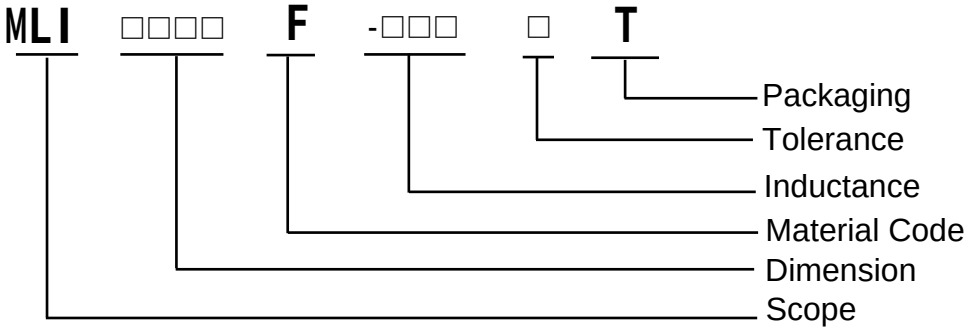
1. Scope

This specification applies to MLI-F Series of multi-layer ferrite chip bead.

2. Product Description and Identification (Part Number)

1) Description:
MLI -F Series of multi-layer ferrite chip bead.

2) Product Identification (Part Number)



3.Rating

Operating Temperature: －55℃～125℃(Including self - temperature rise)

Storage Temperature: －55℃～125℃(after PCB)

－5℃～40℃,Humidity 40%～70%(before PCB)

4. ShapeandDimensions

1) Dimensions and recommended PCB pattern for reflow soldering: See **Fig.4-1, Fig.4-2** and **Table 4-1.**

2) Structure: See **Fig. 4-3** and **Fig. 4-4**.

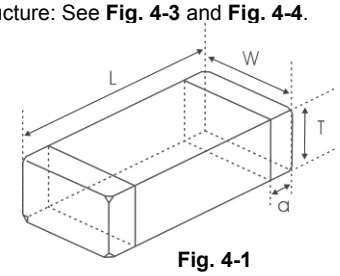


Fig. 4-1

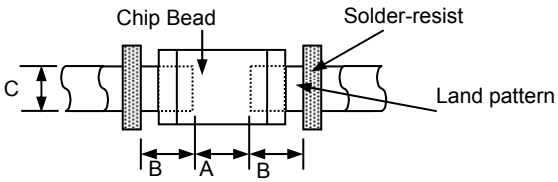


Fig. 4-2

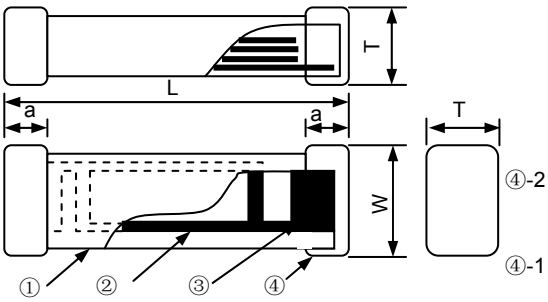
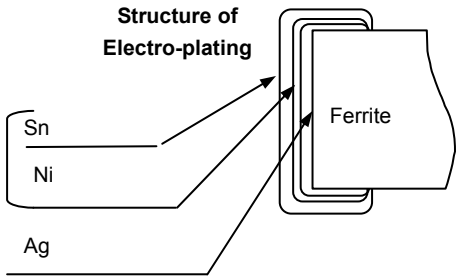


Fig. 4-3



① Ferrite for Bead Series
② Internal electrode (Ag)
③ Pull out electrode(Ag)
④-1 Terminal electrode: Inside (Ag)
④-2 Outside (Electro-plating Ni-Sn)

Fig. 4-4

[Table 4-1] Unit: mm [inch]

