TDK

SMD Inductors(Coils)
For High Frequency(Multilayer)

Conformity to RoHS Directive

MLG Series MLG0402S

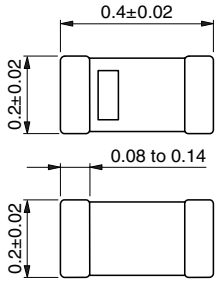
FEATURES

- Compared to our existing 0603 product, this series has a 30% smaller cubic ratio and 45% smaller effective area, making it the optimal product for fine-pitch circuits.
- Guaranteed operating temperature range: –55 to +125°C
- Lead free, lead free soldering, and RoHS compliant.

APPLICATIONS

For high-frequency applications including mobile phones, high frequency modules (PA, VCO, FEM etc.), Bluetooth, W-LAN, UWB and tuners.

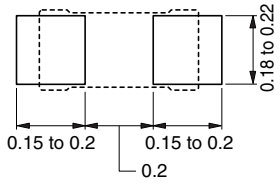
SHAPES AND DIMENSIONS



Weight: 0.07mg

Dimensions in mm

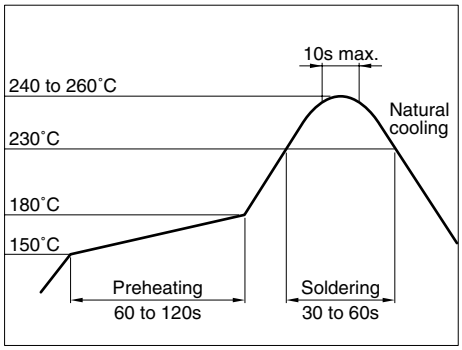
RECOMMENDED PC BOARD PATTERN



Dimensions in mm

RECOMMENDED SOLDERING CONDITION

REFLOW SOLDERING



PRODUCT IDENTIFICATION

MLG	0402	S	2N2	S	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions

0402	0.4×0.2mm(L×W)

(3) Material code

(4) Inductance value

2N2	2.2nH
12N	12nH

(5) Inductance tolerance

S	±0.3nH
J	±5%

(6) Packaging style

T	Taping (reel)

SPECIFICATIONS

Operating temperature range	–55 to +125°C
Storage temperature range	–55 to +125°C [Unit of products]

PACKAGING STYLE AND QUANTITIES

Packaging style	Quantity
Taping	20000 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.

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
- Please contact our Sales office when your application are considered the following:
  The device's failure or malfunction may directly endanger human life (e.g. application for automobile/aircraft/medical/nuclear power devices, etc.)

ELECTRICAL CHARACTERISTICS

Inductance (nH)	Inductance tolerance	Q min.	Test frequency L, Q (MHz)	Self-resonant frequency (GHz)		DC resistance (Ω)		Rated current (mA)max.	Part No.
				min.	typ.	max.	typ.		
1.0	±0.3nH	3	100	10.0	16.4	0.25	0.14	200	MLG0402S1N0ST
1.2	±0.3nH	3	100	10.0	15.5	0.30	0.18	200	MLG0402S1N2ST
1.5	±0.3nH	3	100	10.0	13.1	0.30	0.20	150	MLG0402S1N5ST
1.8	±0.3nH	3	100	9.0	12.0	0.35	0.22	150	MLG0402S1N8ST
2.2	±0.3nH	3	100	8.0	10.2	0.40	0.26	150	MLG0402S2N2ST
2.7	±0.3nH	3	100	6.5	8.7	0.50	0.30	150	MLG0402S2N7ST
3.3	±0.3nH	3	100	6.0	7.9	0.55	0.35	150	MLG0402S3N3ST
3.9	±0.3nH	3	100	5.5	7.1	0.55	0.35	150	MLG0402S3N9ST
4.7	±0.3nH	3	100	4.5	6.3	0.70	0.43	150	MLG0402S4N7ST
5.6	±0.3nH	3	100	3.5	5.5	0.80	0.52	150	MLG0402S5N6ST
6.8	±5%	3	100	3.5	5.3	0.80	0.53	150	MLG0402S6N8JT
8.2	±5%	3	100	3.0	4.8	0.90	0.60	150	MLG0402S8N2JT
10	±5%	3	100	2.8	4.0	1.10	0.74	150	MLG0402S10NJT
12	±5%	3	100	2.5	3.6	1.20	0.81	150	MLG0402S12NJT

