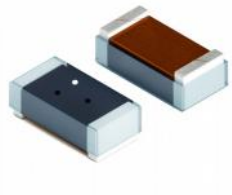
TCFL0603CF

Ceramic Chip Inductor (1.8 x 1.2 x 1.2 mm)



FEATURES

- Ultra Miniature SMD Package
- High SRF
- High Frequency
- High Q value

SPECIFICATION

Part Number	L (nH) / @MHz	Inductance tolerance	Q min /@MHz	SRF (MHz) min.	DCR (Ω) Max	IDC (mA) Max
TCFL0603CF-1N6_	1.6 / 250	J, K	24 / 250	12500	0.030	700
TCFL0603CF-1N8_	1.8 / 250	J, K	16 / 250	12500	0.045	700
TCFL0603CF-2N2_	2.2 / 250	J, K	13 / 250	12500	0.250	700
TCFL0603CF-3N3_	3.3 / 250	J, K	30 / 250	5900	0.045	700
TCFL0603CF-3N6_	3.6 / 250	J, K	22 / 250	5900	0.063	700
TCFL0603CF-3N9_	3.9 / 250	J, K	22 / 250	6900	0.080	700
TCFL0603CF-4N3_	4.3 / 250	J, K	22 / 250	5900	0.063	700
TCFL0603CF-4N7_	4.7 / 250	J, K	20 / 250	5800	0.085	700
TCFL0603CF-5N1_	5.1 / 250	J, K	20 / 250	5700	0.115	700
TCFL0603CF-5N6_	5.6 / 250	J, K	20 / 250	5800	0.160	700
TCFL0603CF-6N3_	6.3 / 250	J, K	26 / 250	5700	0.115	700
TCFL0603CF-6N8_	6.8 / 250	J, K	27 / 250	5800	0.125	700
TCFL0603CF-7N5_	7.5 / 250	J, K	28 / 250	4800	0.115	700
TCFL0603CF-8N2_	8.2 / 250	J, K	30 / 250	4700	0.125	700
TCFL0603CF-8N7_	8.7 / 250	J, K	28 / 250	4600	0.109	700
TCFL0603CF-9N1_	9.1 / 250	J, K	28 / 250	4600	0.120	700
TCFL0603CF-9N5_	9.5 / 250	G, J, K	28 / 250	5400	0.145	700
TCFL0603CF-10N_	10 / 250	G, J, K	31 / 250	4800	0.145	700
TCFL0603CF-11N_	11 / 250	G, J, K	30 / 250	4000	0.145	700
TCFL0603CF-12N_	12 / 250	G, J, K	35 / 250	4000	0.145	700
TCFL0603CF-15N_	15 / 250	G, J, K	35 / 250	4000	0.180	700
TCFL0603CF-16N_	16 / 250	G, J, K	34 / 250	3300	0.170	700
TCFL0603CF-18N_	18 / 250	G, J, K	35 / 250	3100	0.180	700
TCFL0603CF-19N_	19 / 250	G, J, K	35 / 250	3000	0.190	700
TCFL0603CF-20N_	20 / 250	G, J, K	38 / 250	3000	0.180	700
TCFL0603CF-22N_	22 / 250	G, J, K	38 / 250	3000	0.205	700
TCFL0603CF-23N_	23 / 250	G, J, K	38 / 250	2850	0.205	700
TCFL0603CF-24N_	24 / 250	G, J, K	36 / 250	2650	0.205	700
TCFL0603CF-25N_	25 / 250	G, J, K	38 / 250	2800	0.210	600
TCFL0603CF-27N_	27 / 250	G, J, K	40 / 250	2800	0.220	600
TCFL0603CF-30N_	30 / 250	G, J, K	37 / 250	2250	0.220	600
TCFL0603CF-33N_	33 / 250	G, J, K	40 / 250	2300	0.240	600
TCFL0603CF-36N_	36 / 250	G, J, K	37 / 250	2080	0.250	600
TCFL0603CF-39N_	39 / 250	G, J, K	40 / 250	2200	0.260	600
TCFL0603CF-43N_	43 / 250	G, J, K	38 / 250	2000	0.280	600
TCFL0603CF-47N_	47 / 200	G, J, K	38 / 200	2000	0.280	600
TCFL0603CF-56N_	56 / 200	G, J, K	38 / 200	1900	0.310	600
TCFL0603CF-62N_	62 / 200	G, J, K	37 / 200	1800	0.330	600
TCFL0603CF-68N_	68 / 200	G, J, K	37 / 200	1700	0.340	600