Type	L	W	T	a	A	B	C
1005 [0402]	1.0±0.15 [0.039±0.006]	0.5±0.15 [0.020±0.006]	0.5±0.15 [0.020±0.006]	0.25±0.1 [0.010±0.004]	0.45~0.55	0.40~0.50	0.45~0.55
1608 [0603]	1.6±0.15 [0.063±0.006]	0.8±0.15 [0.031±0.006]	0.8±0.15 [0.031±0.006]	0.3±0.2 [0.012±0.008]	0.60~0.80	0.60~0.80	0.60~0.80
2012 [0805]	2.0 (+0.3, -0.1) [0.079(+0.012,-0.004)]	1.25±0.2 [0.049±0.008]	0.85±0.2 [0.033±0.008]	0.5±0.3 [0.020±0.012]	0.80~1.20	0.80~1.20	0.90~1.60
3216 [1206]	3.2±0.2 [0.126±0.008]	1.6±0.2 [0.063±0.008]	0.85±0.2 [0.033±0.008]	0.5±0.3 [0.020±0.012]	1.80~2.50	1.00~1.50	1.20~2.00

Specifications for Multi-layer Chip Ferrite Inductor

Appendix A: Electrical Characteristics

I. MLI1005F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI1005F-47NKT	0.047	10	50	220	0.45	25	
MLI1005F-68NKT	0.068	10	50	210	0.45	25	
MLI1005F-82NKT	0.082	10	50	200	0.45	25	
MLI1005F-R10KT	0.1	10	25	200	0.8	25	
MLI1005F-R12KT	0.12	10	25	165	0.8	25	
MLI1005F-R15KT	0.15	10	25	140	0.9	25	
MLI1005F-R18KT	0.18	10	25	120	0.9	25	
MLI1005F-R22KT	0.22	10	25	110	1.2	25	
MLI1005F-R27KT	0.27	15	25	95	1.2	25	0.5±0.15
MLI1005F-R33KT	0.33	15	25	85	1.25	18	[0.020±0.006]
MLI1005F-R39KT	0.39	20	10	85	0.6	15	
MLI1005F-R47KT	0.47	20	10	80	0.7	15	
MLI1005F-R56KT	0.56	20	10	75	0.8	15	
MLI1005F-R68KT	0.68	20	10	70	0.9	15	
MLI1005F-R82KT	0.82	20	10	65	0.9	15	
MLI1005F-1R0KT	1.0	20	10	40	0.9	15	
MLI1005F-1R2KT	1.2	20	10	35	1.2	15	
MLI1005F-1R5KT	1.5	20	10	30	1.2	15	
MLI1005F-1R8KT	1.8	20	10	30	1.45	15	
MLI1005F-2R2KT	2.2	20	10	28	1.7	10	
MLI1005F-2R7KT	2.7	20	10	28	2.4	10	
MLI1005F-3R3KT	3.3	20	10	28	2.7	10	

II. MLI1608F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI1608F-47NKT	0.047	10	50	260	0.3	50	
MLI1608F-68NKT	0.068	10	50	250	0.3	50	
MLI1608F-82NKT	0.082	10	50	245	0.3	50	
MLI1608F-R10KT	0.1	15	25	240	0.5	50	
MLI1608F-R12KT	0.12	15	25	205	0.5	50	
MLI1608F-R15KT	0.15	15	25	180	0.6	50	
MLI1608F-R18KT	0.18	15	25	165	0.6	50	
MLI1608F-R22KT	0.22	15	25	150	0.8	50	
MLI1608F-R27KT	0.27	15	25	136	0.8	50	0.8±0.15
MLI1608F-R33KT	0.33	15	25	125	0.85	35	[0.031±0.006]
MLI1608F-R39KT	0.39	15	25	110	1.0	35	
MLI1608F-R47KT	0.47	15	25	105	1.35	35	
MLI1608F-R56KT	0.56	15	25	95	1.55	35	
MLI1608F-R68KT	0.68	15	25	90	1.7	35	
MLI1608F-R82KT	0.82	15	25	85	2.1	35	
MLI1608F-1R0KT	1.0	35	10	75	0.6	25	
MLI1608F-1R2KT	1.2	35	10	65	0.8	25	
MLI1608F-1R5KT	1.5	35	10	60	0.8	25	
MLI1608F-1R8KT	1.8	35	10	55	0.95	25	
MLI1608F-2R2KT	2.2	35	10	50	1.15	15	
MLI1608F-2R7KT	2.7	35	10	45	1.35	15	
MLI1608F-3R3KT	3.3	35	10	40	1.55	15	

