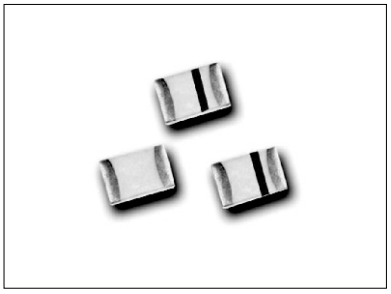
Multilayer Ceramic Chip Inductors For High Frequency

Meisongbei



Features

- Monolithic structure for high reliability
- Compact size inductor possible
- Perfect shape for mounting with no directionality
- Excellent solderability and high heat resistance for either flow or reflow soldering

General Specifications

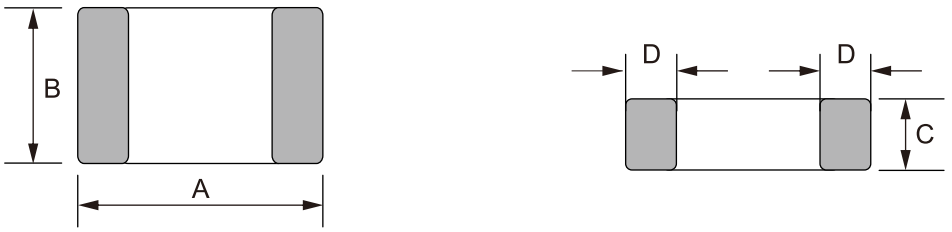
- Operating temp range: -55°C to +125°C
- Storage temp range: -40°C to +85°C

Applications

- Mobile phones
- Personal computers
- Cordless phones
- Pagers

RoHS COMPLIANT | REACH COMPLIANT | Halogen Free

Dimensions & Configurations (Unit:mm)



Type	A	B	C	D
MCL0603 [0201]	0.6±0.05	0.3±0.05	0.3±0.05	0.12±0.05
MCL1005 [0402]	1.0±0.15	0.5±0.15	0.5±0.15	0.25±0.1
MCL1608 [0603]	1.6±0.15	0.8±0.15	0.8±0.15	0.3±0.2
MCL2012 [0805]	2.0+0.3/-0.1	1.25±0.2	0.85±0.2	0.5±0.3

Electrical Characteristics For MCL0603 Series

Part Number	Inductance	Mini. Quality Factor	L,Q test Freq.	Typical Q @ Freq.(GHz)					Mini.self resonant frequency	Max.DC resistance	Max. rated Current
				0.5	0.8	1.8	2	2.4			
Unit	nH	-	MHz	-					MHz	Ω	mA
Symbol	L	Q	Freq.	Q					S.R.F	DCR	Ir
MCL0603-0N6S	0.6	13	500	>24	>32	>54	>57	>65	10000	0.06	600
MCL0603-0N7S	0.7	13	500	>24	>32	>54	>57	>65	10000	0.06	550
MCL0603-0N8S	0.8	13	500	>24	>32	>54	>57	>65	10000	0.07	550
MCL0603-0N9S	0.9	13	500	>24	>32	>54	>57	>65	10000	0.07	550
MCL0603-1N0S	1.0	13	500	24	32	54	57	65	10000	0.08	520
MCL0603-1N1S	1.1	13	500	19	26	45	47	55	10000	0.11	440
MCL0603-1N2S	1.2	13	500	19	25	43	44	52	10000	0.12	420
MCL0603-1N3S	1.3	13	500	19	25	40	42	47	10000	0.12	420
MCL0603-1N4S	1.4	13	500	19	24	39	41	47	10000	0.11	440
MCL0603-1N5S	1.5	13	500	19	24	39	41	46	10000	0.12	420
MCL0603-1N6S	1.6	13	500	19	24	39	41	46	10000	0.13	410
MCL0603-1N7S	1.7	13	500	19	24	39	41	46	10000	0.15	380
MCL0603-1N8S	1.8	13	500	19	24	39	41	46	10000	0.15	380
MCL0603-1N9S	1.9	13	500	18	24	38	40	45	10000	0.18	350

