



# 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 <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance <sup>3</sup>	900 MHz		1.7 GHz		SRF typ <sup>5</sup> (GHz)	DCR max <sup>6</sup> (Ohms)	Irms <sup>7</sup> (mA)
			L typ	Q typ <sup>4</sup>	L typ	Q typ <sup>4</sup>			
0603CT-1N0XJE_	1.0	<b>5</b>	0.98	39	0.99	58	16.0	0.045	1600
0603CT-1N2XJE_	1.2	<b>5</b>	1.18	35	1.19	50	16.0	0.105	1100
0603CT-2N0XJE_	2.0	<b>5</b>	1.98	46	1.98	70	12.0	0.034	1900
0603CT-2N2XJE_	2.2	<b>5</b>	2.10	50	2.13	74	10.7	0.046	1600
0603CT-2N3XJE_	2.3	<b>5</b>	2.27	55	2.28	81	11.0	0.046	1600
0603CT-2N5XJE_	2.5	<b>5</b>	2.48	52	2.50	77	11.0	0.060	1300
0603CT-3N0X_E_	3.0	<b>5,2</b>	2.96	57	2.97	82	10.7	0.039	1600
0603CT-3N3X_E_	3.3	<b>5,2</b>	3.27	60	3.33	83	7.00	0.039	1600
0603CT-3N6X_E_	3.6	<b>5,2</b>	3.58	69	3.63	95	7.00	0.044	1600
0603CT-3N9X_E_	3.9	<b>5,2</b>	3.87	68	3.95	90	6.30	0.050	1400
0603CT-4N3X_E_	4.3	<b>5,2</b>	4.26	58	4.34	84	6.30	0.076	1300
0603CT-4N7X_E_	4.7	<b>5,2</b>	4.66	50	4.75	70	5.60	0.120	960
0603CT-5N1X_E_	5.1	<b>5,2</b>	5.12	68	5.18	93	5.50	0.050	1400
0603CT-5N6X_E_	5.6	<b>5,2</b>	5.60	67	5.73	90	5.05	0.058	1300
0603CT-6N8X_E_	6.8	<b>5,2</b>	6.78	60	7.00	81	4.50	0.080	1200
0603CT-7N2X_E_	7.2	<b>5,2</b>	7.19	65	7.44	88	4.50	0.047	1500
0603CT-8N2X_E_	8.2	<b>5,2</b>	8.18	60	8.46	78	4.25	0.075	1300
0603CT-9N5X_E_	9.5	<b>5,2</b>	9.52	63	9.92	80	3.95	0.092	1100
0603CT-10NX_E_	10	<b>5,2</b>	10.0	67	10.4	85	3.95	0.075	1300
0603CT-11NX_E_	11	<b>5,2</b>	11.0	66	11.5	86	4.00	0.110	1000
0603CT-12NX_E_	12	<b>5,2</b>	12.0	68	12.7	85	3.50	0.130	920
0603CT-15NX_E_	15	<b>5,2</b>	15.2	65	16.1	80	3.30	0.145	800
0603CT-16NX_E_	16	<b>5,2</b>	16.3	63	17.5	76	3.10	0.175	760
0603CT-18NX_E_	18	<b>5,2</b>	18.1	66	19.2	80	2.95	0.200	720
0603CT-20NX_E_	20	<b>5,2</b>	20.2	67	21.6	80	2.90	0.175	760
0603CT-22NX_E_	22	<b>5,2</b>	22.4	60	24.3	70	2.75	0.220	700
0603CT-24NX_E_	24	<b>5,2</b>	24.4	61	26.5	72	2.70	0.240	680
0603CT-27NX_E_	27	<b>5,2</b>	27.4	62	29.8	75	2.55	0.270	670
0603CT-30NX_E_	30	<b>5,2</b>	30.5	62	33.9	73	2.45	0.330	600
0603CT-33NX_E_	33	<b>5,2</b>	34.0	55	39.1	61	2.20	0.330	600
0603CT-36NX_E_	36	<b>5,2</b>	37.2	61	42.3	63	2.30	0.335	600
0603CT-39NX_E_	39	<b>5,2</b>	40.3	60	45.3	65	2.25	0.400	570
0603CT-43NX_E_	43	<b>5,2</b>	44.5	57	51.3	60	2.10	0.440	530
0603CT-47NX_E_	47	<b>5,2</b>	48.2	55	57.8	57	1.90	0.540	470
0603CT-51NX_E_	51	<b>5,2</b>	53.0	55	63.2	55	1.85	0.570	440
0603CT-56NX_E_	56	<b>5,2</b>	59.4	54	75.4	48	1.75	0.700	420