II. MLI1608F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI1608F-3R9KT	3.9	35	10	35	1.7	15	
MLI1608F-4R7KT	4.7	35	10	33	2.1	15	
MLI1608F-5R6KT	5.6	35	4	22	1.55	5	
MLI1608F-6R8KT	6.8	35	4	20	1.7	5	
MLI1608F-8R2KT	8.2	35	4	18	2.1	5	0.8±0.15
MLI1608F-100KT	10	30	2	17	1.85	3	[0.031±0.008]
MLI1608F-120KT	12	30	2	15	2.1	3	
MLI1608F-150KT	15	20	1	14	1.7	1	
MLI1608F-180KT	18	20	1	13	1.85	1	
MLI1608F-220KT	22	20	1	11	2.1	1	
MLI1608F-270KT	27	20	1	10	2.75	1	
MLI1608F-330KT	33	20	1	9	2.95	1	

III. MLI2012F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI2012F-47NKT	0.047	15	50	320	0.2	300	
MLI2012F-68NKT	0.068	15	50	280	0.2	300	
MLI2012F-82NKT	0.082	15	50	255	0.2	300	
MLI2012F-R10KT	0.1	20	25	235	0.3	250	
MLI2012F-R12KT	0.12	20	25	220	0.3	250	
MLI2012F-R15KT	0.15	20	25	200	0.4	250	
MLI2012F-R18KT	0.18	20	25	185	0.4	250	
MLI2012F-R22KT	0.22	20	25	170	0.5	250	
MLI2012F-R27KT	0.27	20	25	150	0.5	250	0.85±0.15
MLI2012F-R33KT	0.33	20	25	145	0.55	250	[0.033±0.008]
MLI2012F-R39KT	0.39	25	25	135	0.65	200	
MLI2012F-R47KT	0.47	25	25	125	0.65	200	
MLI2012F-R56KT	0.56	25	25	115	0.75	150	
MLI2012F-R68KT	0.68	25	25	105	0.8	150	
MLI2012F-R82KT	0.82	25	25	100	1	150	
MLI2012F-1R0KT	1.0	45	10	75	0.4	50	
MLI2012F-1R2KT	1.2	45	10	65	0.5	50	
MLI2012F-1R5KT	1.5	45	10	60	0.5	50	
MLI2012F-1R8KT	1.8	45	10	55	0.6	50	
MLI2012F-2R2KT	2.2	45	10	50	0.65	30	
MLI2012F-2R7KT	2.7	45	10	45	0.75	30	
MLI2012F-3R3KT	3.3	45	10	41	0.8	30	
MLI2012F-3R9KT	3.9	45	10	38	0.9	30	
MLI2012F-4R7KT	4.7	45	10	35	1	30	
MLI2012F-5R6KT	5.6	50	4	32	0.9	15	
MLI2012F-6R8KT	6.8	50	4	29	1	15	
MLI2012F-8R2KT	8.2	50	4	26	1.1	15	
MLI2012F-100KT	10	50	2	24	1.15	15	

III. MLI2012F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI2012F-120KT	12	50	2	22	1.25	15	0.85±0.15 [0.033±0.008]
MLI2012F-150KT	15	30	1	19	0.8	5	
MLI2012F-180KT	18	30	1	18	0.9	5	
MLI2012F-220KT	22	30	1	16	1.1	5	

