

# FLCLH series

## SMD Ceramic Multilayer Chip Inductors



### ◆ Features

- » RoHS compliant
- » Excellent Q factor and SRF characteristics
- » Small size of 0402/0603 is suitable for small portable devices
- » Supports operating frequency up to 6GHz with nominal inductance values from 1.0nH to 470nH.

### ◆ Applications

- » RF resonance and impedance matching circuit
- » RF and wireless communication
- » Information technology equipment, computers, telecommunications, radar detectors, automotive electronics, cellular phones, pagers, PDAs, keyless remote systems
- » L-C filter configurations

### ◆ Dimension

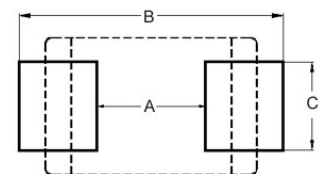
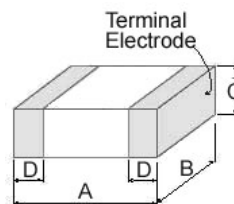
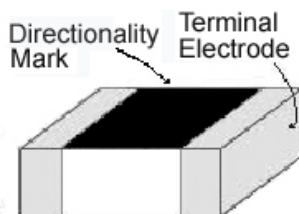
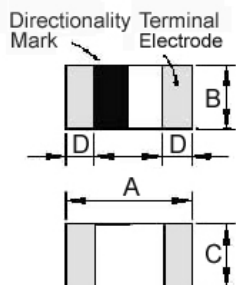
#### Shape and Dimensions

Type	A	B	C	D	Unit: mm
FLCLH0201	0.6±0.03	0.3±0.03	0.3±0.03	0.15±0.05	
FLCLH0402	1.0±0.10	0.5±0.10	0.5±0.10	0.25±0.10	
FLCLH0603	1.6±0.15	0.8±0.15	0.8±0.15	0.3±0.20	
FLCLH0805 <390nH	2.0±0.20	1.25±0.2	0.9±0.2	0.5±0.30	
FLCLH0805 ≥390nH	2.0±0.20	1.25±0.2	1.2±0.2	0.5±0.30	

0201-F Series    0402-S Series    0805-S Series  
 0402-H Series    0603-S Series    0603-H Series

#### Recommended Pattern

Type	A	B	C	Unit: mm
FLCLH0201	0.3	0.75~1.05	0.3	
FLCLH0402	0.4	1.2~1.4	0.5	
FLCLH0603	0.7~0.8	1.8~2.0	0.6~0.8	
FLCLH0805	1.0~1.2	2.6~4.0	1.0~1.2	



◆ **Part Number**

<b>FLCLH</b>	<b>0805</b>	<b>T</b>	<b>R10</b>	<b>J</b>	<b>-S</b>
<b>Type</b>	<b>Size</b>	<b>Packing</b>	<b>Inductance (nH)</b>	<b>Tolerance</b>	<b>Internal No.</b>
FLCLH	0201	Taping	1.0: 1N0	S = ± 0.3 nH	FLCLH0201-F: Top side half mark
	0402		1.2: 1N2	J = ± 5%	FLCLH0402-S: Top side full mark
	0603		2.2: 2N2	K = ± 10%	FLCLH0402-H: Top side half mark
	0805		10: 10N		FLCLH0603-S: Top side full mark
			33: 33N		FLCLH0603-H: Top side half mark
			100: R10		FLCLH0805-S: White
			180: R18		
			270: R27		

## ◆ Electrical Specifications

### FLCLH0201---F Series

Impedance (nH) At 100MHz	Tolerance (±%)	Q Min At 100MHz	SRF (MHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
1.0	± 0.3 nH	4	>1000	0.11	470
1.2	± 0.3 nH	4	>1000	0.12	450
1.5	± 0.3 nH	4	>1000	0.13	430
1.8	± 0.3 nH	4	>1000	0.16	390
2.0	± 0.3 nH	4	>1000	0.17	380
2.2	± 0.3 nH	4	8800	0.19	360
2.4	± 0.3 nH	4	8300	0.20	350
2.7	± 0.3 nH	4	7700	0.21	340
3.0	± 0.3 nH	4	7200	0.22	330
3.3	± 0.3 nH	4	6700	0.23	320
3.6	± 0.3 nH	4	6400	0.25	310
3.9	± 0.3 nH	4	6000	0.27	300
4.3	± 0.3 nH	4	5700	0.30	280
4.7	± 0.3 nH	4	5300	0.30	280
5.1	± 0.3 nH	4	5000	0.33	270
5.6	± 0.3 nH	4	4600	0.36	260
6.2	± 0.3 nH	4	4200	0.38	250
6.8	5	4	3900	0.39	250
7.5	5	4	3600	0.41	240
8.2	5	4	3400	0.45	230
9.1	5	4	3200	0.48	220
10	5	4	2900	0.51	220
12	5	4	2700	0.68	190
15	5	4	2300	0.71	180
18	5	4	2100	0.81	170
22	5	4	1800	1.00	150
27	5	4	1800	1.35	120
33	5	4	1700	1.47	110
39	5	4	1500	1.72	100
47	5	4	1300	1.90	100
56	5	4	1100	2.27	80
68	5	4	1100	2.66	80
82	5	4	1000	3.37	70
100	5	4	900	3.74	60

Tolerance : S = ± 0.3 nH ; J = ± 5%

**FLCLH0402--- S Series**

Impedance (nH) At 100MHz	Tolerance (±%)	Q Min At 100MHz	SRF (MHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
1.0	± 0.3 nH	8	10000	0.10	400
1.2	± 0.3 nH	8	10000	0.10	400
1.5	± 0.3 nH	8	9000	0.10	400
1.8	± 0.3 nH	8	8700	0.10	400
2.0	± 0.3 nH	8	8100	0.15	400
2.2	± 0.3 nH	8	8100	0.15	400
2.4	± 0.3 nH	8	7700	0.15	400
2.7	± 0.3 nH	8	7700	0.15	400
3.0	± 0.3 nH	8	6300	0.15	400
3.3	± 0.3 nH/10	8	6300	0.15	400
3.6	± 0.3 nH/10	8	6100	0.15	400
3.9	± 0.3 nH/10	8	6100	0.20	400
4.3	± 0.3 nH/10	8	5400	0.20	400
4.7	± 0.3 nH/10	8	5400	0.20	400
5.6	± 0.3 nH/10	8	5100	0.20	400
6.8	5/10	8	4550	0.25	400
8.2	5/10	8	4100	0.30	300
10	5/10	8	3900	0.35	300
12	5/10	8	3000	0.40	300
15	5/10	8	2800	0.50	300
18	5/10	8	2500	0.55	300
22	5/10	8	2200	0.70	300
27	5/10	8	2000	0.80	300
33	5/10	8	1800	0.9	200
39	5/10	8	1600	1.0	150
47	5/10	8	1400	1.2	150
56	5/10	8	1300	1.3	150
68	5/10	8	1100	1.5	100
82	5/10	8	1000	1.6	100
100	5/10	8	900	2.0	100

Tolerance : S = ± 0.3nH , J = ± 5% , K = ± 10%

## FLCLH0402---H Series

Impedance (nH) At 100MHz	Tolerance (±%)	Q Min At 100MHz	SRF (MHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
1.0	± 0.3 nH	8	10000	0.10	400
1.2	± 0.3 nH	8	10000	0.10	400
1.5	± 0.3 nH	8	9000	0.10	400
1.8	± 0.3 nH	8	8700	0.10	400
2.2	± 0.3 nH	8	8100	0.15	400
2.7	± 0.3 nH	8	7700	0.15	400
3.0	± 0.3 nH	8	6300	0.15	400
3.3	± 0.3 nH/10	8	6300	0.15	400
3.9	± 0.3 nH/10	8	6100	0.20	400
4.7	± 0.3 nH/10	8	5400	0.20	400
5.6	± 0.3 nH/10	8	5100	0.20	400
6.8	5/10	8	4550	0.25	400
8.2	5/10	8	4100	0.30	300
10	5/10	8	3900	0.35	300
12	5/10	8	3000	0.40	300
15	5/10	8	2800	0.50	300
18	5/10	8	2500	0.55	300
22	5/10	8	2200	0.70	300
27	5/10	8	2000	0.80	300
33	5/10	8	1800	0.9	200
39	5/10	8	1600	1.0	150
47	5/10	8	1400	1.2	150
56	5/10	8	1300	1.3	150
68	5/10	8	1100	1.5	100
82	5/10	8	1000	1.6	100
100	5/10	8	900	2.0	100
120	5/10	8	800	2.2	100
150	5/10	8	700	3.5	100
180	5/10	8	600	3.8	100
220	5/10	8	500	4.2	100
270	5/10	8	500	4.8	100

Tolerance : S = ± 0.3nH , J = ± 5% , K = ± 10%

**FLCLH0603---S Series**

Impedance (nH) At 100MHz	Tolerance (±%)	Q Min At 100MHz * At 50MHz	SRF (MHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
1.0	± 0.3 nH	8	10000	0.1	600
1.2	± 0.3 nH	8	10000	0.1	600
1.5	± 0.3 nH	8	8000	0.1	600
1.8	± 0.3 nH	8	8000	0.1	600
2.2	± 0.3 nH	8	7200	0.1	600
2.7	± 0.3 nH	10	6200	0.1	600
3.3	± 0.3 nH/10	10	5200	0.12	600
3.9	± 0.3 nH/10	10	5000	0.14	600
4.7	± 0.3 nH/10	10	4750	0.16	600
5.6	± 0.3 nH/10	10	4100	0.18	600
6.8	5/10	10	3750	0.22	600
8.2	5/10	10	3300	0.24	600
10	5/10	12	3000	0.26	600
12	5/10	12	2600	0.28	600
15	5/10	12	2500	0.32	600
18	5/10	12	2400	0.35	600
22	5/10	12	2000	0.40	500
27	5/10	12	1900	0.45	500
33	5/10	12	1600	0.55	400
39	5/10	12	1400	0.60	400
47	5/10	12	1300	0.70	400
56	5/10	12	1100	0.75	400
62	5/10	12	1050	0.85	400
68	5/10	12	1050	0.85	400
82	5/10	12	900	1.00	300
100	5/10	12	770	1.20	300
*120	5/10	8	650	1.30	300
*150	5/10	8	550	1.70	250
*180	5/10	8	520	1.90	250
*220	5/10	8	500	2.00	250
*270	5/10	8	470	2.20	150
*330	5/10	8	320	2.80	100
*390	5/10	8	300	3.00	100

\*At 50MHz

Tolerance : S = ± 0.3 nH ; J = ± 5% ; K = ± 10%

**FLCLH0603---H Series**

Impedance (nH) At 100MHz	Tolerance (±%)	Q Min At 100MHz * At 50MHz	SRF (MHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
1.0	± 0.3 nH	8	10000	0.1	600
1.2	± 0.3 nH	8	10000	0.1	600
1.5	± 0.3 nH	8	8000	0.1	600
1.8	± 0.3 nH	8	8000	0.1	600
2.2	± 0.3 nH	8	7200	0.1	600
2.7	± 0.3 nH	10	6200	0.1	600
3.3	± 0.3 nH/10	10	5200	0.12	600
3.9	± 0.3 nH/10	10	5000	0.14	600
4.7	± 0.3 nH/10	10	4750	0.16	600
5.6	± 0.3 nH/10	10	4100	0.18	600
6.8	5/10	10	3750	0.22	600
8.2	5/10	10	3300	0.24	600
10	5/10	12	3000	0.26	600
12	5/10	12	2600	0.28	600
15	5/10	12	2500	0.32	600
18	5/10	12	2400	0.35	600
22	5/10	12	2000	0.40	500
27	5/10	12	1900	0.45	500
33	5/10	12	1600	0.55	400
39	5/10	12	1400	0.60	400
47	5/10	12	1300	0.70	400
56	5/10	12	1100	0.75	400
62	5/10	12	1050	0.85	400
68	5/10	12	1050	0.85	400
82	5/10	12	900	1.00	300
100	5/10	12	770	1.20	300
*120	5/10	8	650	1.30	300
*150	5/10	8	550	1.70	250
*180	5/10	8	520	1.90	250
*220	5/10	8	500	2.00	250
*270	5/10	8	470	2.20	150
*330	5/10	8	320	2.80	100
*390	5/10	8	300	3.00	100

\*At 50MHz

Tolerance : S = ± 0.3 nH ; J = ± 5% ; K = ± 10%

**FLCLH0805---S Series**

Impedance (nH) At 100MHz	Tolerance (±%)	Q Min At 100MHz * At 50MHz	SRF (MHz) Min	DC Resistance (Ω) Max	Rated Current (mA) Max
1.0	± 0.3 nH	10	>6000	0.10	300
1.2	± 0.3 nH	10	>6000	0.10	300
1.5	± 0.3 nH	10	>6000	0.10	300
1.8	± 0.3 nH	10	>6000	0.10	300
2.2	± 0.3 nH	10	>6000	0.10	300
2.7	± 0.3 nH	12	>6000	0.10	300
3.3	± 0.3 nH/10	12	>6000	0.13	300
3.9	± 0.3 nH/10	12	5400	0.15	300
4.7	± 0.3 nH/10	12	4500	0.20	300
5.6	± 0.3 nH/10	12	4000	0.23	300
6.8	5/10	15	3650	0.25	300
8.2	5/10	15	3000	0.28	300
10	5/10	15	2500	0.30	300
12	5/10	15	2450	0.35	300
15	5/10	15	2000	0.40	300
18	5/10	15	1750	0.45	300
22	5/10	15	1700	0.50	300
27	5/10	15	1550	0.55	300
33	5/10	15	1350	0.60	300
39	5/10	18	1300	0.65	300
47	5/10	18	1200	0.70	300
56	5/10	18	1150	0.75	300
68	5/10	18	1000	0.80	300
82	5/10	18	850	0.90	300
100	5/10	18	730	1.00	300
*120	5/10	13	650	1.20	300
*150	5/10	13	550	1.40	300
*180	5/10	13	500	1.80	300
*220	5/10	12	450	2.00	300
*270	5/10	12	400	2.50	200
*330	5/10	12	380	3.00	200
*390	5/10	10	330	3.50	200
*470	5/10	10	300	4.00	200

\*At 50MHz

Tolerance : S = ± 0.3 nH ; J = ± 5% ; K = ± 10%



## ◆ Packing

### Tape Dimensions

Figure A

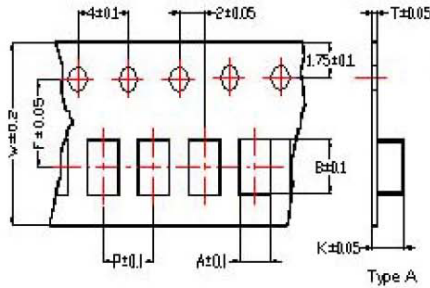
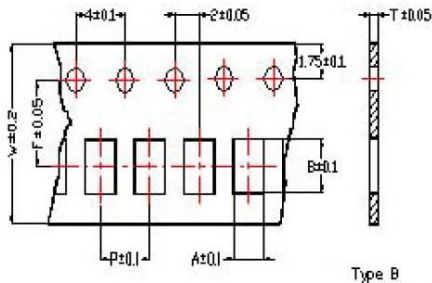


Figure B



### Tape Material

Figure A

Carrier Tape: Polycarbonate (Tape A)  
Carrier Tape: Paper (Tape B)  
Cover Tape: Polystyrene

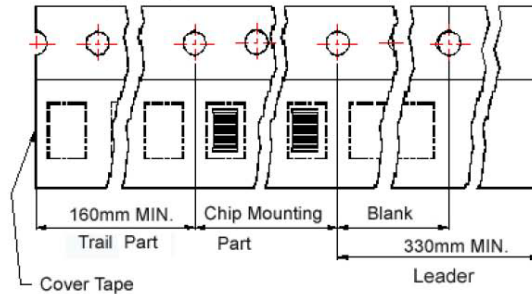
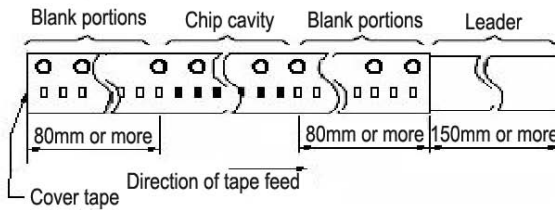
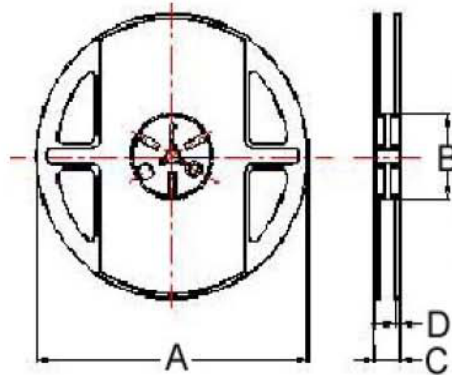


Figure B

Carrier tape : Paper  
Cover tape : Polyethylene



### Reel Dimensions



### Dimensions

Unit: mm

TYPE	Tape Dimensions								Tape Material	Reel Dimensions				Quantity Pcs/Reel
	A	B	T	W	P	F	K	Tape		A	B	C	D	
FLCLH0201	0.37	0.67	0.50	8	2	3.5		B	B	180	60	13	1.5	15000
FLCLH0402	0.65	1.12	0.60	8	2	3.5		B	A	178	60	12	1.5	10000
FLCLH0603	1.00	1.80	0.95	8	4	3.5		B	A	178	60	12	1.5	4000
FLCLH0805<390nH	1.58	2.42	0.95	8	4	3.5	1.04	A,B	A	178	60	12	1.5	4000
FLCLH0805≥390nH	1.35	2.25	0.22	8	4	3.5	1.35	A	A	178	60	12	1.5	3000

All product specification and data are subject to change without notice