TDK

SMD Inductors(Coils)
For High Frequency(Multilayer)

Conformity to RoHS Directive

MLG Series MLG1608

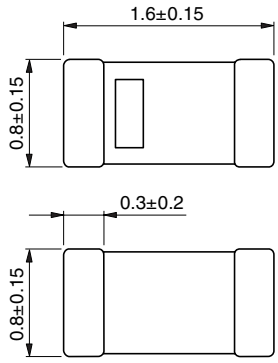
FEATURES

- Nominal inductance values are supported from 1 to 680nH.
- Provides high Q characteristics.
- Advanced monolithic structure is formed using a multilayering and sintering process with ceramic and conductive materials for high-frequency.
- It is a product conforming to RoHS directive.

APPLICATIONS

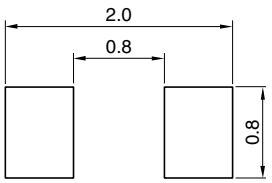
For high-frequency applications including mobile phones, high frequency modules (PA, VCO, FEM etc.), Bluetooth, W-LAN, UWB and tuners.

SHAPES AND DIMENSIONS



Weight: 4mg

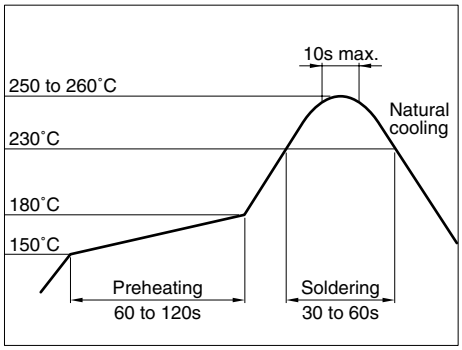
RECOMMENDED PC BOARD PATTERN



Dimensions in mm



RECOMMENDED SOLDERING CONDITION
REFLOW SOLDERING



PRODUCT IDENTIFICATION

MLG	1608	B	2N2	S	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions

1608	1.6×0.8mm (L×W)

(3) Material code

(4) Inductance value

2N2	2.2nH
12N	12nH
R10	100nH

(5) Inductance tolerance

S	±0.3nH
D	±0.5nH
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	4000 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 350°C. Soldering time should not exceed 3 seconds.

- 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.)

• All specifications are subject to change without notice.

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	±0.3nH	8	100	10.0	20up	0.10	0.03	600	MLG1608B1N0ST
1.2	±0.3nH	8	100	10.0	20up	0.10	0.04	600	MLG1608B1N2ST
1.5	±0.3nH	8	100	10.0	19.6	0.10	0.03	600	MLG1608B1N5ST
1.8	±0.3nH	8	100	10.0	16.6	0.10	0.04	600	MLG1608B1N8ST
2.2	±0.3nH	10	100	8.0	10.8	0.10	0.05	600	MLG1608B2N2ST
2.7	±0.3nH	10	100	7.0	8.8	0.12	0.06	600	MLG1608B2N7ST
3.3	±0.3nH	10	100	6.5	8.8	0.12	0.06	600	MLG1608B3N3ST
3.9	±0.3nH	10	100	6.0	7.9	0.14	0.06	600	MLG1608B3N9ST
4.7	±0.3nH	10	100	5.0	6.8	0.15	0.08	600	MLG1608B4N7ST
5.6	±0.5nH	10	100	5.0	6.8	0.16	0.08	600	MLG1608B5N6DT
6.8	±0.5nH	10	100	4.5	5.7	0.18	0.10	600	MLG1608B6N8DT
8.2	±0.5nH	10	100	4.5	5.6	0.20	0.10	600	MLG1608B8N2DT
10	±5%	12	100	3.5	4.5	0.20	0.11	600	MLG1608B10NJT
12	±5%	12	100	3.0	3.8	0.25	0.13	600	MLG1608B12NJT
15	±5%	12	100	2.8	3.6	0.28	0.14	600	MLG1608B15NJT
18	±5%	12	100	2.6	3.3	0.32	0.16	600	MLG1608B18NJT
22	±5%	12	100	2.3	3.0	0.35	0.19	500	MLG1608B22NJT
27	±5%	12	100	2.0	2.7	0.40	0.21	500	MLG1608B27NJT
33	±5%	12	100	1.8	2.3	0.50	0.25	500	MLG1608B33NJT
39	±5%	12	100	1.6	2.0	0.55	0.26	400	MLG1608B39NJT
47	±5%	14	100	1.4	1.8	0.60	0.35	400	MLG1608B47NJT
56	±5%	14	100	1.2	1.8	0.70	0.41	400	MLG1608B56NJT
68	±5%	14	100	1.1	1.6	0.75	0.43	300	MLG1608B68NJT
82	±5%	14	100	1.0	1.4	0.80	0.50	300	MLG1608B82NJT
100	±5%	14	100	0.80	1.2	1.00	0.64	300	MLG1608BR10JT
120	±5%	14	100	0.65	0.8	1.20	0.89	300	MLG1608SR12JT
150	±5%	14	100	0.55	0.7	1.30	1.03	250	MLG1608SR15JT
180	±5%	14	100	0.50	0.6	1.40	1.08	250	MLG1608SR18JT
220	±5%	14	100	0.45	0.6	1.70	1.29	200	MLG1608SR22JT
270	±5%	14	100	0.35	0.5	2.00	1.59	200	MLG1608SR27JT
330	±5%	10	50	0.35	0.47	2.80	1.90	100	MLG1608SR33JT
390	±5%	10	50	0.30	0.43	3.00	2.06	100	MLG1608SR39JT
470	±5%	10	50	0.25	0.39	3.50	2.47	100	MLG1608SR47JT
560	±5%	10	50	0.25	0.36	4.50	3.20	70	MLG1608SR56JT
680	±5%	10	50	0.20	0.31	5.50	3.88	70	MLG1608SR68JT

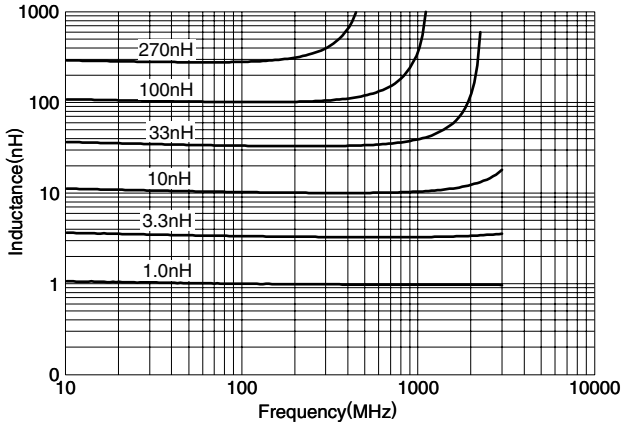
- Because it provides for a product of smaller inductance tolerance, please refer.
- Test equipment
  Inductance Q : HP4291A+16193A, or equivalent
  SRF: HP8720C, or equivalent
  Rdc: YOKOGAWA TYPE7561, or equivalent
- Rated current : Value obtained when current flows and temperature has risen to 20°C.

L, Q vs. FREQUENCY CHARACTERISTICS

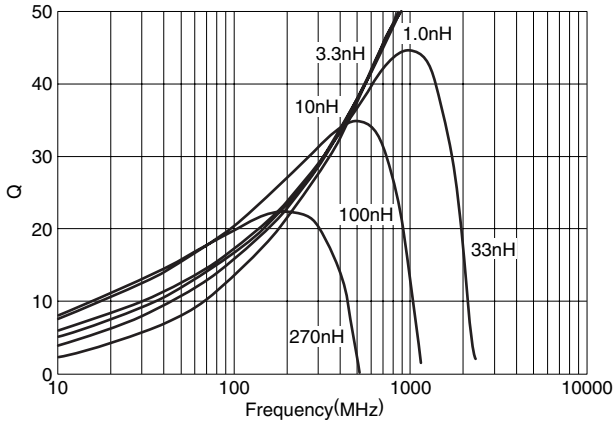
Part No.	Inductance(nH)typ.					Q typ.				
	500MHz	800MHz	1.8GHz	2.0GHz	2.4GHz	500MHz	800MHz	1.8GHz	2.0GHz	2.4GHz
MLG1608B1N0ST	1.0	1.0	1.0	1.0	1.0	39	48	77	82	95
MLG1608B1N2ST	1.2	1.1	1.2	1.2	1.2	28	35	57	60	68
MLG1608B1N5ST	1.5	1.5	1.5	1.5	1.5	37	48	78	81	93
MLG1608B1N8ST	1.8	1.8	1.8	1.8	1.8	38	48	77	81	95
MLG1608B2N2ST	2.2	2.1	2.2	2.2	2.2	44	54	88	91	107
MLG1608B2N7ST	2.6	2.6	2.7	2.7	2.8	40	51	79	81	94
MLG1608B3N3ST	3.2	3.2	3.3	3.3	3.4	38	48	76	79	91
MLG1608B3N9ST	3.8	3.8	4.0	4.0	4.1	40	50	79	81	93
MLG1608B4N7ST	4.6	4.6	4.9	5.0	5.2	41	51	76	79	88
MLG1608B5N6DT	5.4	5.5	5.8	5.9	6.2	37	46	69	71	79
MLG1608B6N8DT	6.6	6.7	7.3	7.5	8.0	38	47	67	68	74
MLG1608B8N2DT	8.0	8.1	8.9	9.3	10	39	48	67	68	71
