



**THE DATASHEET OF  
VLF4012AT-220MR51**



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

Conformity to RoHS Directive

## VLF Series VLF4012A

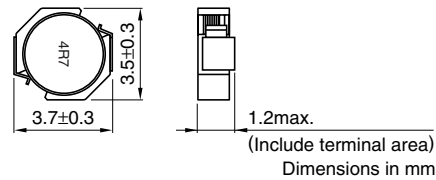
### FEATURES

- 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 reel package.
- The products contain no lead and also support lead-free soldering.
- It is a product conforming to RoHS directive.

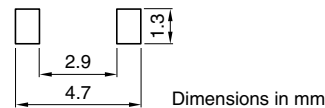
### APPLICATIONS

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

### SHAPES AND DIMENSIONS



### RECOMMENDED PC BOARD PATTERN



### ELECTRICAL CHARACTERISTICS

Part No.	Inductance [at 1/2 I <sub>dc1</sub> ] <sup>*2</sup> (μH)	Inductance tolerance(%)	Test frequency (kHz)	DC resistance(Ω)		Rated current <sup>*1</sup> (A)	
				max.	typ.	Based on inductance change I <sub>dc</sub> max.	Based on temperature rise I <sub>dc2</sub> 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

<sup>\*1</sup> 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.

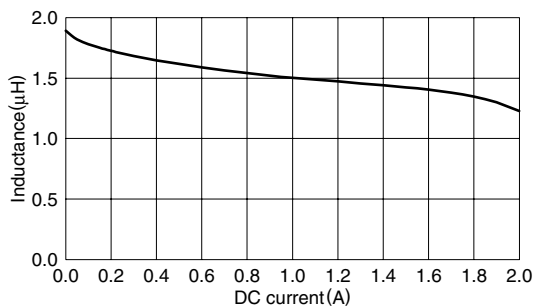
<sup>\*2</sup> Inductance is at 1/2 I<sub>dc1</sub> power distribution. The L value at 0A is higher than the guaranteed performance.

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

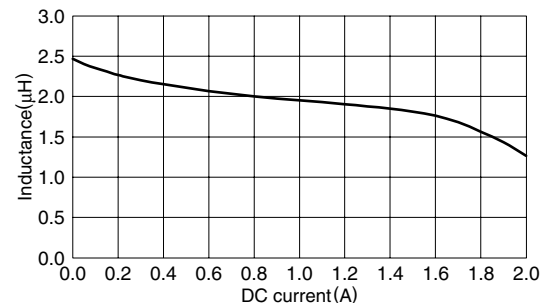
### TYPICAL ELECTRICAL CHARACTERISTICS

#### INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

##### VLF4012AT-1R5M1R6



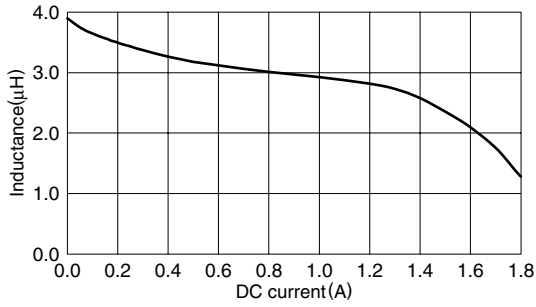
##### VLF4012AT-2R2M1R5



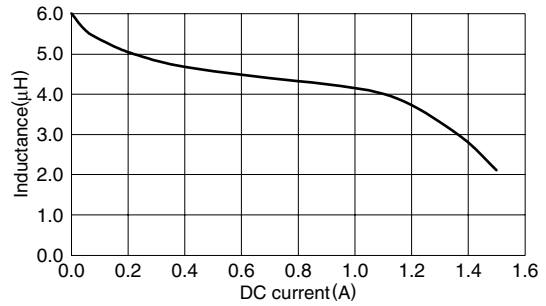
- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

- All specifications are subject to change without notice.

