

Inductors

For High Frequency SMD

MLK Series MLK0603 Type

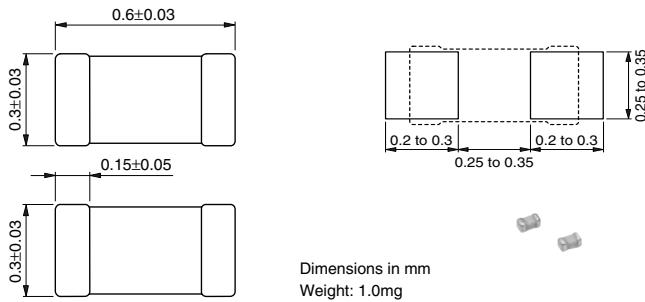
FEATURES

- Supports operating frequency bands of up to 12GHz with nominal inductance values from 1 to 33nH.
- The gigasprial multilayer structure reduces self-resonant frequencies and suppresses the reduction of Q values in gigahertz bandwidths.
- Advanced monolithic structure is formed using a multilayering and sintering process with ceramic and conductive materials for high-frequency.
- Because the part is non-polarized, it can be used in bulk cassette loaders.
- Completely lead-free product which contains no lead in any of the materials used. Supports lead-free solder as well.

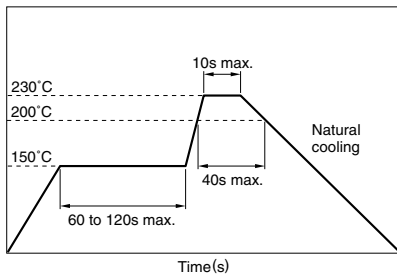
APPLICATIONS

High-frequency circuits for portable telephones, PA, Bluetooth modules, etc.

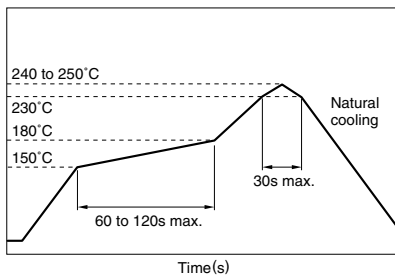
SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



RECOMMENDED REFLOW SOLDERING CONDITIONS EUTECTIC SOLDERING



LEAD-FREE SOLDERING



PRODUCT IDENTIFICATION

MLK	0603	L	10N	J	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions

0603	0.6×0.3mm (L×W)
------	-----------------

(3) Material code

(4) Inductance value

10N	10nH
-----	------

(5) Inductance tolerance

S	±0.3nH
J	±5%

(6) Packaging style

T	Taping (reel)
---	---------------

PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	15000 pieces/reel

SPECIFICATIONS

Operating temperature range	-55 to +125°C
Storage temperature range	-55 to +125°C [Unit of product]

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.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 260°C. Soldering time should not exceed 3 seconds.

Inductors

For High Frequency SMD

MLK Series MLK0603 Type

ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Q typ.	Test frequency L, Q (MHz)	Self-resonant frequency (GHz)min.	DC resistance (Ω)max.	Rated current (mA)	Part No.
1.0	±0.3nH	3	100	12.0	0.20	300	MLK0603L1N0ST
1.2	±0.3nH	4	100	11.0	0.25	300	MLK0603L1N2ST
1.5	±0.3nH	4	100	9.5	0.30	300	MLK0603L1N5ST
1.8	±0.3nH	4	100	8.5	0.35	300	MLK0603L1N8ST
2.2	±0.3nH	4	100	8.0	0.40	300	MLK0603L2N2ST
2.7	±0.3nH	4	100	7.5	0.45	300	MLK0603L2N7ST
3.3	±0.3nH	4	100	7.0	0.50	200	MLK0603L3N3ST
3.9	±0.3nH	4	100	6.5	0.55	200	MLK0603L3N9ST
4.7	±0.3nH	5	100	6.0	0.60	200	MLK0603L4N7ST
5.6	±0.3nH	5	100	5.7	0.70	200	MLK0603L5N6ST
6.8	±5%	5	100	5.5	0.80	200	MLK0603L6N8JT
8.2	±5%	5	100	5.0	0.90	200	MLK0603L8N2JT
10	±5%	5	100	4.7	1.00	200	MLK0603L10NJT
12	±5%	5	100	4.3	1.10	150	MLK0603L12NJT
15	±5%	5	100	4.0	1.20	150	MLK0603L15NJT
18	±5%	5	100	3.7	1.40	100	MLK0603L18NJT
22	±5%	5	100	3.5	1.60	100	MLK0603L22NJT
27	±5%	5	100	3.0	1.80	100	MLK0603L27NJT
33	±5%	5	100	2.8	2.00	100	MLK0603L33NJT