III. MLI2012F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI2012F-270KT	27	30	1	14	1.15	5	1.25±0.15 [0.049±0.008]
MLI2012F-330KT	33	30	0.4	13	1.25	5	
MLI2012F-390KT	39	35	2	8	2.9	4	
MLI2012F-470KT	47	35	2	7.5	3	4	
MLI2012F-560KT	56	25	2	7	3.1	4	
MLI2012F-680KT	68	25	1	6.5	2.9	2	
MLI2012F-820KT	82	25	1	6	3	2	
MLI2012F-101KT	100	25	1	5.5	3.1	2	

IV.MLI3216F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI3216F-47NKT	0.047	20	50	320	0.15	300	0.85±0.15 [0.033±0.008]
MLI3216F-68NKT	0.068	20	50	280	0.25	300	
MLI3216F-82NKT	0.082	20	50	280	0.25	300	
MLI3216F-R10KT	0.1	20	25	235	0.25	250	
MLI3216F-R12KT	0.12	20	25	220	0.3	250	
MLI3216F-R15KT	0.15	20	25	200	0.3	250	
MLI3216F-R18KT	0.18	20	25	185	0.4	250	
MLI3216F-R22KT	0.22	20	25	170	0.4	250	
MLI3216F-R27KT	0.27	20	25	150	0.5	250	
MLI3216F-R33KT	0.33	20	25	145	0.5	250	
MLI3216F-R39KT	0.39	25	25	135	0.5	200	
MLI3216F-R47KT	0.47	25	25	125	0.6	200	
MLI3216F-R56KT	0.56	25	25	115	0.7	150	
MLI3216F-R68KT	0.68	25	25	105	0.8	150	
MLI3216F-R82KT	0.82	25	25	100	0.9	150	
MLI3216F-1R0KT	1.0	45	10	75	0.4	100	
MLI3216F-1R2KT	1.2	45	10	65	0.5	100	
MLI3216F-1R5KT	1.5	45	10	60	0.5	50	
MLI3216F-1R8KT	1.8	45	10	55	0.5	50	
MLI3216F-2R2KT	2.2	45	10	50	0.6	50	

IV.MLI3216F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI3216F-2R7KT	2.7	45	10	45	0.6	50	0.85±0.15 [0.033±0.008]
MLI3216F-3R3KT	3.3	45	10	41	0.7	50	
MLI3216F-3R9KT	3.9	45	10	38	0.8	50	
MLI3216F-4R7KT	4.7	45	10	35	0.9	50	
MLI3216F-5R6KT	5.6	50	4	32	0.7	25	
MLI3216F-6R8KT	6.8	50	4	29	0.8	25	
MLI3216F-8R2KT	8.2	50	4	26	0.9	25	
MLI3216F-100KT	10	50	2	24	1	25	
MLI3216F-120KT	12	50	2	22	1.05	15	
MLI3216F-150KT	15	35	1	19	0.7	5	
MLI3216F-180KT	18	35	1	18	0.7	5	
MLI3216F-220KT	22	35	1	16	0.9	5	
MLI3216F-270KT	27	35	1	14	0.9	5	

IV.MLI3216F Series of Inductors

Part Number	L (μH)	Q Min.	L, Q Test. Freq. (MHz)	S.R.F Min. (MHz)	DCR Max. (Ω)	Ir Max. (mA)	Thickness (mm) [inch]
MLI3216F-330KT	33	35	0.4	13	1.05	5	1.1±0.15 [0.043±0.008]
MLI3216F-390KT	39	40	2	11	3	5	
MLI3216F-470KT	47	40	2	10	3.4	5	
MLI3216F-560KT	56	10	2	9.5	3.8	4	
MLI3216F-680KT	68	10	1	9.5	3	4	
MLI3216F-820KT	82	10	1	9	3.4	4	
MLI3216F-101KT	100	10	1	8	3.8	4	

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