Electrical Characteristics For MCL0603 Series

PartNumber	Inductance	Mini. Quality Factor	L,Q test Freq.	Typical Q @ Freq. (GHz)					Mini.self resonant frequency	Max.DC resistance	Max. rated Current
				0.5	0.8	1.8	2	2.4			
Unit	nH	-	MHz	-					MHz	Ω	mA
Symbol	L	Q	Freq.	Q					S.R.F	DCR	Ir
MCL0603-2N0S	2.0	13	500	17	24	38	39	44	10000	0.23	300
MCL0603-2N1S	2.1	13	500	17	24	37	39	44	10000	0.24	300
MCL0603-2N2S	2.2	13	500	17	24	38	40	43	10000	0.25	290
MCL0603-2N3S	2.3	13	500	17	24	37	39	43	10000	0.2	330
MCL0603-2N4S	2.4	13	500	17	23	36	38	42	10000	0.22	310
MCL0603-2N5S	2.5	13	500	17	23	35	36	40	9600	0.2	330
MCL0603-2N6S	2.6	13	500	17	22	34	35	39	9400	0.2	330
MCL0603-2N7S	2.7	13	500	17	22	34	35	39	9200	0.22	310
MCL0603-2N8S	2.8	13	500	17	22	34	35	39	8900	0.24	300
MCL0603-2N9S	2.9	13	500	17	22	34	35	39	8800	0.26	280
MCL0603-3N0S	3.0	13	500	17	22	34	35	39	8600	0.26	280
MCL0603-3N1S	3.1	13	500	17	22	34	35	39	8500	0.28	270
MCL0603-3N2S	3.2	13	500	17	22	33	35	39	8200	0.28	270
MCL0603-3N3S	3.3	13	500	18	23	34	36	40	8100	0.3	270
MCL0603-3N4S	3.4	13	500	17	23	33	35	39	8000	0.3	270
MCL0603-3N5S	3.5	13	500	17	23	33	35	39	7900	0.34	250
MCL0603-3N6S	3.6	13	500	16	23	33	35	39	7700	0.38	240
MCL0603-3N7S	3.7	13	500	16	23	33	35	38	7600	0.4	230
MCL0603-3N8S	3.8	13	500	16	22	33	35	38	7500	0.42	230
MCL0603-3N9S	3.9	13	500	16	22	33	35	38	7400	0.42	230
MCL0603-4N3S	4.3	13	500	16	21	32	34	37	6800	0.44	220
MCL0603-4N7S	4.7	13	500	16	22	33	35	38	6200	0.45	220
MCL0603-5N1S	5.1	13	500	17	22	34	36	38	5900	0.46	210
MCL0603-5N6S	5.6	13	500	16	21	33	34	37	5500	0.46	210
MCL0603-6N2J	6.2	13	500	18	23	34	35	37	5100	0.48	210
MCL0603-6N8J	6.8	13	500	17	22	32	33	35	4900	0.5	200
MCL0603-7N5J	7.5	13	500	16	21	31	33	34	4700	0.5	200
MCL0603-8N2J	8.2	13	500	16	21	31	32	34	4300	0.56	190
MCL0603-9N1J	9.1	13	500	16	20	30	31	32	4100	0.72	170
MCL0603-10NJ	10	13	500	16	20	28	29	31	3800	0.8	160
MCL0603-12NJ	12	13	500	16	20	27	28	28	3400	0.8	160
MCL0603-15NJ	15	13	500	15	19	24	24	23	2600	0.85	160
MCL0603-18NJ	18	13	500	15	19	23	24	22	2300	1	140
MCL0603-22NJ	22	13	500	15	19	22	23	20	1900	1.2	130
MCL0603-27NJ	27	13	500	15	19	15	13	8	1800	1.6	120
MCL0603-33NJ	33	11	300	14	15	8	5	-	1800	2.2	110
MCL0603-39NJ	39	11	300	14	15	6	-	-	1600	2.3	100
MCL0603-47NJ	47	11	300	14	15	-	-	-	1500	2.6	100
MCL0603-56NJ	56	11	300	13	13	-	-	-	1400	2.8	80
MCL0603-68NJ	68	11	300	13	11	-	-	-	1200	3.2	80
MCL0603-82NJ	82	10	300	12	10	-	-	-	1100	3.8	70
MCL0603-R10J	100	10	300	12	10	-	-	-	1000	4	60
MCL0603-R12J	120	9	300	12	8	-	-	-	1000	5	50

