

# LC0603 Ceramic Core



## CHARACTERISTICS

**DIELECTRIC STRENGTH:** 500 Volts RMS at sea level.

**OPERATING TEMPERATURE:** -25°C to +85°C.

**STORAGE TEMPERATURE:** -45°C to +100°C in original tape and reel package.

**SOLDERING HEAT RESISTANCE:** 250°C for 10 seconds after 120°C preheat cycle for 5 minutes.

**SOLDERABILITY:** Terminals are covered 95% with solder

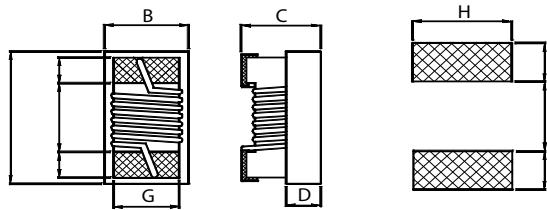
**RESISTANCE TO SOLVENT:** No change in appearance when dipped into alcohol or freon for 3 minutes.

**MARKING:** Marked with inductance value in EIA code.

## APPLICATIONS

- ◇ LC resonant circuits such as oscillators and signal generators.
- ◇ Impedance matching.
- ◇ Circuit isolation.
- ◇ RF filters.
- ◇ Disk drives and computer peripherals.
- ◇ Audio equipment.
- ◇ Video equipment.
- ◇ TV and radio.
- ◇ Telecommunication equipment.

## SHAPES AND DIMENSIONS



## NOTES:

- (1) Available tolerances: G = ±2%, J = ±5%, K = ±10%.
- (2) Q measured using HP4286A RF Impedance Analyzer with HP16193A Test Fixture.
- (3) Rdc measured using HP4286A.
- (4) SRF measured using HP8753D Network Analyzer.
- (5) Packaging: Tape and Reel only.

**TOLERANCE:** G = ±2%, J = ±5%, K = ±10%

**PACKAGING:** Clear tape and reel {standard}

**L/Q:** Agilent/HP4291A+ Agilent/HP16193A

**SRF:** Agilent/HP8753D / Agilent/HP4291A

**RDC:** CH502BC, HP4338B

Irms for a 15°C rise above 25°C ambient.

**OPERATING TEMPERATURE RANGE:** -40°C to 125°C.

## DIMENSIONS IN MM

TYPE	A	B	C	D	E	F	G
LC0603	1.80°	1.12°	1.02°	0.35 Ref	0.86	0.33	0.76
LC0805	2.29°	1.73°	1.52°	0.50 Ref	1.02	0.44	1.27
LC1008	2.92°	2.79°	2.03°	0.70 Ref	1.52	0.51	2.03
LC1206	3.70°	2.80°	2.20°	0.90 Ref	2.18	0.51	2.30

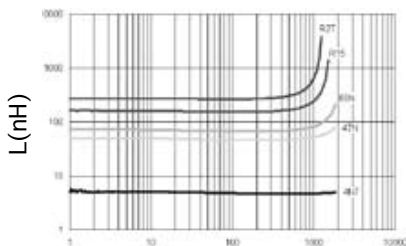
Part Number	Inductance (NH)	Test Freq. (MHz)	Tolerance (±%)	Q Min.	SRF (MHz) min	Rdc (Ω) Max	Irms Max (mA)	900 MHz		1.7 GHz	
LC0603-1N6K	1.6	250	10 / 5	24	12500	0.030	700	1.60	49	1.58	63
LC0603-1N8K	1.8	250	10 / 5	16	12500	0.045	700	1.60	35	1.66	50
LC0603-3N6K	3.6	250	10 / 5	22	5900	0.063	700	3.70	53	3.71	65
LC0603-3N9K	3.9	250	10 / 5	22	6900	0.080	700	3.95	49	3.96	67
LC0603-4N3K	4.3	250	10 / 5	22	5900	0.063	700	4.32	50	4.33	70
LC0603-4N7K	4.7	250	10 / 5	20	5800	0.116	700	4.72	47	4.75	57
LC0603-5N1K	5.1	250	10 / 5	20	5700	0.140	700	4.93	47	4.95	56
LC0603-6N3K	6.3	250	10 / 5	20	5700	0.140	700	5.50	47	6.1	60
LC0603-6N8K	6.8	250	10 / 5	27	5800	0.110	700	6.75	60	7.1	81
LC0603-7N5K	7.5	250	10 / 5	28	4800	0.106	700	7.70	60	7.82	65
LC0603-8N2K	8.2	250	10 / 5	28	4700	0.109	700	8.30	60	8.50	60

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LC0603-8N7K	8.7	250	10 / 5	28	4600	0.109	700	8.86	62	9.32	58
LC0603-9N5K	9.5	250	10 / 5	28	5400	0.135	700	9.70	59	9.92	61
LC0603-100K	10	250	10 / 5 / 2	31	4800	0.130	700	10.0	66	10.6	83
LC0603-110K	11	250	10 / 5 / 2	33	4000	0.086	700	11.0	53	11.5	56
LC0603-120K	12	250	10 / 5 / 2	35	4000	0.130	700	12.3	72	13.5	83
LC0603-150K	15	250	10 / 5 / 2	35	4000	0.170	700	15.4	64	16.8	89
LC0603-160K	16	250	10 / 5 / 2	34	3300	0.104	700	16.2	55	17.3	52
LC0603-180K	18	250	10 / 5 / 2	35	3100	0.170	700	18.7	70	21.4	69
LC0603-220K	22	250	10 / 5 / 2	38	3000	0.190	700	22.8	73	26.1	71
LC0603-240K	24	250	10 / 5 / 2	37	2650	0.135	700	24.5	45	28.7	39
LC0603-270K	27	250	10 / 5 / 2	40	2800	0.220	600	29.2	74	34.6	65
LC0603-300K	30	250	10 / 5 / 2	37	2250	0.144	600	31.4	47	39.9	28
LC0603-330K	33	250	10 / 5 / 2	40	2300	0.220	600	36.0	67	49.5	42
LC0603-360K	36	250	10 / 5 / 2	38	2080	0.250	600	39.4	47	52.7	24
LC0603-390K	39	250	10 / 5 / 2	40	2200	0.250	600	42.7	60	60.2	40
LC0603-430K	43	250	10 / 5 / 2	39	2000	0.280	600	47.0	44	64.9	21
LC0603-470K	47	200	10 / 5 / 2	38	2000	0.280	600	52.2	62	77.2	35
LC0603-560K	56	200	10 / 5 / 2	38	1900	0.310	600	62.5	56	97	26
LC0603-680K	68	200	10 / 5 / 2	37	1700	0.340	600	80.5	54	168	21
LC0603-720K	72	150	10 / 5 / 2	34	1700	0.490	400	82.0	53	135	20
LC0603-820K	82	150	10 / 5 / 2	34	1700	0.540	400	96.2	54	177	21
LC0603-101K	100	150	10 / 5 / 2	34	1400	0.580	400	124	49		
LC0603-111K	110	150	10 / 5 / 2	32	1350	0.610	300	138	43		
LC0603-121K	120	150	10 / 5 / 2	32	1300	0.750	300	166	39		
LC0603-151K	150	150	10 / 5 / 2	28	990	0.920	280	250	25		
LC0603-181K	180	100	10 / 5 / 2	25	990	1.250	240	305	22		
LC0603-221K	220	100	10 / 5 / 2	25	900	2.100	200	480	8		
LC0603-271K	270	100	10 / 5 / 2	24	900	2.300	170	980	4		

Typical L vs. Frequency



Typical Q vs. Frequency