- Test equipment
Inductance Q: HP4291A+16197A SRF: HP8720C Rdc:YOKOGAWA TYPE7561
- Rated current: Value obtained when current flows and temperature has risen to 20°C

L, Q vs. FREQUENCY CHARACTERISTICS

Part No.	Inductance(nH)typ.					Q typ.				
	800MHz	900MHz	1.8GHz	2.0GHz	2.4GHz	800MHz	900MHz	1.8GHz	2.0GHz	2.4GHz
MLK0603L1N0ST	0.9	0.9	0.9	0.9	0.9	11	12	17	18	20
MLK0603L1N2ST	1.1	1.1	1.0	1.0	1.0	13	13	19	20	23
MLK0603L1N5ST	1.4	1.4	1.3	1.3	1.3	13	14	19	21	23
MLK0603L1N8ST	1.6	1.6	1.6	1.6	1.6	12	13	19	20	22
MLK0603L2N2ST	2.0	2.0	1.9	1.9	1.9	13	13	19	20	22
MLK0603L2N7ST	2.4	2.4	2.4	2.4	2.4	13	14	19	21	22
MLK0603L3N3ST	2.9	2.9	2.9	2.9	2.9	12	13	18	19	21
MLK0603L3N9ST	3.5	3.5	3.5	3.5	3.5	13	13	19	20	22
MLK0603L4N7ST	4.2	4.2	4.2	4.2	4.2	12	13	18	19	20
MLK0603L5N6ST	5.0	5.0	5.0	5.1	5.1	13	14	20	21	22
MLK0603L6N8JT	6.0	6.0	6.1	6.2	6.2	13	14	19	20	22
MLK0603L8N2JT	7.3	7.3	7.4	7.4	7.5	13	14	20	20	22
MLK0603L10NJT	8.9	8.9	9.0	9.1	9.3	14	14	20	20	22
MLK0603L12NJT	10.7	10.7	10.9	11.0	11.3	14	14	20	21	22
MLK0603L15NJT	13.4	13.4	13.7	13.8	14.2	13	13	18	19	20
MLK0603L18NJT	16.3	16.3	17.0	17.3	18.1	13	14	18	18	19
MLK0603L22NJT	19.7	19.7	20.8	21.3	22.4	12	13	17	17	18
MLK0603L27NJT	24.3	24.4	27.1	28.4	31.4	12	12	15	15	14
MLK0603L33NJT	30.0	30.1	34.4	36.4	41.2	12	12	14	14	13

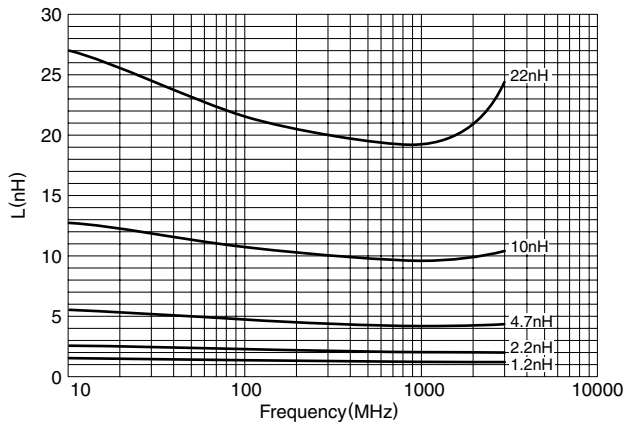
Inductors

For High Frequency
SMD

MLK Series MLK0603 Type

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS

