Chip Inductors–0603CT (1608)

- Very low profile – only 60% of the height of our other 0603 inductor series
- Excellent Q, low DCR and very high SRF

Designer's Kit C423 contains 10 each of all stocked 5% values and **Designer's Kit C423-2** contains 10 each of all 2% values.

Part number[1]	Inductance[2] (nH)	Percent tolerance[3]	900 MHz L typ	900 MHz Q typ[4]	1.7 GHz L typ	1.7 GHz Q typ[4]	SRF typ[5] (GHz)	DCR max[6] (Ohms)	Irms[7] (mA)
0603CT-1N0XJL_	1.0	**5**	0.98	39	0.99	58	16.0	0.045	1600
0603CT-1N2XJL_	1.2	**5**	1.18	35	1.19	50	16.0	0.105	1100
0603CT-2N0XJL_	2.0	**5**	1.98	46	1.98	70	12.0	0.034	1900
0603CT-2N2XJL_	2.2	**5**	2.10	50	2.13	74	10.7	0.046	1600
0603CT-2N3XJL_	2.3	**5**	2.27	55	2.28	81	11.0	0.046	1600
0603CT-2N5XJL_	2.5	**5**	2.48	52	2.50	77	11.0	0.060	1300
0603CT-3N0X_L_	3.0	**5,2**	2.96	57	2.97	82	10.7	0.039	1600
0603CT-3N3X_L_	3.3	**5,2**	3.27	60	3.33	83	7.00	0.039	1600
0603CT-3N6X_L_	3.6	**5,2**	3.58	69	3.63	95	7.00	0.044	1600
0603CT-3N9X_L_	3.9	**5,2**	3.87	68	3.95	90	6.30	0.050	1400
0603CT-4N3X_L_	4.3	**5,2**	4.26	58	4.34	84	6.30	0.076	1300
0603CT-4N7X_L_	4.7	**5,2**	4.66	50	4.75	70	5.60	0.120	960
0603CT-5N1X_L_	5.1	**5,2**	5.12	68	5.18	93	5.50	0.050	1400
0603CT-5N6X_L_	5.6	**5,2**	5.60	67	5.73	90	5.05	0.058	1300
0603CT-6N8X_L_	6.8	**5,2**	6.78	60	7.00	81	4.50	0.080	1200
0603CT-7N2X_L_	7.2	**5,2**	7.19	65	7.44	88	4.50	0.047	1500
0603CT-8N2X_L_	8.2	**5,2**	8.18	60	8.46	78	4.25	0.075	1300
0603CT-9N5X_L_	9.5	**5,2**	9.52	63	9.92	80	3.95	0.092	1100
0603CT-10NX_L_	10	**5,2**	10.0	67	10.4	85	3.95	0.075	1300
0603CT-11NX_L_	11	**5,2**	11.0	66	11.5	86	4.00	0.110	1000
0603CT-12NX_L_	12	**5,2**	12.0	68	12.7	85	3.50	0.130	920
0603CT-15NX_L_	15	**5,2**	15.2	65	16.1	80	3.30	0.145	800
0603CT-16NX_L_	16	**5,2**	16.3	63	17.5	76	3.10	0.175	760
0603CT-18NX_L_	18	**5,2**	18.1	66	19.2	80	2.95	0.200	720
0603CT-20NX_L_	20	**5,2**	20.2	67	21.6	80	2.90	0.175	760
0603CT-22NX_L_	22	**5,2**	22.4	60	24.3	70	2.75	0.220	700
0603CT-24NX_L_	24	**5,2**	24.4	61	26.5	72	2.70	0.240	680
0603CT-27NX_L_	27	**5,2**	27.4	62	29.8	75	2.55	0.270	670
0603CT-30NX_L_	30	**5,2**	30.5	62	33.9	73	2.45	0.330	600
0603CT-33NX_L_	33	**5,2**	34.0	55	39.1	61	2.20	0.330	600
0603CT-36NX_L_	36	**5,2**	37.2	61	42.3	63	2.30	0.335	600
0603CT-39NX_L_	39	**5,2**	40.3	60	45.3	65	2.25	0.400	570
0603CT-43NX_L_	43	**5,2**	44.5	57	51.3	60	2.10	0.440	530
0603CT-47NX_L_	47	**5,2**	48.2	55	57.8	57	1.90	0.540	470
0603CT-51NX_L_	51	**5,2**	53.0	55	63.2	55	1.85	0.570	440
0603CT-56NX_L_	56	**5,2**	59.4	54	75.4	48	1.75	0.700	420

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

0603CT-56NXGLW

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: **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 250 MHz, 0.1 Vrms, 0 Adc using Coilcraft SMD-A fixture in Agilent/HP 4287A impedance analyzer.
3. Tolerances in bold are stocked for immediate shipment.
4. Q measured using Agilent/HP4291A with Agilent/HP 16193 test fixture.
5. SRF measured using Agilent/HP 8722ES network analyzer and Coilcraft SMD-D test fixture.
6. DCR measured on Cambridge Technology micro-ohmmeter and Coilcraft CCF858 test fixture.
7. Current that causes a 15°C temperature rise from 25°C ambient.
8. Electrical specifications at 25°C.

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

Coilcraft®
www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

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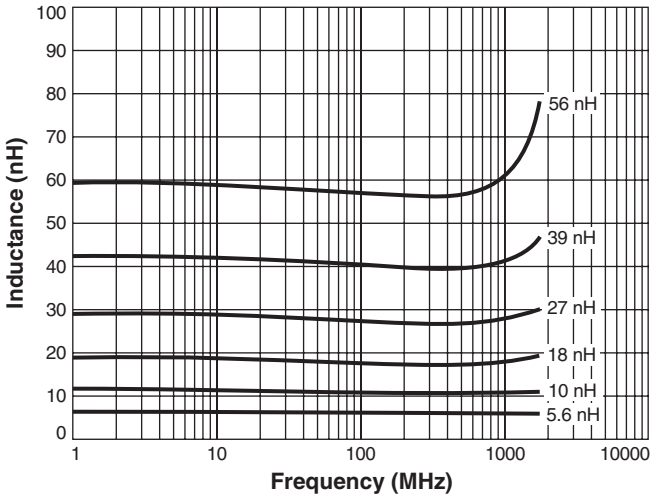
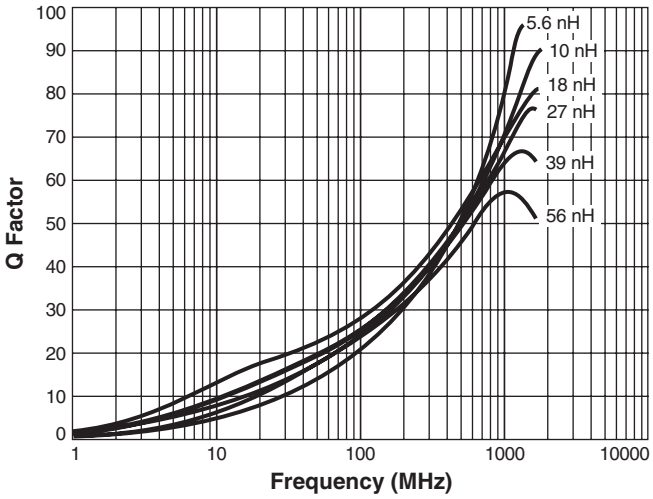
0603CT Series (1608)

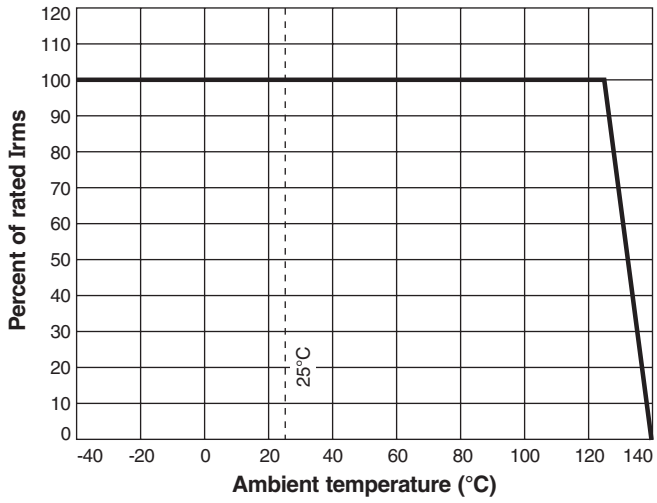
Typical L vs Frequency

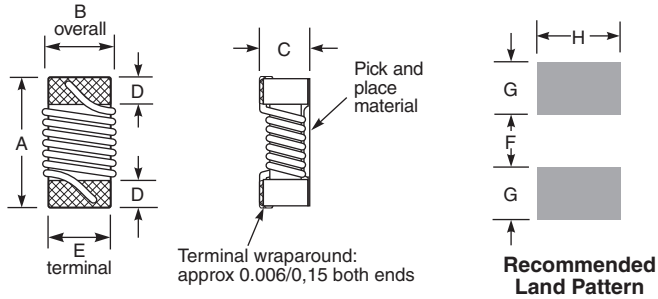


Typical Q vs Frequency



Typical Irms Derating





A max	B max	C max	D	E	F	G	H	
0.064	0.033	0.024	0.013	0.030	0.025	0.025	0.040	inches
1,63	0,84	0,61	0,33	0,76	0,64	0,64	1,02	mm

Note: Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

Designer's Kit C423 contains 10 each of all 5% values;
Designer's Kit C423-2 contains 10 each of all 2% values

Core material Ceramic

Environmental RoHS compliant, halogen free optional

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

Weight 160 – 190 mg

Ambient temperature –40°C to +125°C with Irms current, +125°C to +140°C with derated current

Storage temperature Component: –40°C to +125°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 +125 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 2000/7″reel; Paper tape: 8 mm wide, 0.68 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.

Coilcraft
www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

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