TDK

SMD Inductors(Coils)
For Signal Line(Multilayer, Magnetic Shielded)

Conformity to RoHS Directive

MLF Series MLF1608-J

Since digital devises have become faster and have more functions, stricter inductance tolerance has become necessary in the high frequency range.
The ferrite material and internal electrodes for MLF1608-J tolerance products have been newly developed and have received optimal process design. As a result, tolerance could be narrowed (±5%) to half of the previous MLF series, and drift variance was also been greatly improved.

FEATURES

- Inductance tolerance is ±5% (J-tolerance)
- Temperature stress (drift variance percentage) for soldering is ±3%, which is an improvement of 1/3 over the previous product.
- The products contain no lead and also support lead-free soldering.
- It is a product conforming to RoHS directive.

APPLICATIONS

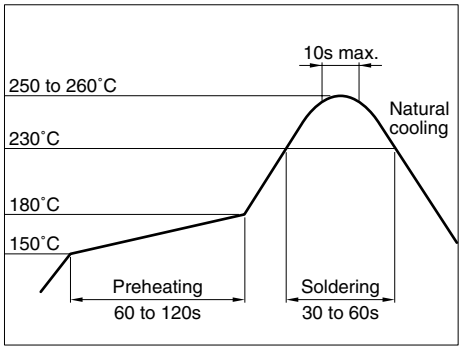
Signal processing such as cellular phone, car audio, tuner, DVC.

SPECIFICATIONS

Operating temperature range	–55 to +125°C
Storage temperature range	–55 to +125°C

RECOMMENDED SOLDERING CONDITION

REFLOW SOLDERING



PRODUCT IDENTIFICATION

MLF	1608	D	R10	J	T
(1)	(2)	(3)	(4)	(5)	(6)

(1) Series name

(2) Dimensions L×W

1608	1.6×0.8×0.8mm

(3) Material code

(4) Inductance value

R10	0.1µH
1R0	1.0µH
100	10µH

(5) Inductance tolerance

J	±5%

(6) Packaging style

T	Taping [reel]

PACKAGING STYLE AND QUANTITIES

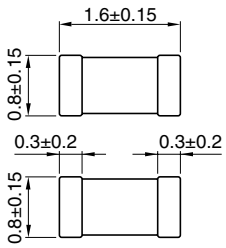
Packaging style	Quantity
Taping	4000 pieces/reel

HANDLING AND PRECAUTIONS

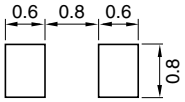
- Before soldering, be sure to preheat components. The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- The inductance value may change due to magnetic saturation if the current exceeds the rated maximum.
- Do not expose the inductors to stray magnetic fields.
- Avoid static electricity discharge during handling.
- 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.)

SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN



Dimensions in mm
Net weight : 4mg



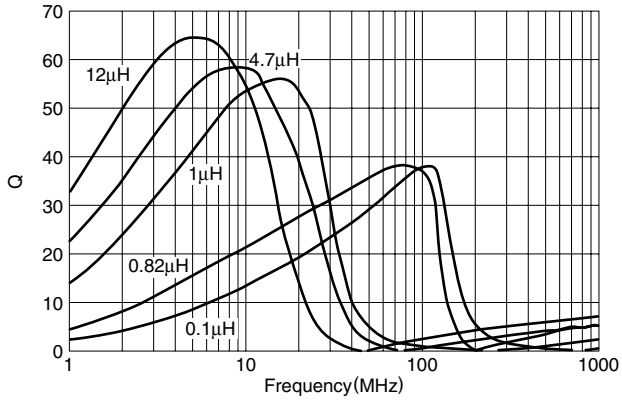
ELECTRICAL CHARACTERISTICS

Inductance (μH)	Inductance tolerance	Q		Test frequency	Test current	Self-resonant frequency (MHz)		DC resistance (Ω)		Rated current (mA)max.	Part No.
		min.	typ.	L, Q (MHz)	L, Q (mA)	min.	typ.	max.	typ.		
0.1	±5%	15	25	25	1.0	450	600	0.35	0.20	200	MLF1608DR10J
0.12	±5%	15	25	25	1.0	400	550	0.40	0.20	200	MLF1608DR12J
0.15	±5%	15	25	25	1.0	350	500	0.45	0.25	200	MLF1608DR15J
0.18	±5%	15	25	25	1.0	320	450	0.50	0.25	150	MLF1608DR18J
0.22	±5%	15	25	25	1.0	290	400	0.55	0.30	150	MLF1608DR22J
0.27	±5%	15	25	25	1.0	260	350	0.60	0.35	150	MLF1608DR27J
0.33	±5%	15	25	25	1.0	230	320	0.75	0.40	100	MLF1608DR33J
0.39	±5%	15	25	25	1.0	210	290	0.85	0.45	100	MLF1608DR39J
0.47	±5%	15	30	25	1.0	190	260	0.95	0.50	100	MLF1608DR47J
0.56	±5%	15	30	25	1.0	170	230	1.05	0.55	100	MLF1608DR56J
0.68	±5%	15	30	25	1.0	150	210	1.25	0.65	70	MLF1608DR68J
0.82	±5%	15	30	25	1.0	130	190	1.40	0.75	70	MLF1608DR82J
1.0	±5%	35	50	10	1.0	120	170	0.50	0.25	50	MLF1608A1R0J
1.2	±5%	35	50	10	1.0	110	150	0.65	0.25	50	MLF1608A1R2J
1.5	±5%	35	55	10	1.0	100	140	0.70	0.30	50	MLF1608A1R5J
1.8	±5%	35	55	10	1.0	90	130	0.85	0.35	50	MLF1608A1R8J
2.2	±5%	35	55	10	1.0	80	120	1.00	0.45	30	MLF1608A2R2J
2.7	±5%	35	55	10	1.0	70	110	1.15	0.50	30	MLF1608A2R7J
3.3	±5%	35	60	10	1.0	65	100	1.30	0.55	30	MLF1608A3R3J
3.9	±5%	35	60	10	1.0	60	90	1.45	0.65	30	MLF1608A3R9J
4.7	±5%	35	60	10	1.0	55	80	1.60	0.75	30	MLF1608A4R7J
5.6	±5%	35	60	4	0.1	45	70	1.10	0.55	15	MLF1608E5R6J
6.8	±5%	35	60	4	0.1	40	60	1.30	0.65	15	MLF1608E6R8J
8.2	±5%	35	60	4	0.1	35	55	1.50	0.80	10	MLF1608E8R2J
10.0	±5%	30	55	2	0.1	30	50	1.70	1.00	10	MLF1608E100J
12.0	±5%	30	55	2	0.1	25	45	1.80	1.20	10	MLF1608E120J

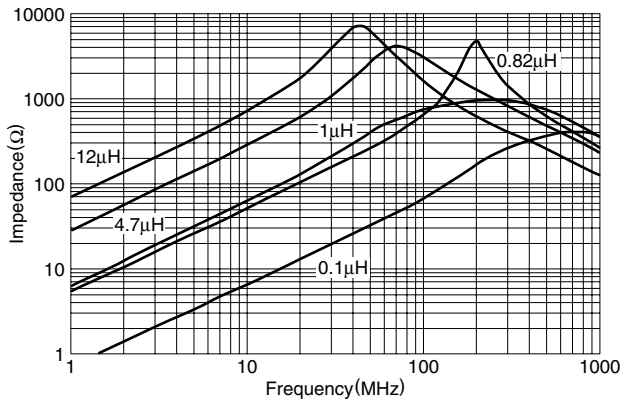
- Test equipment
  Inductance, Q: Ag4294A-16034G

TYPICAL ELECTRICAL CHARACTERISTICS

Q vs. FREQUENCY CHARACTERISTICS

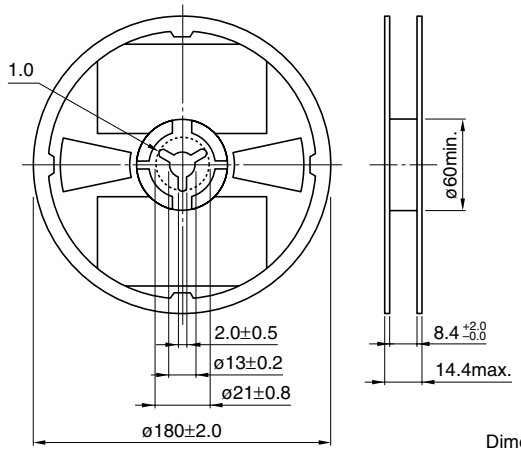


IMPEDANCE vs. FREQUENCY CHARACTERISTICS



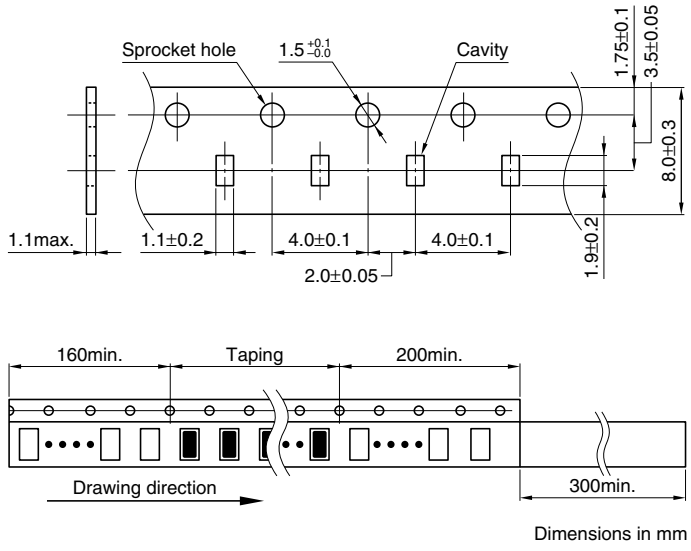
PACKAGING STYLES

REEL DIMENSIONS



Dimensions in mm

TAPE DIMENSIONS



Dimensions in mm