Inductors

For High Frequency
SMD

MLK Series MLK1005 Type

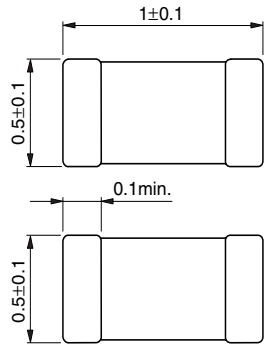
FEATURES

- Supports operating frequency bands of up to 12GHz with nominal inductance values from 1 to 100nH.
- Provides high Q characteristics.
- 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.

APPLICATIONS

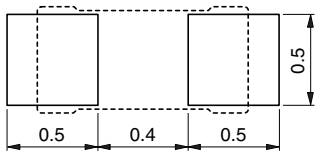
High-frequency circuits for portable telephones, personal handyphone systems(PHS), pagers, or other mobile communication appliances.

SHAPES AND DIMENSIONS



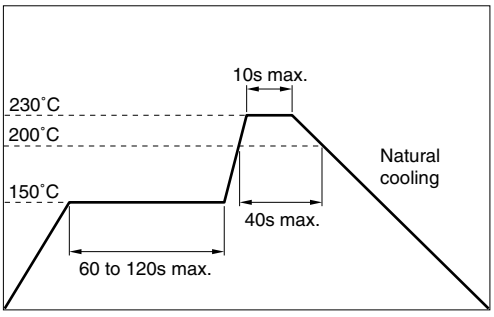
Weight: 1.0mg

RECOMMENDED PC BOARD PATTERN



Dimensions in mm

RECOMMENDED REFLOW SOLDERING CONDITIONS



PRODUCT IDENTIFICATION

MLK	1005	S	2N2	S	X
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

1005	1.0×0.5mm

(3) Material code

(4) Inductance value

2N2	2.2nH
12N	12nH

(5) Inductance tolerance

S	±0.3nH
D	±0.5nH
J	±5%

(6) Packaging style

T	Taping (reel)

PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	10000 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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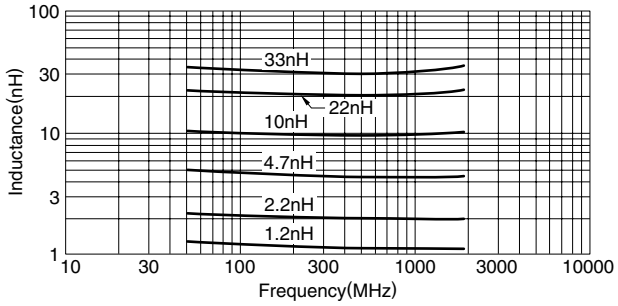
ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Q min.	Q typ.				Self-resonant frequency(GHz)		DC resistance (Ω)		Rated current (mA) max.	Part No.
		100MHz	100MHz	300MHz	500MHz	1000MHz	min.	typ.	max.	typ.		
1	±0.3nH	5	7	12	15	24	12	19	0.1	0.05	300	MLK1005S1N0S
1.2	±0.3nH	5	7	13	17	26	11	16.2	0.15	0.07	300	MLK1005S1N2S
1.5	±0.3nH	6	8	15	19	28	9.5	13.6	0.16	0.08	300	MLK1005S1N5S
1.8	±0.3nH	6	8	15	19	29	8.5	10.5	0.2	0.11	300	MLK1005S1N8S
2.2	±0.3nH	6	8	15	20	29	8	10	0.21	0.11	300	MLK1005S2N2S
2.7	±0.3nH	6	8	15	20	30	7.5	9.2	0.23	0.16	300	MLK1005S2N7S
3.3	±0.3nH	7	9	16	21	32	7	8.5	0.25	0.16	300	MLK1005S3N3S
3.9	±0.3nH	7	9	16	21	30	6.5	8.2	0.28	0.16	300	MLK1005S3N9S
4.7	±0.3nH	7	9	16	21	31	6	7.3	0.32	0.19	300	MLK1005S4N7S
5.6	±0.5nH	7	9	16	21	31	5.7	7.2	0.35	0.21	300	MLK1005S5N6D
6.8	±0.5nH	7	9	16	21	31	5.5	6.8	0.38	0.28	300	MLK1005S6N8D
8.2	±0.5nH	7	9	16	21	31	5	6.5	0.42	0.31	300	MLK1005S8N2D
10	±5%	7	9	16	21	31	4.7	6.3	0.45	0.33	200	MLK1005S10NJ
12	±5%	7	9	16	21	32	4.3	6.2	0.5	0.41	200	MLK1005S12NJ
15	±5%	7	9	16	21	30	4	5.6	0.55	0.44	200	MLK1005S15NJ
18	±5%	7	9	16	21	30	3.7	5.3	0.65	0.53	200	MLK1005S18NJ
22	±5%	7	9	16	21	30	3.5	5.1	0.75	0.58	200	MLK1005S22NJ
27	±5%	7	9	16	20	28	3	4.7	0.95	0.75	200	MLK1005S27NJ
33	±5%	7	9	16	20	27	2.5	4.2	1.1	0.81	200	MLK1005S33NJ
39	±5%	6	9	16	20	27	2	3.4	1.2	0.67	100	MLK1005S39NJ
47	±5%	6	9	16	20	26	1.8	2.9	1.3	0.79	100	MLK1005S47NJ
56	±5%	6	9	16	20	25	1.5	2.8	1.4	0.97	100	MLK1005S56NJ
68	±5%	6	9	15	19	23	1.2	2.7	1.6	1.18	100	MLK1005S68NJ
82	±5%	6	9	14	18	20	1	2.1	1.8	1.24	50	MLK1005S82NJ
100	±5%	6	9	14	17	20	0.8	2	2.2	1.5	50	MLK1005SR10J

- Test equipment
  Inductance Q: HP4291A+16193A 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