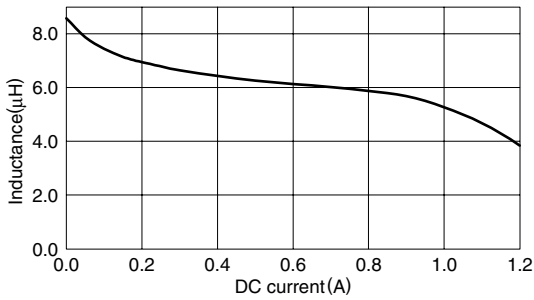
**TYPICAL ELECTRICAL CHARACTERISTICS**  
**INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS**  
**VLF4012AT-3R3M1R3**



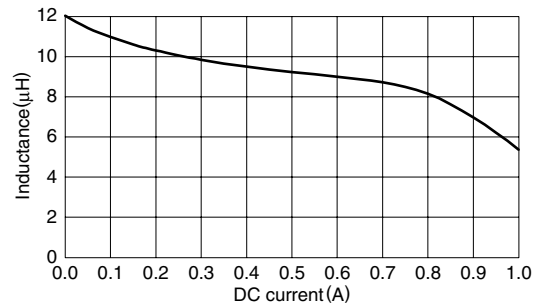
**VLF4012AT-4R7M1R1**



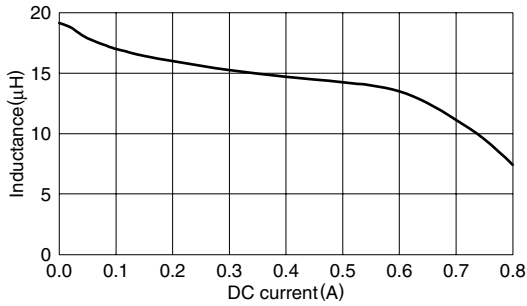
**VLF4012AT-6R8MR96**



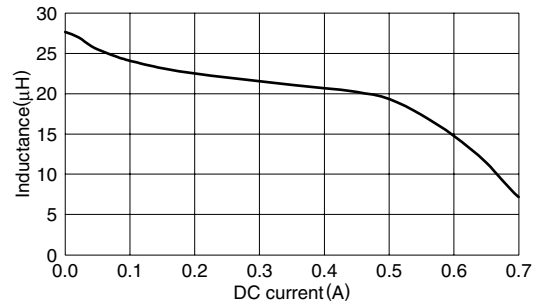
**VLF4012AT-100MR79**



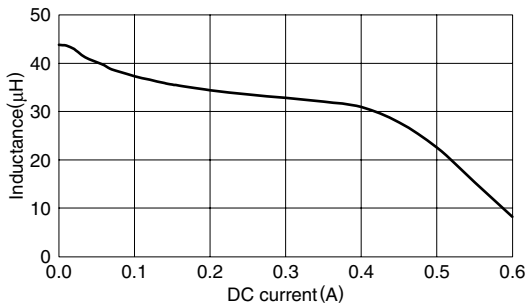
**VLF4012AT-150MR63**



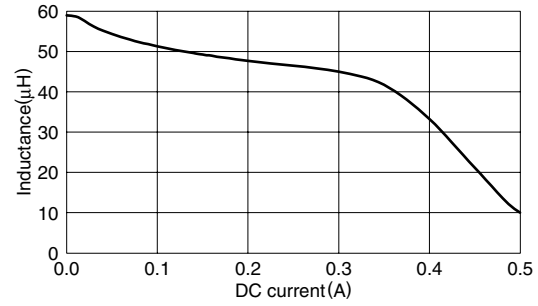
**VLF4012AT-220MR51**



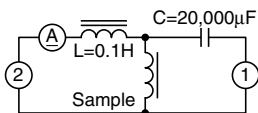
**VLF4012AT-330MR39**



**VLF4012AT-470MR30**





**TEST CIRCUIT**



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

## Looking for pricing, stock, or lifecycle information?

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-  [TDK Corporation](#) Information

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