Inductors

For General Applications
SMD

MLF Series MLF1608 Type

FEATURES

- High-reliability monolithic structure.
- Ferrite core and magnetic shielding enables the design of compact circuits with high packing density.
- Excellent solderability and high heat resistance permits either flow or reflow soldering.
- The products contain no lead and also support lead-free soldering.

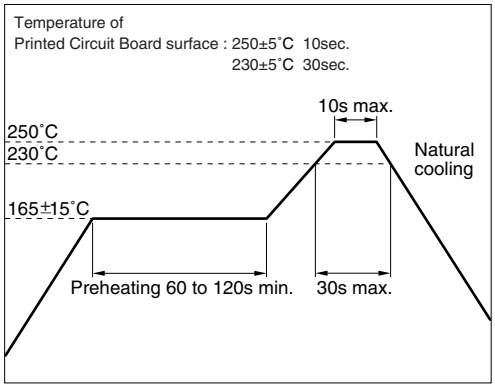
APPLICATIONS

Digital cellular phone, tuner, personal computers, audio, or various electronic appliances.

SPECIFICATIONS

Operating temperature range	–25 to +85°C
Storage temperature range	–40 to +85°C[Unit of products]

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

MLF	1608	A	1R0	K	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

1608	1.6×0.8mm
2012	2.0×1.25mm

(3) Material code

(4) Inductance value

47N	47nH[0.047µH]
R15	0.15µH
1R0	1µH
100	10µH

(5) Inductance tolerance

K	±10%
M	±20%

(6) Packaging style

T	Taping [reel]

PACKAGING STYLE AND QUANTITIES

Packaging style	Product's thickness	Quantity
Taping	0.8/0.85mm	4000 pieces/reel
	1.25mm	2000 pieces/reel

HANDLING AND PRECAUTIONS

- Before soldering, be sure to preheat components.
  The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- The inductance value may change due to magnetic saturation if the current exceeds the rated maximum.
- Do not expose the inductors to stray magnetic fields.
- Avoid static electricity discharge during handling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 300°C. Soldering time should not exceed 3 seconds.

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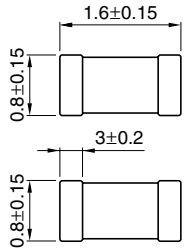
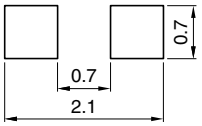
SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN





Weight: 4mg

Dimensions in mm

ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q		Test frequency	Self-resonant frequency (MHz)		DC resistance (Ω)		Rated current	Thickness T	Part No.
		min.	nom.	L, Q (MHz)	min.	nom.	max.	nom.	(mA)max.	(mm)	
0.047	±20%	10	20	50	260	350	0.3	0.2	50	0.8	MLF1608D47N*1X*2T
0.068	±20%	10	20	50	250	325	0.3	0.2	50	0.8	MLF1608D68NXT
0.082	±20%	10	20	50	245	310	0.3	0.2	50	0.8	MLF1608D82NXT
0.1	±20, ±10%	15	25	25	240	295	0.5	0.3	50	0.8	MLF1608DR10XT
0.12	±20, ±10%	15	25	25	205	280	0.5	0.3	50	0.8	MLF1608DR12XT
0.15	±20, ±10%	15	25	25	180	260	0.6	0.4	50	0.8	MLF1608DR15XT
0.18	±20, ±10%	15	25	25	165	245	0.6	0.4	50	0.8	MLF1608DR18XT
0.22	±20, ±10%	15	25	25	150	230	0.8	0.45	50	0.8	MLF1608DR22XT
0.27	±20, ±10%	15	25	25	136	210	0.8	0.5	50	0.8	MLF1608DR27XT
0.33	±20, ±10%	15	25	25	125	200	0.85	0.55	35	0.8	MLF1608DR33XT
0.39	±20, ±10%	15	25	25	110	185	1	0.65	35	0.8	MLF1608DR39XT
0.47	±20, ±10%	15	25	25	105	170	1.35	0.7	35	0.8	MLF1608DR47XT
0.56	±20, ±10%	15	25	25	95	155	1.55	0.75	35	0.8	MLF1608DR56XT
0.68	±20, ±10%	15	25	25	90	140	1.7	0.8	35	0.8	MLF1608DR68XT
0.82	±20, ±10%	15	25	25	85	125	2.1	0.85	35	0.8	MLF1608DR82XT
1	±20, ±10%	35	50	10	75	105	0.6	0.35	25	0.8	MLF1608A1R0XT
1.2	±20, ±10%	35	50	10	65	100	0.8	0.45	25	0.8	MLF1608A1R2XT
1.5	±20, ±10%	35	50	10	60	90	0.8	0.5	25	0.8	MLF1608A1R5XT
1.8	±20, ±10%	35	50	10	55	80	0.95	0.55	25	0.8	MLF1608A1R8XT
2.2	±20, ±10%	35	50	10	50	75	1.15	0.65	15	0.8	MLF1608A2R2XT
2.7	±20, ±10%	35	50	10	45	65	1.35	0.75	15	0.8	MLF1608A2R7XT
3.3	±20, ±10%	35	50	10	40	60	1.55	0.85	15	0.8	MLF1608A3R3XT
3.9	±20, ±10%	35	50	10	35	50	1.7	0.9	15	0.8	MLF1608A3R9XT
4.7	±20, ±10%	35	50	10	33	47	2.1	1	15	0.8	MLF1608A4R7XT
5.6	±20, ±10%	35	55	4	22	45	1.55	0.8	5	0.8	MLF1608E5R6XT
6.8	±20, ±10%	35	55	4	20	40	1.7	0.9	5	0.8	MLF1608E6R8XT
8.2	±20, ±10%	35	55	4	18	38	2.1	1	5	0.8	MLF1608E8R2XT
10	±20, ±10%	30	50	2	17	37	1.85	0.9	3	0.8	MLF1608E100XT
12	±20, ±10%	30	50	2	15	35	2.1	1	3	0.8	MLF1608E120XT
15	±20, ±10%	20	35	1	14	30	1.7	0.8	1	0.8	MLF1608C150XT
18	±20, ±10%	20	35	1	13	28	1.85	0.9	1	0.8	MLF1608C180XT
22	±20, ±10%	20	35	1	11	25	2.1	1	1	0.8	MLF1608C220XT
27	±20, ±10%	20	35	1	10	23	2.75	1.2	1	0.8	MLF1608C270XT
33	±20, ±10%	20	35	1	9	21	2.95	1.3	1	0.8	MLF1608C330XT

*1 47N means for 47nH (0.047μH).

*2 X: Please specify inductance tolerance, M(±20%) or K(±10%).

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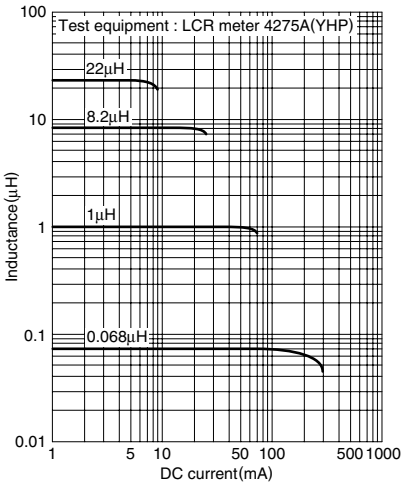
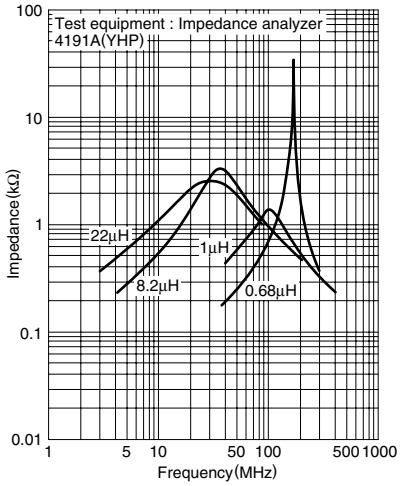
TYPICAL ELECTRICAL CHARACTERISTICS

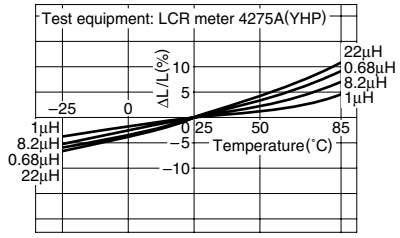
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE CHANGE vs. TEMPERATURE CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS