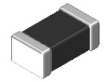


## Multilayer Chip Ferrite Inductors---MLF Series



### Feature

- High reliability.
- No cross coupling due to magnetic shield.
- Perfect shape for mounting with no directionality.
- RoHS compliant.
- Operating temperature range  $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$  (Including self - temperature rise).

### Application

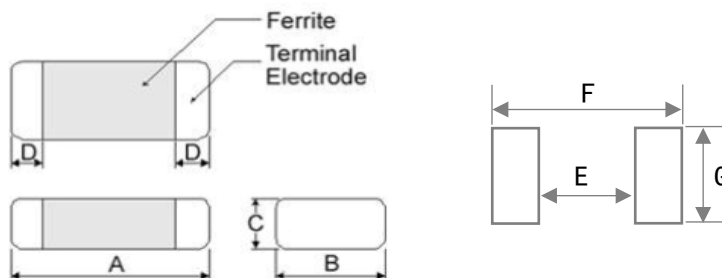
- Communications, Computer, Remote control, etc.
- Filter switches.
- Adjustment networks.

### Production identification

MLF  
①
1608  
②
- 2R2  
③
K  
④

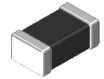
- ① Series name
- ② Size:  $1.6 \times 0.8 \times 0.8\text{mm}$
- ③ Inductance:  $2.2\mu\text{H}$
- ④ Tolerance:  $K = \pm 10\%$ ,  $M = 20\%$

### Series Shape and Dimensions (Unit:mm)



Series	A(mm)	B(mm)	C(mm)	D(mm)	$E_{\text{Typ}}$	$F_{\text{Typ}}$	$G_{\text{Typ}}$	SPQ
MLF1005	$1.0 \pm 0.15$	$0.5 \pm 0.15$	$0.5 \pm 0.15$	$0.25 \pm 0.1$	0.5	1.2	0.5	10000
MLF1608/A	$1.6 \pm 0.2$	$0.8 \pm 0.2$	$0.8 \pm 0.2$	$0.3 \pm 0.2$	0.7	2.2	0.8	4000
MLF2012/A	$2.0 \pm 0.2$	$1.2 \pm 0.2$	$0.9 \pm 0.2$	$0.5 \pm 0.3$	1.2	3.0	1.0	4000
			$1.2 \pm 0.2$					3000
MLF3216/A	$3.2 \pm 0.2$	$1.6 \pm 0.2$	$0.9 \pm 0.2$	$0.5 \pm 0.3$	2.0	4.2	1.2	4000
			$1.1 \pm 0.2$					3000

