



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 | | 1.7 GHz | | SRF typ ⁵ (GHz) | DCR max ⁶ (Ohms) | Irms ⁷ (mA) |
|--------------------------|---------------------------------|--------------------------------|---------|--------------------|---------|--------------------|-------------------------------|--------------------------------|---------------------------|
| | | | L typ | Q typ ⁴ | L typ | Q typ ⁴ | | | |
| 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.



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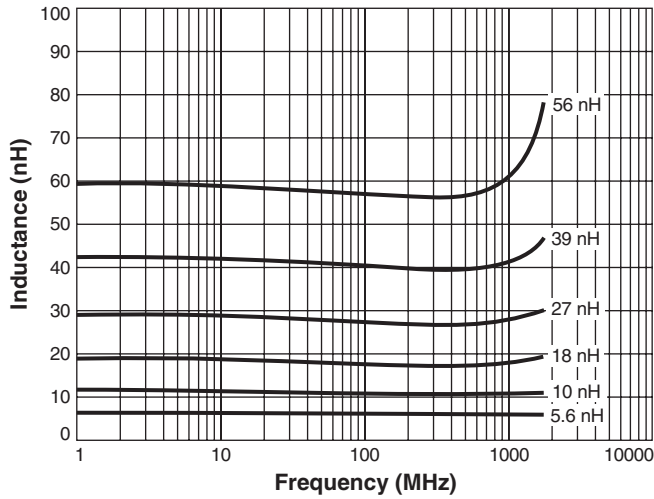
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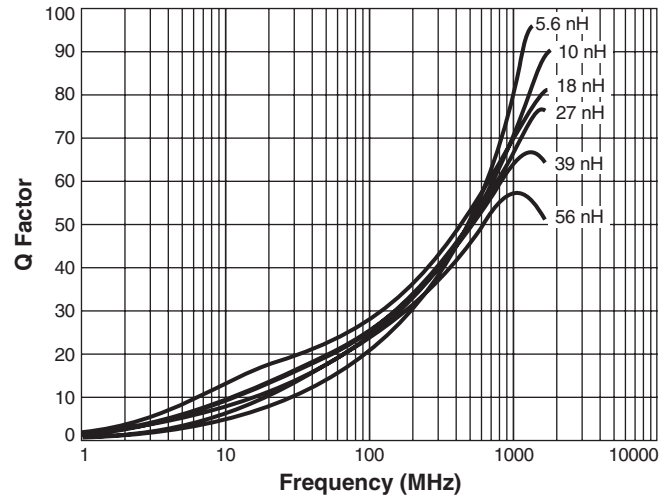


0603CT Series (1608)

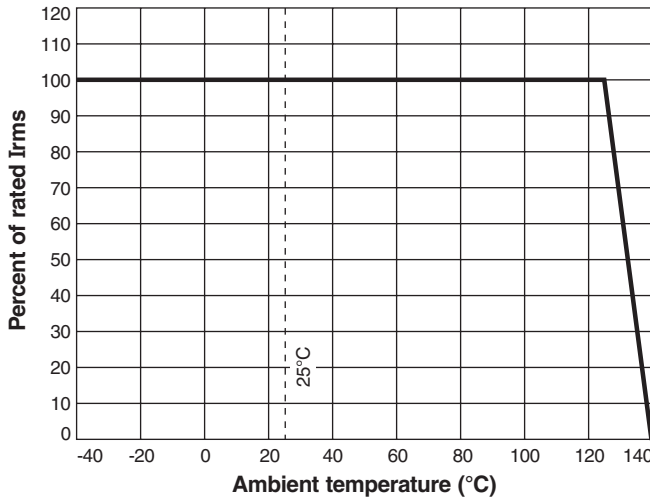
Typical L vs Frequency



Typical Q vs Frequency



Typical Irms Derating



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

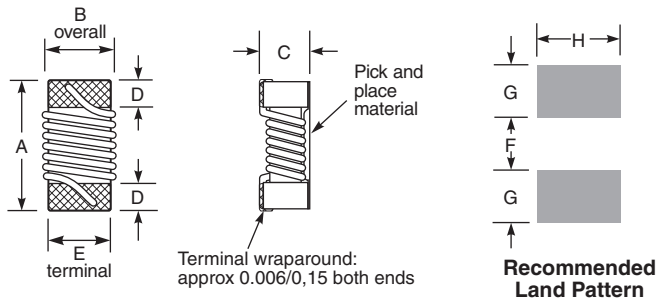
Temperature Coefficient of Inductance (TCL) +25 to +125 ppm/°C

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 with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.



| 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: 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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