Electrical Characteristics For MCL1005 Series

PartNumber	Inductance	Mini. Quality Factor	L,Q test Freq.	Typical Q @ Freq. (MHz)			Mini.self resonant frequency	Max.DC resistance	Max. rated Current
				100	800	1000			
Unit	nH	-	MHz	-			MHz	Ω	mA
Symbol	L	Q	Freq.	Q			S.R.F	DCR	Ir
MCL1005-1N0S	1.0±0.3	8	100	11	34	36	10000	0.1	400
MCL1005-1N1S	1.1±0.3	8	100	11	34	36	10000	0.1	400
MCL1005-1N2S	1.2±0.3	8	100	11	34	36	10000	0.1	400
MCL1005-1N3S	1.3±0.3	8	100	11	34	36	10000	0.1	400
MCL1005-1N5S	1.5±0.3	8	100	11	34	36	6000	0.1	300
MCL1005-1N6S	1.6±0.3	8	100	11	32	35	6000	0.1	300
MCL1005-1N8S	1.8±0.3	8	100	11	30	34	6000	0.1	300
MCL1005-2N0S	2.0±0.3	8	100	10	29	33	6000	0.2	300
MCL1005-2N2S	2.2±0.3	8	100	10	29	33	6000	0.2	300
MCL1005-2N4S	2.4±0.3	8	100	10	29	32	6000	0.2	300
MCL1005-2N7S	2.7±0.3	8	100	10	29	32	6000	0.2	300
MCL1005-3N0S	3.0±0.3	8	100	10	29	32	6000	0.2	300
MCL1005-3N3S	3.3±0.3	8	100	10	29	32	6000	0.2	300
MCL1005-3N6S	3.6±0.3	8	100	10	28	31	4000	0.2	300
MCL1005-3N9S	3.9±0.3	8	100	10	28	31	4000	0.2	300
MCL1005-4N3S	4.3±0.3	8	100	10	28	31	4000	0.2	300
MCL1005-4N7S	4.7±0.3	8	100	10	28	31	4000	0.2	300
MCL1005-5N1S	5.1±0.3	8	100	10	28	30	4000	0.3	300
MCL1005-5N6S	5.6±0.3	8	100	10	28	30	4000	0.3	300
MCL1005-6N2S	6.2±0.3	8	100	10	27	30	3900	0.3	300
MCL1005-6N8J	6.8	8	100	10	27	30	3900	0.3	300
MCL1005-7N5J	7.5	8	100	10	27	30	3700	0.4	300
MCL1005-8N2J	8.2	8	100	10	27	30	3600	0.4	300
MCL1005-9N1J	9.1	8	100	10	27	30	3400	0.4	300
MCL1005-10NJ	10	8	100	10	27	30	3200	0.4	300
MCL1005-12NJ	12	8	100	10	26	29	2700	0.5	300
MCL1005-15NJ	15	8	100	10	26	28	2300	0.5	300
MCL1005-18NJ	18	8	100	10	25	27	2100	0.6	300
MCL1005-20NJ	20	8	100	10	25	26	2000	0.6	300
MCL1005-22NJ	22	8	100	10	25	25	1900	0.6	300
MCL1005-27NJ	27	8	100	10	25	23	1600	0.7	300
MCL1005-33NJ	33	8	100	10	22	22	1300	0.8	200
MCL1005-39NJ	39	8	100	10	22	19	1200	1	200
MCL1005-43NJ	43	8	100	10	21	16	1100	1.1	200
MCL1005-47NJ	47	8	100	10	21	16	1000	1.1	200
MCL1005-56NJ	56	8	100	10	18	13	750	1.2	200
MCL1005-68NJ	68	8	100	10	18	9	750	1.4	180
MCL1005-82NJ	82	8	100	10	13	-	750	2.4	150
MCL1005-R10J	100	8	100	10	12	-	700	2.6	150
MCL1005-R12J	120	8	100	10	-	-	600	2.8	150
MCL1005-R15J	150	8	100	10	-	-	550	3.2	100
MCL1005-R18J	180	8	100	10	-	-	500	3.7	100
MCL1005-R22J	220	8	100	12	-	-	450	4	100
MCL1005-R27J	270	8	100	12	-	-	400	4.5	100
MCL1005-R33J	330	6	50	-	-	-	350	7	50

Electrical Characteristics For MCL1608 Series

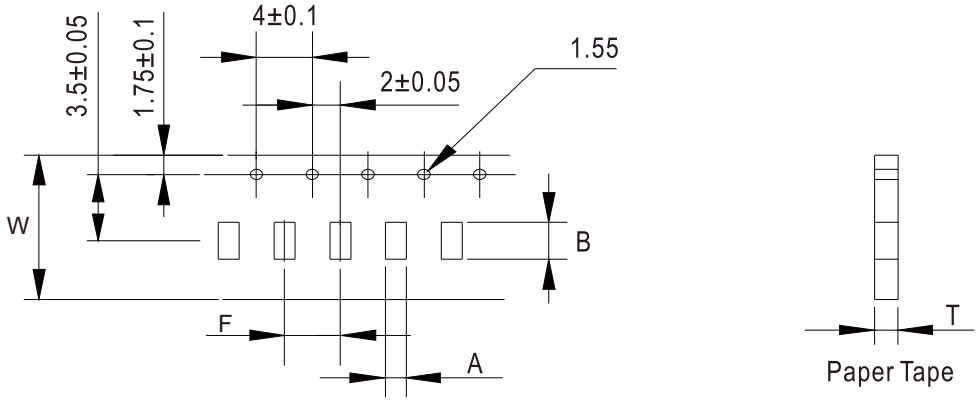
PartNumber	Inductance	Mini. Quality Factor	L,Q test Freq.	Typical Q @ Freq. (MHz)			Mini.self resonant frequency	Max.DC resistance	Max. rated Current
				100	800	1000			
Unit	nH	-	MHz	-			MHz	Ω	mA
Symbol	L	Q	Freq.	Q			S.R.F	DCR	Ir
MCL1608-1N0S	1.0±0.3	8	100	13	70	80	10000	0.05	500
MCL1608-1N2S	1.2±0.3	8	100	13	60	70	10000	0.05	500
MCL1608-1N5S	1.5±0.3	8	100	13	47	68	6000	0.1	500
MCL1608-1N8S	1.8±0.3	8	100	13	45	61	6000	0.1	500
MCL1608-2N2S	2.2±0.3	8	100	13	45	60	6000	0.1	500
MCL1608-2N7S	2.7±0.3	10	100	13	44	55	6000	0.12	500
MCL1608-3N3S	3.3±0.3	10	100	13	43	50	6000	0.15	500
MCL1608-3N9S	3.9±0.3	10	100	13	43	50	6000	0.16	500
MCL1608-4N7S	4.7±0.3	10	100	13	43	50	6000	0.2	500
MCL1608-5N6S	5.6±0.3	10	100	14	42	48	5000	0.25	500
MCL1608-6N8J	6.8	10	100	14	43	50	5000	0.3	500
MCL1608-8N2J	8.2	10	100	14	43	48	4500	0.35	500
MCL1608-10NJ	10	12	100	15	45	50	3500	0.4	300
MCL1608-12NJ	12	12	100	18	48	50	3000	0.45	300
MCL1608-15NJ	15	12	100	18	48	50	2300	0.5	300
MCL1608-18NJ	18	12	100	16	48	51	2200	0.55	300
MCL1608-22NJ	22	12	100	16	45	48	2000	0.6	300
MCL1608-27NJ	27	12	100	16	45	45	1700	0.65	300
MCL1608-33NJ	33	12	100	16	45	41	1500	0.7	300
MCL1608-39NJ	39	12	100	17	40	48	1400	0.7	300
MCL1608-47NJ	47	12	100	17	35	35	1200	0.7	300
MCL1608-56NJ	56	12	100	17	35	30	1100	0.75	300
MCL1608-68NJ	68	12	100	17	30	20	900	0.85	300
MCL1608-82NJ	82	8	100	15	22	-	800	1	300
MCL1608-R10J	100	8	100	15	16	-	700	1.2	300
MCL1608-R12J	120	8	50	15	-	-	600	1.4	200
MCL1608-R15J	150	8	50	15	-	-	500	1.6	200
MCL1608-R18J	180	8	50	15	-	-	400	1.9	200
MCL1608-R22J	220	8	50	15	-	-	350	2.4	200
MCL1608-R27J	270	8	50	16	-	-	350	2.6	150
MCL1608-R33J	330	8	50	16	-	-	350	2.8	150
MCL1608-R39J	390	8	50	16	-	-	300	3.2	150
MCL1608-R43J	430	8	50	16	-	-	280	3.4	150
MCL1608-R47J	470	8	50	15	-	-	250	3.6	150
MCL1608-R56J	560	8	50	15	-	-	250	4	100
MCL1608-R68J	680	8	50	15	-	-	250	4.5	100