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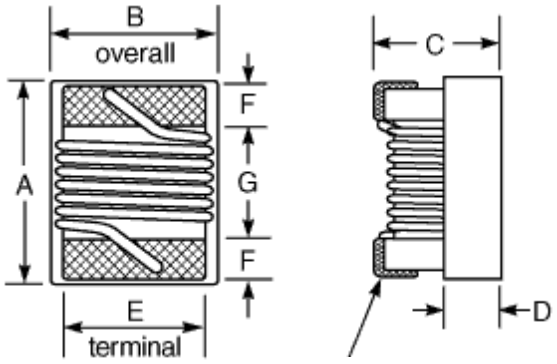
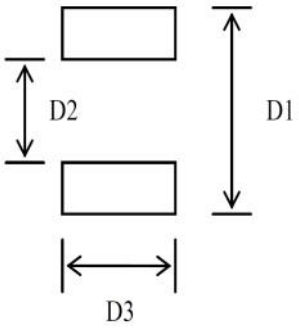
Part Number	L (nH) / @MHz	Inductance tolerance	Q min /@MHz	SRF (MHz) min.	DCR (Ω) Max	IDC (mA) Max
TCFL0603CF-72N_	72 / 150	G，J，K	34 / 150	1700	0.490	400
TCFL0603CF-82N_	82 / 150	G，J，K	34 / 150	1700	0.540	400
TCFL0603CF-91N_	91 / 150	G，J，K	34 / 150	1500	0.560	400
TCFL0603CF-R10_	100 / 150	G，J，K	34 / 150	1400	0.580	400
TCFL0603CF-R11_	110 / 150	G，J，K	32 / 150	1350	0.610	300
TCFL0603CF-R12_	120 / 150	G，J，K	32 / 150	1300	0.750	300
TCFL0603CF-R15_	150 / 150	G，J，K	28 / 150	990	0.920	280
TCFL0603CF-R17_	170 / 100	G，J，K	25 / 100	990	1.150	240
TCFL0603CF-R18_	180 / 100	G，J，K	25 / 100	990	1.250	240
TCFL0603CF-R19_	190 / 100	G，J，K	25 / 100	990	1.350	200
TCFL0603CF-R20_	200 / 100	G，J，K	25 / 100	990	1.500	200
TCFL0603CF-R22_	220 / 100	G，J，K	25 / 100	900	1.600	250
TCFL0603CF-R27_	270 / 100	G，J，K	24 / 100	900	2.000	170
TCFL0603CF-R33_	330 / 100	G，J，K	25 / 100	900	2.750	100
TCFL0603CF-R34_	340 / 100	G，J，K	25 / 100	900	2.900	100
TCFL0603CF-R39_	390 / 100	G，J，K	25 / 100	900	3.150	100
TCFL0603CF-R47_	470 / 100	G，J，K	25 / 100	750	4.000	80

- Inductance tolerance: Letter at end of part number: G = ±2% ; J = ±5% ; K = ±10%
- Specifications are measured using HP E4991A

