

Inductors

For High Frequency SMD

MLK Series MLK1005 Type

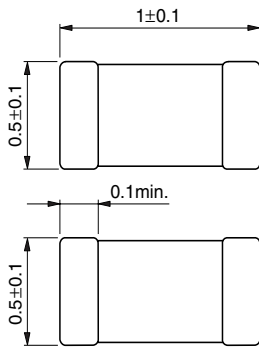
FEATURES

- 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

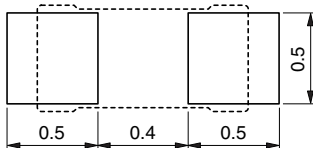
High-frequency circuits for portable telephones, personal handy-phone systems(PHS), pagers, or other mobile communication appliances.

SHAPES AND DIMENSIONS



Weight: 1.0mg

RECOMMENDED PC BOARD PATTERN



Dimensions in mm

SPECIFICATIONS

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

PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	10000 pieces/reel

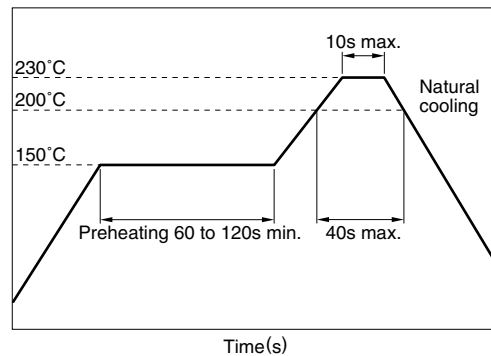
HANDLING AND PRECAUTIONS

- 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.
- 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.

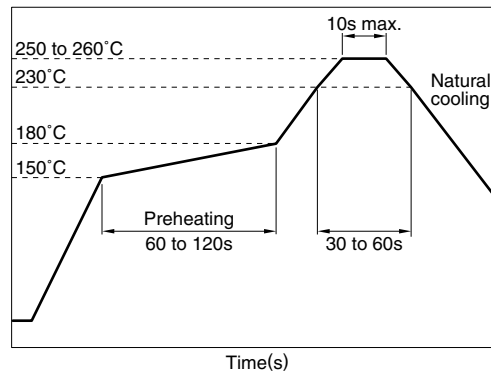
PRODUCT IDENTIFICATION

MLK	1005	S	2N2	S	T
(1)	(2)	(3)	(4)	(5)	(6)
(1) Series name					
(2) Dimensions					
1005			1.0×0.5mm (L×W)		
(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)		

RECOMMENDED SOLDERING CONDITIONS(REFLOW) EUTECTIC SOLDERING



LEAD-FREE SOLDERING



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ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Test frequency L, Q (MHz)	Q min.	Q typ.	Self-resonant frequency(GHz)		DC resistance (Ω)		Rated current (mA) max.	Part No.
					min.	typ.	max.	typ.		
1	± 0.3 nH	100	5	7	12	19	0.1	0.05	300	MLK1005S1N0ST
1.2	± 0.3 nH	100	5	7	11	16.2	0.15	0.07	300	MLK1005S1N2ST
1.5	± 0.3 nH	100	6	8	9.5	13.6	0.16	0.08	300	MLK1005S1N5ST
1.8	± 0.3 nH	100	6	8	8.5	10.5	0.2	0.11	300	MLK1005S1N8ST
2.2	± 0.3 nH	100	6	8	8	10	0.21	0.11	300	MLK1005S2N2ST
2.7	± 0.3 nH	100	6	8	7.5	9.2	0.23	0.16	300	MLK1005S2N7ST
3.3	± 0.3 nH	100	7	9	7	8.5	0.25	0.16	300	MLK1005S3N3ST
3.9	± 0.3 nH	100	7	9	6.5	8.2	0.28	0.16	300	MLK1005S3N9ST
4.7	± 0.3 nH	100	7	9	6	7.3	0.32	0.19	300	MLK1005S4N7ST
5.6	± 0.5 nH	100	7	9	5.7	7.2	0.35	0.21	300	MLK1005S5N6DT
6.8	± 0.5 nH	100	7	9	5.5	6.8	0.38	0.28	300	MLK1005S6N8DT
8.2	± 0.5 nH	100	7	9	5	6.5	0.42	0.31	300	MLK1005S8N2DT
10	$\pm 5\%$	100	7	9	4.7	6.3	0.45	0.33	200	MLK1005S10NJT
12	$\pm 5\%$	100	7	9	4.3	6.2	0.5	0.41	200	MLK1005S12NJT
15	$\pm 5\%$	100	7	9	4	5.6	0.55	0.44	200	MLK1005S15NJT
18	$\pm 5\%$	100	7	9	3.7	5.3	0.65	0.53	200	MLK1005S18NJT
22	$\pm 5\%$	100	7	9	3.5	5.1	0.75	0.58	200	MLK1005S22NJT
27	$\pm 5\%$	100	7	9	3	4.7	0.95	0.75	200	MLK1005S27NJT
33	$\pm 5\%$	100	7	9	2.5	4.2	1.1	0.81	200	MLK1005S33NJT
39	$\pm 5\%$	100	6	9	2	3.4	1.2	0.67	100	MLK1005S39NJT
47	$\pm 5\%$	100	6	9	1.8	2.9	1.3	0.79	100	MLK1005S47NJT
56	$\pm 5\%$	100	6	9	1.5	2.8	1.4	0.97	100	MLK1005S56NJT
68	$\pm 5\%$	100	6	9	1.2	2.7	1.6	1.18	100	MLK1005S68NJT
82	$\pm 5\%$	100	6	9	1	2.1	1.8	1.24	50	MLK1005S82NJT
100	$\pm 5\%$	100	6	9	0.8	2	2.2	1.5	50	MLK1005SR10JT

