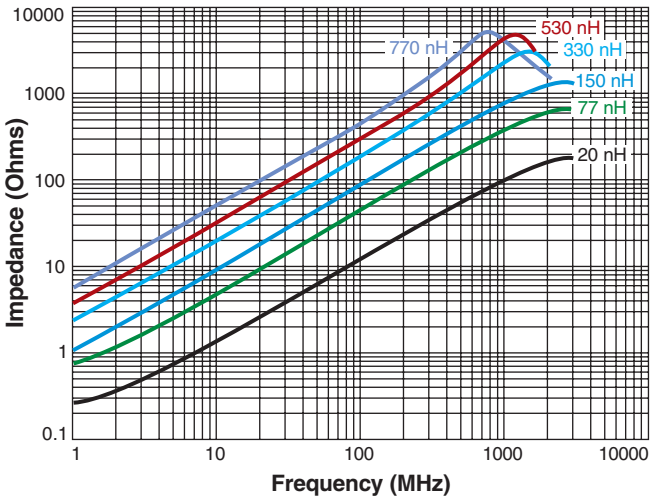
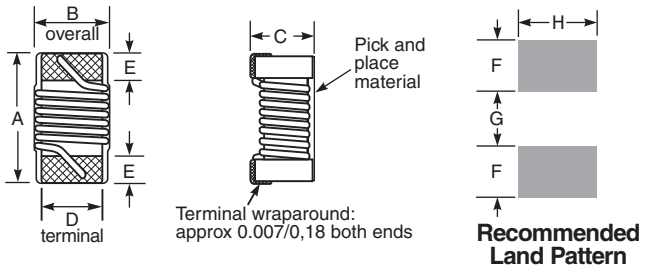
Chip Inductors – 0402DF Series

Typical L vs Frequency

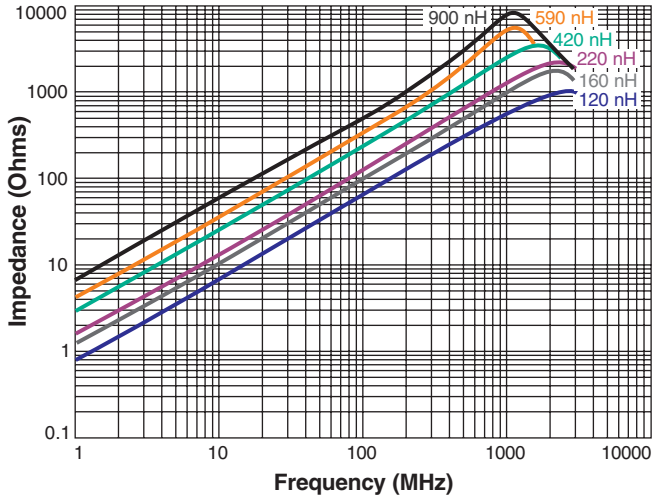


Typical Z vs Frequency





A max	B max	C max	D	E	F	G	H	
0.044	0.026	0.026	0.018	0.008	0.014	0.025	0.026	inches
1,11	0,66	0,66	0,46	0,20	0,36	0,635	0,66	mm



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Document 1069-2 Revised 10/13/16

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