## Multilayer Chip Ferrite Inductors---MLF Series

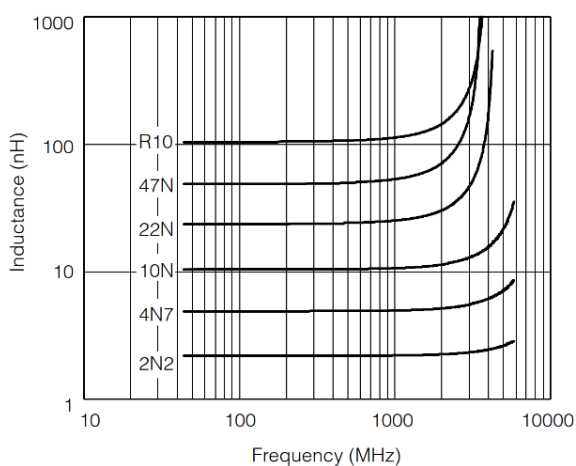


### Electrical Characteristics

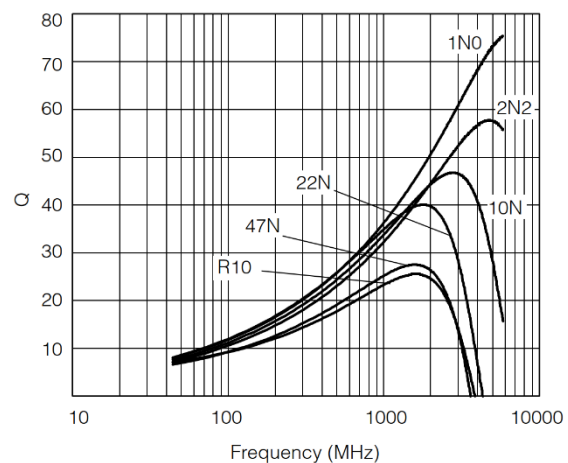
Part Number	Inductance (μH)	Quality Factor(Min)	Test Freq. (MHz)	S.R.F (MHz)	DCR Max(Ω)	Current (mA)
MLF1005-47NK	0.047	10	50	220	0.45	25
MLF1005-56NK	0.056	10	50	210	0.45	25
MLF1005-68NK	0.068	10	50	210	0.45	25
MLF1005-82NK	0.082	10	50	200	0.45	25
MLF1005-R10K	0.10	15	25	200	0.70	25
MLF1005-R12K	0.12	15	25	165	0.70	25
MLF1005-R15K	0.15	15	25	140	0.80	25
MLF1005-R18K	0.18	15	25	120	0.80	25
MLF1005-R22K	0.22	15	25	110	1.00	25
MLF1005-R27K	0.27	15	25	95	1.20	25
MLF1005-R33K	0.33	15	25	85	1.20	25
MLF1005-R39k	0.39	15	10	70	0.60	20
MLF1005-R47K	0.47	15	10	68	0.70	20
MLF1005-R56K	0.56	15	10	55	0.80	20
MLF1005-R68K	0.68	15	10	50	0.90	20
MLF1005-R82K	0.82	15	10	45	0.90	18
MLF1005-1R0K	1.0	20	10	40	0.90	15
MLF1005-1R2K	1.2	20	10	35	1.20	15

### Typical Electrical Graphs

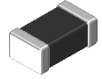
#### Inductance vs. Frequency



#### Q vs. Frequency



## Multilayer Chip Ferrite Inductors---MLF Series

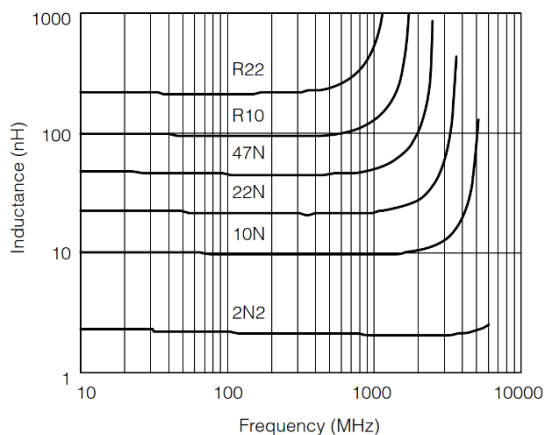


### MLF1608 Electrical Characteristics

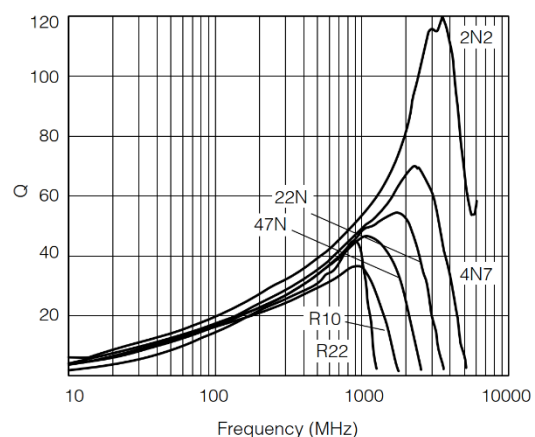
Part Number	Inductance (μH)	Quality Factor(Min)	Test Freq. (MHz)	S.R.F (MHz)	DCR Max(Ω)	Current (mA)
MLF1608-47NK	0.047	15	50	260	0.20	50
MLF1608-68NK	0.068	15	50	250	0.20	50
MLF1608-R10K	0.10	20	25	240	0.25	50
MLF1608-R15K	0.15	20	25	180	0.30	50
MLF1608-R22K	0.22	20	25	150	0.40	50
MLF1608-R27K	0.27	20	25	136	0.45	50
MLF1608-R33K	0.33	20	25	125	0.50	50
MLF1608-R39k	0.39	20	25	110	0.60	50
MLF1608-R47K	0.47	20	25	105	0.70	50
MLF1608-R56K	0.56	20	25	95	0.70	50
MLF1608-R68K	0.68	20	25	90	0.90	50
MLF1608-R82K	0.82	20	25	85	1.00	50
MLF1608-1R0K	1.0	25	10	75	0.50	25
MLF1608-1R5K	1.5	25	10	60	0.70	25
MLF1608-1R8K	1.8	25	10	55	0.75	25
MLF1608-2R2K	2.2	25	10	50	0.80	25
MLF1608-2R7K	2.7	25	10	45	0.90	15
MLF1608-3R3K	3.3	25	10	40	1.00	15
MLF1608-4R7K	4.7	25	10	33	1.50	15
MLF1608-5R6K	5.6	12	4	22	1.55	5
MLF1608-6R8K	6.8	12	4	20	1.55	5
MLF1608-8R2K	8.2	12	4	18	1.65	5
MLF1608-100K	10	20	2	17	1.75	3
MLF1608-120K	12	20	2	15	1.85	3
MLF1608-150M	15	20	1	14	2.50	1
MLF1608-180M	18	20	1	13	2.70	1
MLF1608-220M	22	20	1	12	3.00	1

### Typical Electrical Graphs

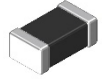
#### Inductance vs. Frequency



#### Q vs. Frequency



## Multilayer Chip Ferrite Inductors---MLF Series

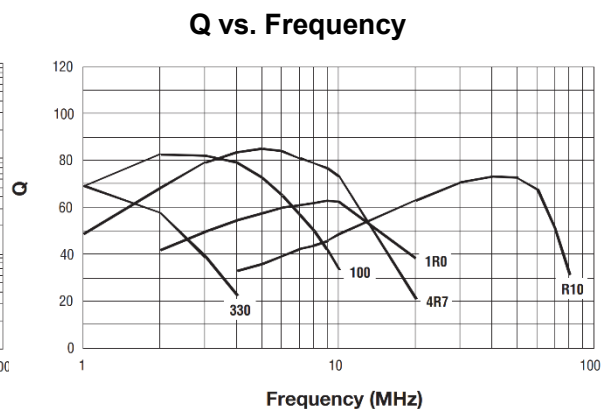
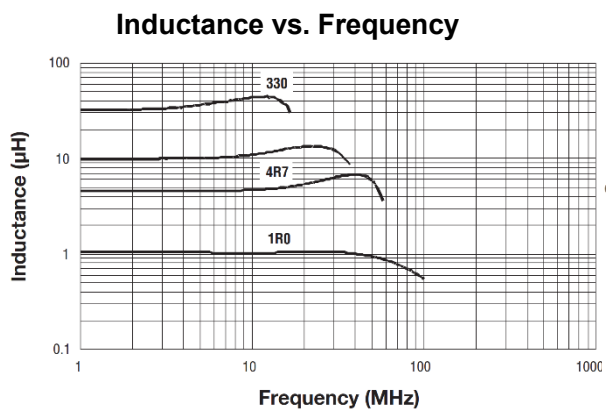


### MLF2012 Electrical Characteristics

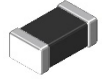
Part Number	Inductance (μH)	Quality Factor(Min)	Test Freq. (MHz)	S.R.F (MHz)	DCR Max(Ω)	Current (mA)
MLF2012-47NK	0.047	25	50	320	0.15	300
MLF2012-R10K	0.10	20	25	235	0.20	250
MLF2012-R15K	0.15	20	25	200	0.25	250
MLF2012-R22K	0.22	20	25	170	0.30	250
MLF2012-R27K	0.27	20	25	150	0.40	250
MLF2012-R33K	0.33	20	25	145	0.40	250
MLF2012-R47K	0.47	25	25	125	0.50	200
MLF2012-R56K	0.56	25	25	115	0.60	150
MLF2012-R68K	0.68	25	25	105	0.65	150
MLF2012-R82K	0.82	25	25	100	0.82	150
MLF2012-1R0K	1.0	35	10	75	0.40	50
MLF2012-1R5K	1.5	35	10	60	0.40	50
MLF2012-1R8K	1.8	35	10	55	0.40	50
MLF2012-2R2K	2.2	35	10	50	0.60	50
MLF2012-3R3K	3.3	35	10	41	0.60	50
MLF2012-4R7K	4.7	35	10	35	0.90	30
MLF2012-5R6K	5.6	30	4	32	1.00	15
MLF2012-6R8K	6.8	30	4	29	1.05	15
MLF2012-8R2K	8.2	30	4	26	1.05	15
MLF2012-100K	10	30	2	24	1.15	15
MLF2012-120K	12	30	2	22	1.15	15
MLF2012-150K	15	25	1	18	1.15	5
MLF2012-180K	18	25	1	16	1.20	5
MLF2012-220K	22	25	1	16	1.20	5
MLF2012-330M	33	25	1	16	1.50	5
MLF2012-390M*	39	25	1	16	1.50	5
MLF2012-470M*	47	25	1	15	1.70	5

\* The height is 1.2±0.2 mm, the other height is 0.9±0.2mm.

### Typical Electrical Graphs



## Multilayer Chip Ferrite Inductors---MLF Series

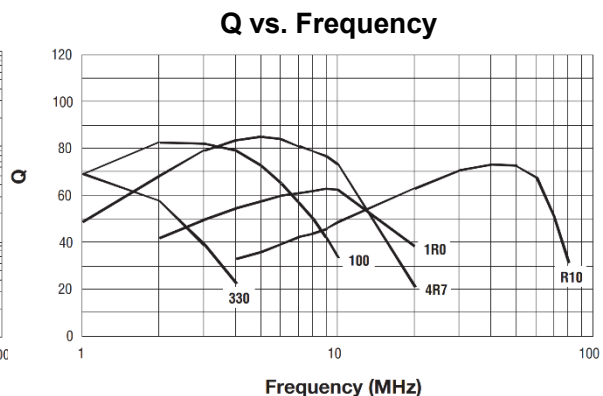
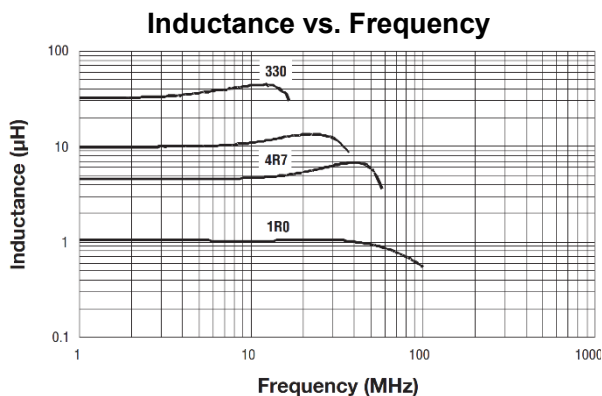


### MLF3216 Electrical Characteristics

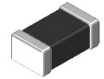
Part Number	Inductance (μH)	Quality Factor(Min)	Test Freq. (MHz)	S.R.F (MHz)	DCR Max(Ω)	Current (mA)
MLF3216-47NK	0.047	30	50	320	0.15	300
MLF3216-R10K	0.10	25	25	235	0.25	250
MLF3216-R15K	0.15	25	25	200	0.25	250
MLF3216-R22K	0.22	25	25	170	0.30	250
MLF3216-R33K	0.33	25	25	145	0.30	250
MLF3216-R47K	0.47	30	25	125	0.50	200
MLF3216-R68K	0.68	30	25	105	0.50	150
MLF3216-1R0K	1.0	35	10	75	0.30	100
MLF3216-1R2K	1.2	35	10	65	0.40	100
MLF3216-1R5K	1.5	35	10	60	0.40	50
MLF3216-1R8K	1.8	35	10	55	0.40	50
MLF3216-2R2K	2.2	35	10	50	0.50	50
MLF3216-2R7K	2.7	35	10	45	0.50	50
MLF3216-3R3K	3.3	35	10	41	0.50	50
MLF3216-3R9K	3.9	35	10	38	0.60	50
MLF3216-4R7K	4.7	35	10	35	0.65	25
MLF3216-6R8K	6.8	35	4	29	0.80	25
MLF3216-8R2K	8.2	35	4	26	0.80	25
MLF3216-100K	10	35	2	24	0.80	25
MLF3216-220K	22	30	1	16	1.20	5
MLF3216-330K	33	30	1	13	1.30	5
MLF3216-390K	39	30	1	13	1.30	5
MLF3216-470K*	47	30	1	12	1.60	5
MLF3216-560M*	56	30	1	12	1.80	5
MLF3216-680M*	68	30	1	11	2.00	5

\* The height is 1.1±0.2 mm, the other height is 0.9±0.2mm.

### Typical Electrical Graphs



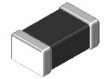
## Multilayer Chip Ferrite Inductors---MLF Series



### MLF1608A Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	Test Freq. (MHz)	S.R.F (MHz)	DCR Max(Ω)	Current (mA)
MLF1608A-47NM	0.047	20	1	260	0.12	150
MLF1608A-47NM	0.056	20	1	260	0.12	150
MLF1608A-68NM	0.068	20	1	250	0.12	150
MLF1608A-82NM	0.082	20	1	245	0.12	150
MLF1608A-R10M	0.10	20	1	240	0.15	150
MLF1608A-R12M	0.12	20	1	205	0.20	150
MLF1608A-R15M	0.15	20	1	180	0.20	150
MLF1608A-R18M	0.18	20	1	165	0.20	150
MLF1608A-R22M	0.22	20	1	150	0.25	150
MLF1608A-R27M	0.27	20	1	136	0.30	100
MLF1608A-R33M	0.33	20	1	125	0.30	100
MLF1608A-R39M	0.39	20	1	110	0.35	100
MLF1608A-R47M	0.47	20	1	105	0.45	100
MLF1608A-R56M	0.56	20	1	95	0.45	100
MLF1608A-R68M	0.68	20	1	90	0.55	100
MLF1608A-R82M	0.82	20	1	85	0.60	100
MLF1608A-1R0M	1.0	20	1	75	0.30	150
MLF1608A-1R2M	1.2	20	1	65	0.30	150
MLF1608A-1R5M	1.5	20	1	60	0.35	120
MLF1608A-1R8M	1.8	20	1	55	0.40	120
MLF1608A-2R2M	2.2	20	1	50	0.50	120
MLF1608A-2R7M	2.7	20	1	45	0.60	100
MLF1608A-3R3M	3.3	20	1	40	0.65	100
MLF1608A-3R9M	3.9	20	1	35	0.70	80
MLF1608A-4R7M	4.7	20	1	33	0.75	80
MLF1608A-5R6M	5.6	20	1	22	0.90	60
MLF1608A-6R8M	6.8	20	1	20	0.90	60
MLF1608A-8R2M	8.2	20	1	18	1.05	60
MLF1608A-100M	10	20	1	17	1.15	60
MLF1608A-120M	12	20	1	15	1.25	60

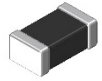
## Multilayer Chip Ferrite Inductors---MLF Series