- 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.

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
MLK1005S1N0ST	0.9	0.9	0.9	0.9	0.9	19	20	27	29	33
MLK1005S1N2ST	1.1	1.1	1.1	1.1	1.1	21	23	31	33	37
MLK1005S1N5ST	1.4	1.4	1.4	1.4	1.4	22	23	32	34	38
MLK1005S1N8ST	1.7	1.7	1.7	1.7	1.7	22	24	33	35	39
MLK1005S2N2ST	2.1	2.1	2.1	2.1	2.1	21	23	32	34	37
MLK1005S2N7ST	2.5	2.5	2.6	2.6	2.6	22	24	33	35	38
MLK1005S3N3ST	3.1	3.1	3.2	3.2	3.2	23	24	34	36	39
MLK1005S3N9ST	3.6	3.6	3.7	3.8	3.8	23	24	34	35	38
MLK1005S4N7ST	4.4	4.4	4.6	4.6	4.7	23	25	34	36	39
MLK1005S5N6DT	5.3	5.3	5.4	5.5	5.7	22	24	33	34	36
MLK1005S6N8DT	6.4	6.4	6.7	6.8	7.0	24	25	35	36	39
MLK1005S8N2DT	7.8	7.8	8.2	8.3	8.6	25	26	36	37	39
MLK1005S10NJT	9.5	9.5	10.0	10.2	10.7	24	25	35	35	37
MLK1005S12NJT	11.4	11.4	12.2	12.5	13.1	25	26	36	37	39
MLK1005S15NJT	14.3	14.3	15.4	15.9	16.8	25	26	35	36	37
MLK1005S18NJT	17.2	17.2	18.7	19.2	20.5	24	26	34	34	35
MLK1005S22NJT	21.0	21.1	23.3	24.1	26.1	24	25	32	33	33
MLK1005S27NJT	26.0	26.2	29.5	30.9	34.2	24	25	32	32	32
MLK1005S33NJT	31.9	32.1	36.9	38.9	43.9	24	25	31	31	30
MLK1005S39NJT	38.1	38.6	47.4	51.8	62.8	23	24	27	26	23
MLK1005S47NJT	46.2	46.9	59.6	66.5	84.7	22	23	25	23	19
MLK1005S56NJT	55.5	56.3	74.5	84.8		22	23	23	21	17
MLK1005S68NJT	68.1	69.4	98.1	117.0		22	22	21	19	13
MLK1005S82NJT	85.1	87.7	159.4			20	20	15	11	
MLK1005SR10JT	104.7	108.2	209.3			20	21	14	10	

• All specifications are subject to change without notice.

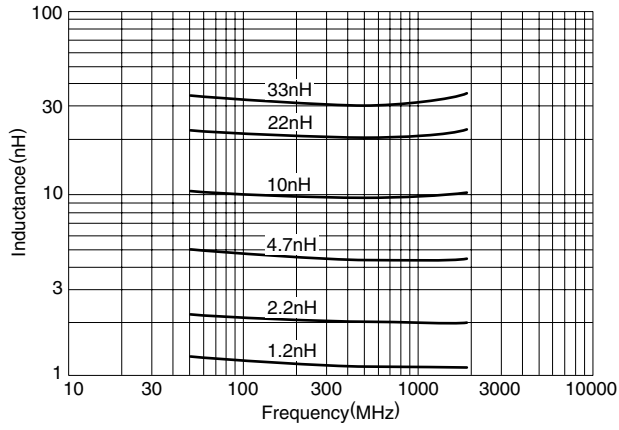
Inductors

For High Frequency
SMD

MLK Series MLK1005 Type

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS

