Inductors

For High Frequency
SMD

MLK Series MLK0603 Type

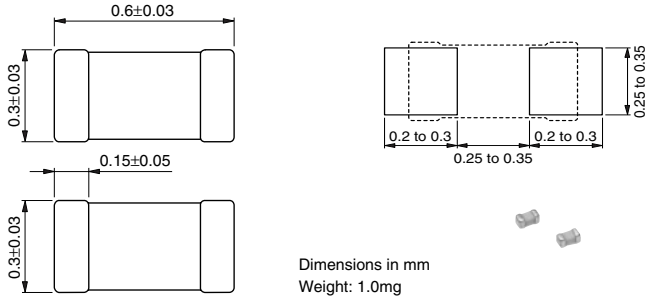
FEATURES

- Supports operating frequency bands of up to 12GHz with nominal inductance values from 1 to 22nH.
- The gigaspiral 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, personal handyphone systems(PHS), pagers, or other mobile communication appliances.

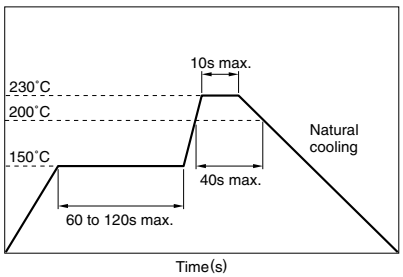
SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



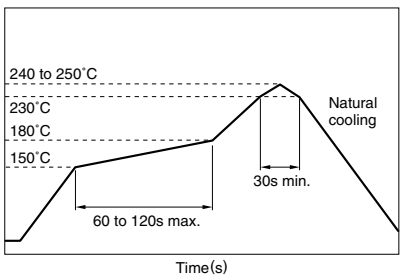
Dimensions in mm
Weight: 1.0mg

RECOMMENDED REFLOW SOLDERING CONDITIONS

Eutectic Solder



No Lead Solder



PRODUCT IDENTIFICATION

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

(1) Series name

(2) Dimensions L×W

0603	0.6×0.3mm

(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	–25 to +85°C
Storage temperature range	–40 to +85°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.

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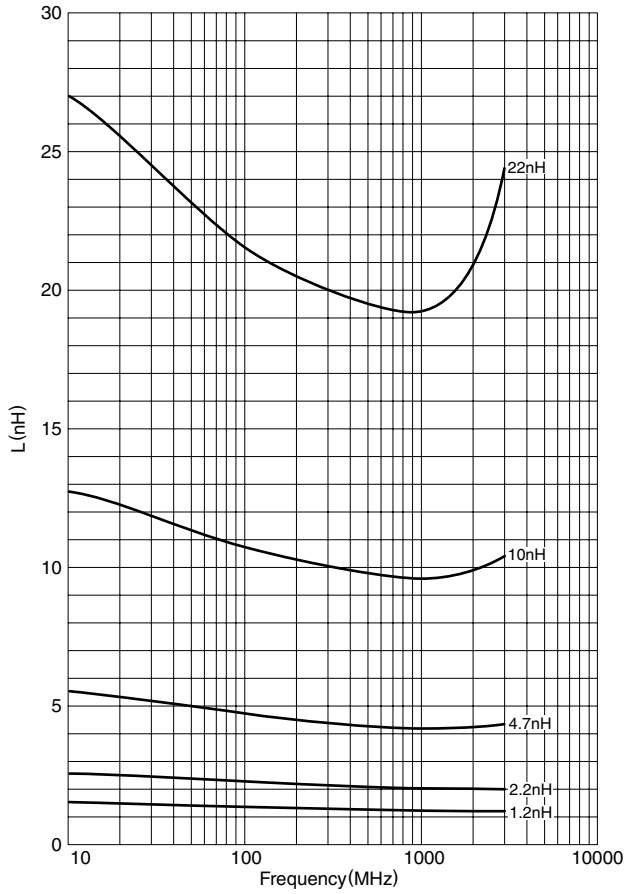
ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Test frequency L (MHz)	Q typ.			Self-resonant frequency (GHz)min.	DC resistance (Ω)max.	Rated current (mA)	Part No.
			100MHz	300MHz	1GHz				
1.0	±0.3nH	100	3	7	13	12.0	0.20	300	MLK0603L1N0S
1.2	±0.3nH	100	4	8	14	11.0	0.25	300	MLK0603L1N2S
1.5	±0.3nH	100	4	8	14	9.5	0.30	300	MLK0603L1N5S
1.8	±0.3nH	100	4	8	14	8.5	0.35	300	MLK0603L1N8S
2.2	±0.3nH	100	4	8	14	8.0	0.40	300	MLK0603L2N2S
2.7	±0.3nH	100	4	8	14	7.5	0.45	300	MLK0603L2N7S
3.3	±0.3nH	100	4	8	14	7.0	0.50	200	MLK0603L3N3S
3.9	±0.3nH	100	4	8	14	6.5	0.55	200	MLK0603L3N9S
4.7	±0.3nH	100	5	8	14	6.0	0.60	200	MLK0603L4N7S
5.6	±0.3nH	100	5	8	15	5.7	0.70	200	MLK0603L5N6S
6.8	±5%	100	5	9	15	5.5	0.80	200	MLK0603L6N8J
8.2	±5%	100	5	9	15	5.0	0.90	200	MLK0603L8N2J
10	±5%	100	5	9	15	4.7	1.00	200	MLK0603L10NJ
12	±5%	100	5	9	15	4.3	1.10	150	MLK0603L12NJ
15	±5%	100	5	8	14	4.0	1.20	150	MLK0603L15NJ
18	±5%	100	5	8	14	3.7	1.40	100	MLK0603L18NJ
22	±5%	100	5	8	14	3.5	1.60	100	MLK0603L22NJ

- 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

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS