TDK

SMD Inductors(Coils)
For Power Line(Wound, Magnetic Shielded)

Conformity to RoHS Directive

VLF Series VLF4012A

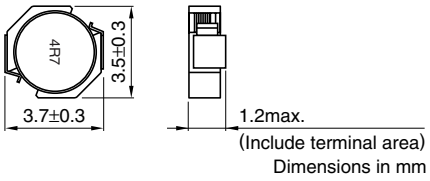
FEATURES

- Mount area: 3.5×3.7mm
  Low profile: 1.2mm max. height
- Generic use for portable DC to DC converter line.
- High magnetic shield construction should actualize high resolution for EMC protection.
- Available for automatic mounting in tape and real package.
- The products contain no lead and also support lead-free soldering.
- It is a product conforming to RoHS directive.

APPLICATIONS

Power souce inductor for mobile devices such as mobile phones, HDDs, and DSCs

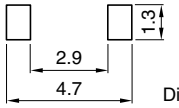
SHAPES AND DIMENSIONS



Dimensions in mm



RECOMMENDED PC BOARD PATTERN



Dimensions in mm

ELECTRICAL CHARACTERISTICS

Part No.	Inductance [at 1/2 Idc1]*2 (μH)	Inductance tolerance(%)	Test frequency (kHz)	DC resistance(Ω)		Rated current*1(A)	
				max.	typ.	Based on inductance change Idc1 max.	Based on temperature rise Idc2 typ.
VLF4012AT-1R5M1R6	1.5	±20	100	0.079	0.069	1.8	1.6
VLF4012AT-2R2M1R5	2.2	±20	100	0.087	0.076	1.5	1.5
VLF4012AT-3R3M1R3	3.3	±20	100	0.12	0.1	1.3	1.3
VLF4012AT-4R7M1R1	4.7	±20	100	0.16	0.14	1.1	1.1
VLF4012AT-6R8MR96	6.8	±20	100	0.23	0.2	0.96	0.97
VLF4012AT-100MR79	10	±20	100	0.35	0.3	0.80	0.79
VLF4012AT-150MR63	15	±20	100	0.53	0.46	0.63	0.64
VLF4012AT-220MR51	22	±20	100	0.82	0.71	0.52	0.51
VLF4012AT-330MR39	33	±20	100	1.4	1.2	0.44	0.39
VLF4012AT-470MR30	47	±20	100	2.3	2.0	0.36	0.30

*1 Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the nominal value of inductance has fallen by 30%, whichever is smaller.

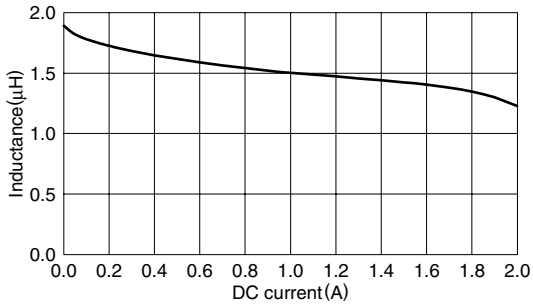
*2 Inductance is at 1/2 Idc1 power distribution. The L vaule at 0A is higher than the guaranteed performance.

- Operating temperature range: –40 to +105°C (Including self-temperature rise)

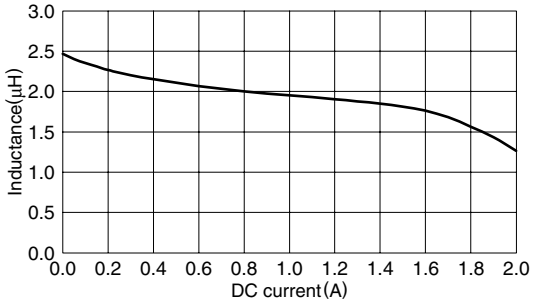
TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

VLF4012AT-1R5M1R6



VLF4012AT-2R2M1R5



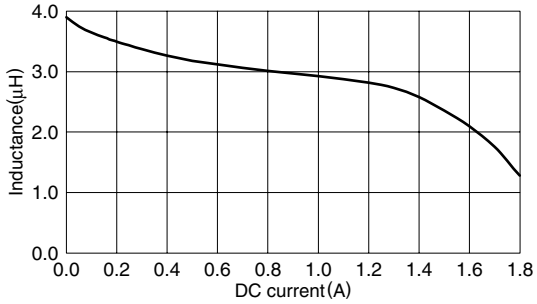
- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.