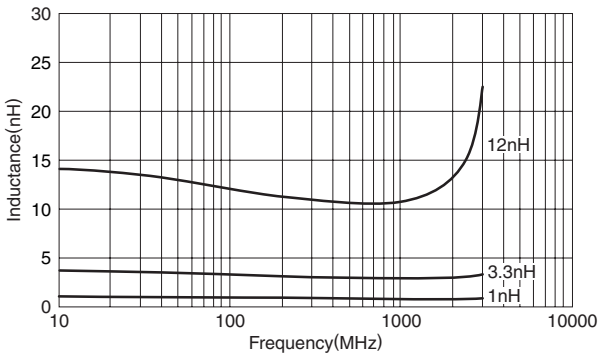
- Test equipment
  Inductance Q : HP4291A+16196D, or equivalent
  SRF: HP8720C, or equivalent
  Rdc: YOKOGAWA TYPE7561, or equivalent
- Rated current: Value obtained when current flows and temperature has risen to 20°C.

L, Q vs. FREQUENCY CHARACTERISTICS

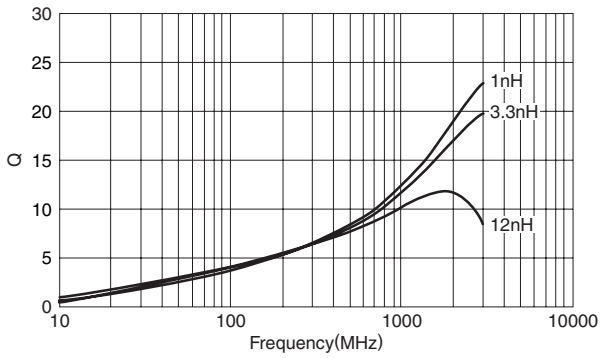
Part No.	Inductance(nH)typ.					Q typ.				
	500MHz	800MHz	1.8GHz	2.0GHz	2.4GHz	500MHz	800MHz	1.8GHz	2.0GHz	2.4GHz
MLG0402S1N0ST	0.9	0.9	0.9	0.9	0.9	8	11	18	19	21
MLG0402S1N2ST	1.1	1.1	1.0	1.0	1.0	9	11	19	20	22
MLG0402S1N5ST	1.3	1.3	1.3	1.3	1.3	8	11	17	19	20
MLG0402S1N8ST	1.6	1.6	1.6	1.6	1.6	9	11	18	19	21
MLG0402S2N2ST	2.0	1.9	1.9	1.9	1.9	8	11	17	18	19
MLG0402S2N7ST	2.4	2.3	2.3	2.4	2.4	8	10	16	17	18
MLG0402S3N3ST	2.9	2.9	2.9	2.9	3.0	8	11	16	17	18
MLG0402S3N9ST	3.4	3.4	3.4	3.4	3.5	8	10	16	17	17
MLG0402S4N7ST	4.2	4.1	4.2	4.3	4.4	8	10	15	16	16
MLG0402S5N6ST	5.0	4.9	5.1	5.2	5.4	8	10	15	16	17
MLG0402S6N8JT	6.0	5.9	6.1	6.3	6.5	8	10	14	15	15
MLG0402S8N2JT	7.3	7.2	7.6	7.8	8.2	8	10	14	14	15
MLG0402S10NJT	8.8	8.8	9.8	10.4	11.4	8	9	13	13	12
MLG0402S12NJT	10.5	10.5	12.1	12.9	14.4	7	9	12	11	11

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Q vs. FREQUENCY CHARACTERISTICS



- All specifications are subject to change without notice.