Electrical Characteristics For MCL2012 Series

PartNumber	Inductance	Mini. Quality Factor	L,Q test Freq.	Mini.self resonant frequency	Max.DC resistance	Max. rated Current
Unit	nH	-	MHz	MHz	Ω	mA
Symbol	L	Q	Freq.	S.R.F	DCR	Ir
MCL2012-1N0S	1.0	10	100	>3000	0.1	600
MCL2012-1N5S	1.5	10	100	>3000	0.1	600
MCL2012-1N8S	1.8	10	100	>3000	0.1	600
MCL2012-2N2S	2.2	10	100	>3000	0.1	600
MCL2012-2N7S	2.7	10	100	>3000	0.1	600
MCL2012-3N3S	3.3	10	100	>3000	0.13	600
MCL2012-3N9S	3.9	10	100	>3000	0.15	600
MCL2012-4N7S	4.7	10	100	>3000	0.2	400
MCL2012-5N6S	5.6	10	100	>3000	0.23	400
MCL2012-6N8J	6.8	10	100	>3000	0.25	400
MCL2012-8N2J	8.2	10	100	>3000	0.28	400
MCL2012-10NJ	10	10	100	2500	0.3	300
MCL2012-12NJ	12	10	100	2450	0.3	300
MCL2012-15NJ	15	10	100	2000	0.4	300
MCL2012-18NJ	18	10	100	1750	0.45	300
MCL2012-22NJ	22	10	100	1700	0.5	300
MCL2012-27NJ	27	10	100	1550	0.55	300
MCL2012-33NJ	33	10	100	1350	0.6	300
MCL2012-39NJ	39	13	100	1300	0.65	300
MCL2012-47NJ	47	15	100	1200	0.7	300
MCL2012-56NJ	56	15	100	1150	0.75	300
MCL2012-68NJ	68	15	100	1000	0.8	300
MCL2012-82NJ	82	15	100	850	0.9	300
MCL2012-R10J	100	15	100	600	1	300
MCL2012-R12J	120	15	50	500	1.5	300
MCL2012-R15J	150	15	50	500	1.5	300
MCL2012-R22J	220	13	50	350	2.1	200

Tape & Reel Specifications:

Unit: mm



Type	Tape Dimensions (mm)						Tape type	Reel OD (mm)	Quantity PCS / Reel
	W	A	B	F	T	t			
MCL0603	8	0.40	0.70	2.0	0.55	-	Paper Tape	178	10,000
MCL1005	8	0.65	1.25	2.0	0.80	-	Paper Tape	178	10,000
MCL1608	8	1.00	1.80	4.0	1.10	-	Paper Tape	178	4,000
MCL2012	8	1.50	2.30	4.0	1.10	-	Paper Tape	178	4,000