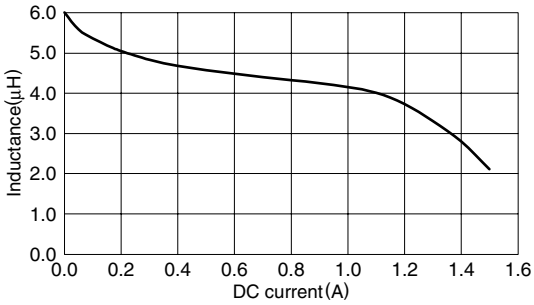
TYPICAL ELECTRICAL CHARACTERISTICS

INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

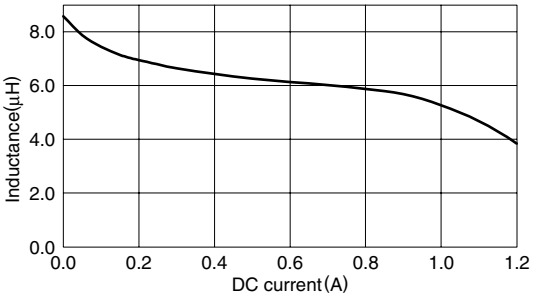
VLF4012AT-3R3M1R3



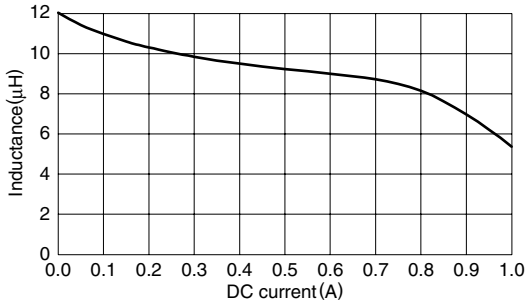
VLF4012AT-4R7M1R1



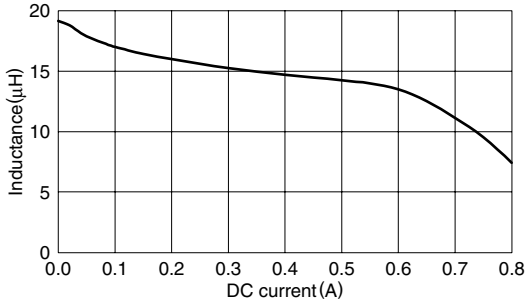
VLF4012AT-6R8MR96



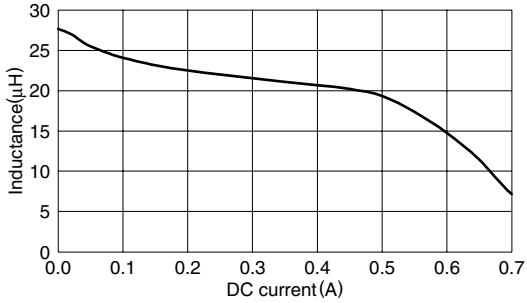
VLF4012AT-100MR79



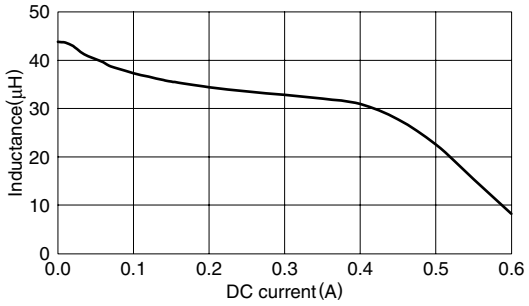
VLF4012AT-150MR63



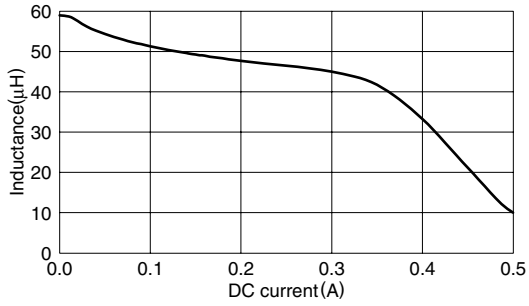
VLF4012AT-220MR51



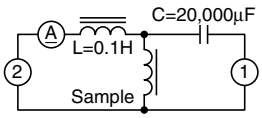
VLF4012AT-330MR39



VLF4012AT-470MR30



TEST CIRCUIT



1: LCR meter 4285A=100kHz
2: DC constant current