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

**0603CT-56NXGEW**

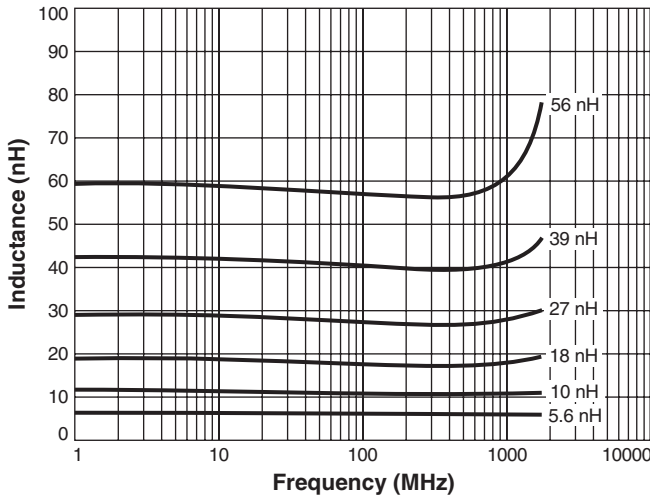
- Tolerance:** G = 2% J = 5%  
(Table shows stock tolerances in bold.)
- Termination:** E = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.  
L = RoHS compliant, not halogen-free. Silver-palladium-platinum-glass frit terminations  
R = RoHS compliant matte tin over nickel over silver-platinum-glass frit.  
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). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).  
U = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from U to W.

- Inductance measured at 250 MHz, 0.1 Vrms, 0 Adc using Coilcraft SMD-A fixture in Agilent/HP 4287A impedance analyzer.
  - Tolerances in bold are stocked for immediate shipment.
  - Q measured using Agilent/HP4291A with Agilent/HP 16193 test fixture.
  - SRF measured using Agilent/HP 8722ES network analyzer and Coilcraft SMD-D test fixture.
  - DCR measured on Cambridge Technology micro-ohmmeter and Coilcraft CCF858 test fixture.
  - Current that causes a 15°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

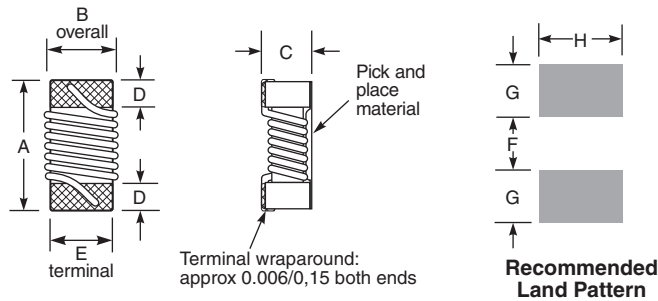
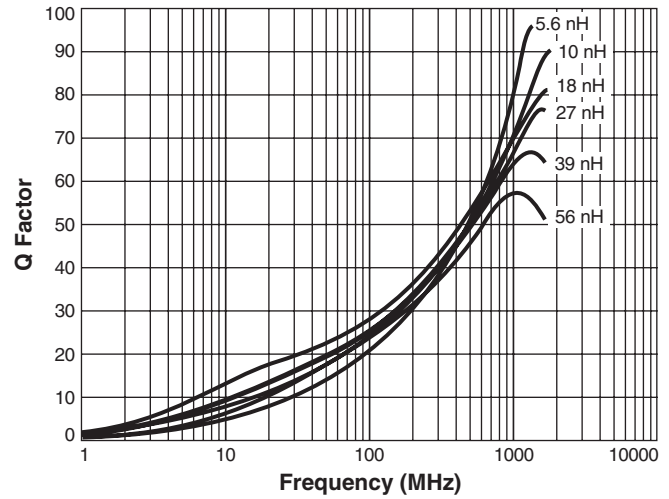


# 0603CT Series (1608)

## Typical L vs Frequency



## Typical Q vs Frequency



Amax	Bmax	Cmax	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:** Dimensions are before optional solder application. For maximum height and length dimensions including solder, add 0.006 in / 0,152 mm. For maximum width dimension including solder, add 0.0025 in / 0,0635 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

**Terminations** Silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 1.4 – 2.3 mg

**Ambient temperature** -40°C to +125°C with Irms current

**Maximum part temperature** +140°C (ambient + temp rise).

**Storage temperature** Component: -40°C to +140°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](#).



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