### MLF2012A Electrical Characteristics

Part Number	Inductance (μH)	Tolerance (±%)	Test Freq. (MHz)	S.R.F (MHz)	DCR Max(Ω)	Current (mA)
MLF2012A-47NM	0.047	20	1	280	0.10	1100
MLF2012A-56NM	0.056	20	1	280	0.10	1100
MLF2012A-68NM	0.068	20	1	250	0.15	1100
MLF2012A-82NM	0.082	20	1	250	0.15	1100
MLF2012A-R10M	0.10	20	1	210	0.15	1100
MLF2012A-R12M	0.12	20	1	200	0.15	1100
MLF2012A-R15M	0.15	20	1	175	0.15	1100
MLF2012A-R18M	0.18	20	1	160	0.15	1100
MLF2012A-R22M	0.22	20	1	150	0.15	1100
MLF2012A-R27M	0.27	20	1	130	0.15	1100
MLF2012A-R33M	0.33	20	1	120	0.15	1100
MLF2012A-R39M	0.39	20	1	110	0.15	1100
MLF2012A-R47M	0.47	20	1	100	0.15	1100
MLF2012A-R56M	0.56	20	1	100	0.36	800
MLF2012A-R68M	0.68	20	1	95	0.36	800
MLF2012A-R82M	0.82	20	1	90	0.36	800
MLF2012A-1R0M	1.0	20	1	75	0.24	800
MLF2012A-1R2M	1.2	20	1	65	0.24	800
MLF2012A-1R5M	1.5	20	1	60	0.30	700
MLF2012A-1R8M	1.8	20	1	55	0.36	600
MLF2012A-2R2M	2.2	20	1	50	0.36	600
MLF2012A-2R7M	2.7	20	1	45	0.36	600
MLF2012A-3R3M	3.3	20	1	41	0.40	350
MLF2012A-3R9M	3.9	20	1	38	0.40	350
MLF2012A-4R7M	4.7	20	1	35	0.40	350
MLF2012A-5R6M	5.6	20	1	32	0.50	250
MLF2012A-6R8M	6.8	20	1	29	0.50	250
MLF2012A-8R2M	8.2	20	1	26	0.56	250
MLF2012A-100M	10	20	1	24	0.56	250
MLF2012A-120M	12	20	1	22	0.56	250
MLF2012A-150M	15	20	1	19	0.65	100
MLF2012A-180M	18	20	1	18	0.65	100
MLF2012A-220M	22	20	1	16	0.65	100

## Multilayer Chip Ferrite Inductors---MLF Series



### MLF3216A Electrical Characteristics

Part Number	Inductance ( $\mu$ H)	Tolerance ( $\pm$ %)	Test Freq. (MHz)	S.R.F (MHz)	DCR Max( $\Omega$ )	Current (mA)
MLF3216A-1R0M	1.0	20	1	60	0.15	1200
MLF3216A-1R2M	1.2	20	1	65	0.15	1200
MLF3216A-1R5M	1.5	20	1	60	0.17	1000
MLF3216A-1R8M	1.8	20	1	55	0.24	900
MLF3216A-2R2M	2.2	20	1	50	0.24	900
MLF3216A-2R7M	2.7	20	1	45	0.30	800
MLF3216A-3R3M	3.3	20	1	41	0.30	800
MLF3216A-3R9M	3.9	20	1	38	0.38	700
MLF3216A-4R7M	4.7	20	1	35	0.38	700
MLF3216A-5R6M	5.6	20	1	32	0.45	500
MLF3216A-6R8M	6.8	20	1	29	0.45	500
MLF3216A-8R2M	8.2	20	1	26	0.55	300
MLF3216A-100M	10	20	1	24	0.55	300
MLF3216A-120M	12	20	1	22	0.55	300
MLF3216A-150M	15	20	1	19	0.65	100
MLF3216A-180M	18	20	1	18	0.65	100