DIMENSIONS



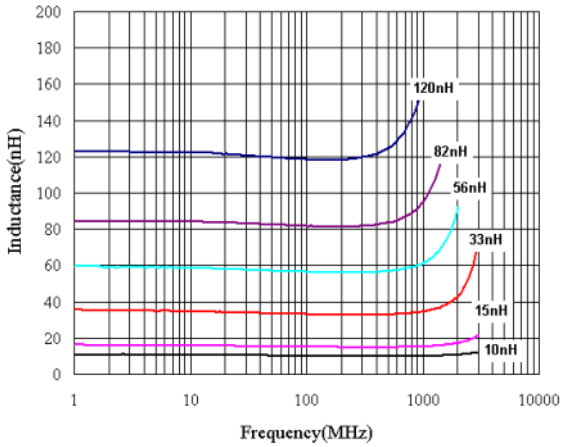
SOLDER PATTERN



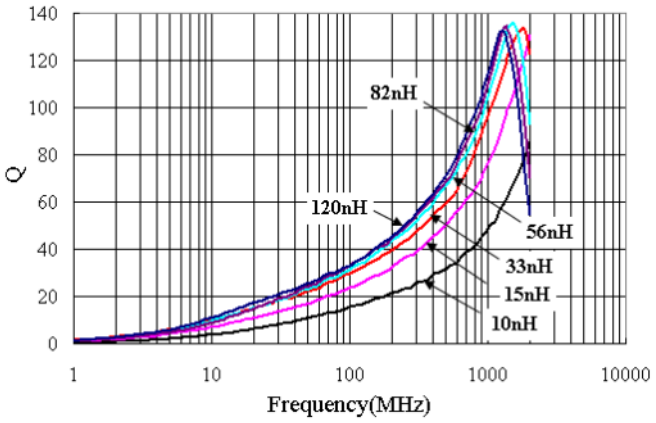
Unit: mm

	A	B	C	D	F	G	D1	D2	D3
mm	1.80 Max	1.20 Max	1.20 Max	0.38	0.35	1.00	1.92	0.64	1.26

L vs FREQUENCY



Q vs FREQUENCY



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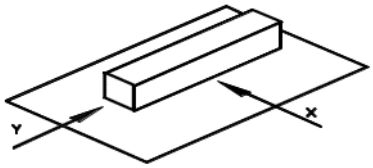
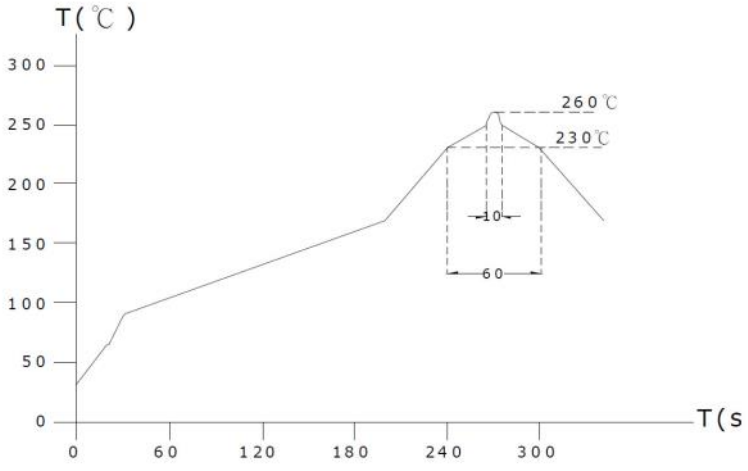
RELIABILITY TEST

1.Operating temperature range
-40 TO + 105°C (Includes temperature when the coil is heated)
2. External appearance
On visual inspection, the coil has no external defects.
3. Terminal strength
After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y withstanding at below conditions.
Terminal should not peel off. (refer to figure at right) 0.5kg



4. Insulating resistance
Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength
No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics
Inductance coefficient (0~2,000)x10^{-6}/°C (-25~+80°C)
inductance deviation within ±5.0%, after 96 hours
7. Humidity characteristics (Moisture Resistance)
Inductance deviation within ±5%, after 96 hours in 90~95% relative humidity at 40 ±2°C and 1 hour drying under normal condition.
8. Vibration resistance
Inductance deviation within ±5%, after vibration for 1 hour. In each of three orientations at sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance
Inductance deviation within ±5%, after being dropped once with 981m/s^2 (100G) shock attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds (See recommend reflow)
11. Storage environment
Temperature: 0°C~35°C; -40°C~105°C (after mounting on PCB)
Humidity Range: 50% ~ 80% RH
12. Use components within 12 months.
If 12 months or more have elapsed, check solderability before use.

LEAD-FREE HEAT ENDURANCE TEST



LEAD-FREE RECOMMENDED REFLOW