MLG1608B10NJT	9.8	10.0	11.5	12.1	13.6	38	47	63	63	61
MLG1608B12NJT	11.8	12.1	14.8	16.0	19.3	39	48	59	57	51
MLG1608B15NJT	14.8	15.4	20.6	23.4	32.2	38	46	49	46	34
MLG1608B18NJT	17.8	18.5	25.5	29.3	42.2	36	44	47	42	30
MLG1608B22NJT	21.9	22.9	33.6	40.2	66.8	36	44	43	38	23
MLG1608B27NJT	27.1	28.8	50.6	68.5	277.8	37	43	34	26	7
MLG1608B33NJT	33.4	36.0	76.7	125.1		37	43	27	17	
MLG1608B39NJT	40.2	45.0	209.9			36	40	11		
MLG1608B47NJT	49.1	56.0				38	41	3		
MLG1608B56NJT	59.6	71.1				37	38			
MLG1608B68NJT	74.0	92.8				34	33			
MLG1608B82NJT	91.1	120.6				33	31			
MLG1608BR10JT	118	182				35	28			
MLG1608SR12JT	188					23				
MLG1608SR15JT	283					19				
MLG1608SR18JT	455					14				
MLG1608SR22JT	771					9				
MLG1608SR27JT						3				
MLG1608SR33JT										
MLG1608SR39JT										
MLG1608SR47JT										
MLG1608SR56JT										
MLG1608SR68JT										

TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

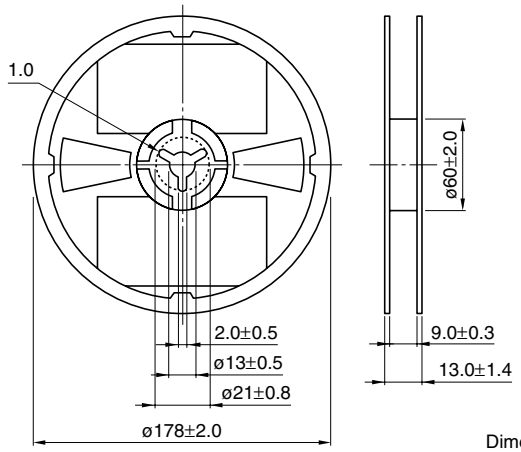


Q vs. FREQUENCY CHARACTERISTICS



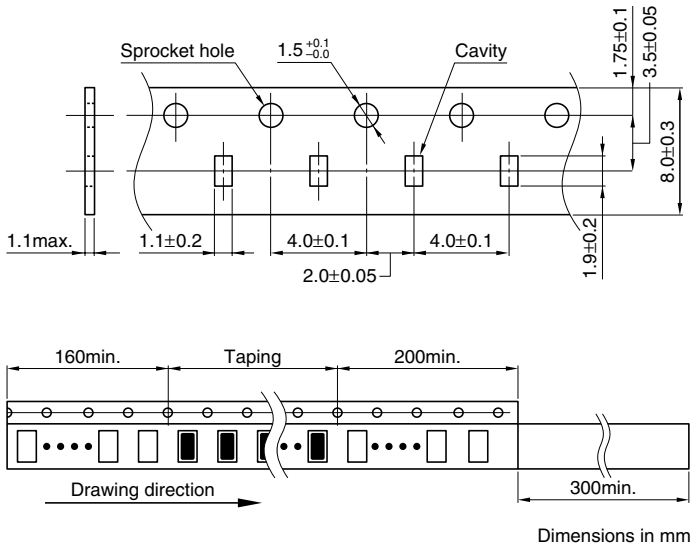
PACKAGING STYLES

REEL DIMENSIONS



Dimensions in mm

TAPE DIMENSIONS



Dimensions in mm