



**THE DATASHEET OF  
VLF4012AT-100MR79**



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

Conformity to RoHS Directive

## VLF Series VLF4012A

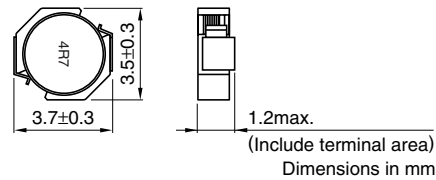
### FEATURES

- 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.

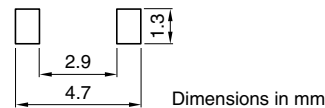
### APPLICATIONS

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<br>[at 1/2 I <sub>dc1</sub> ] <sup>*2</sup><br>(μH) | Inductance<br>tolerance(%) | Test frequency<br>(kHz) | DC resistance(Ω) |       | Rated current <sup>*1</sup> (A)                    |   |
|-------------------|--|----------------------------|-------------------------|------------------|-------|--|---|
|                   |  |                            |                         | max.             | typ.  | Based on inductance<br>change I <sub>dc</sub> max. | Based on temperature<br>rise I <sub>dc</sub> 2 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.

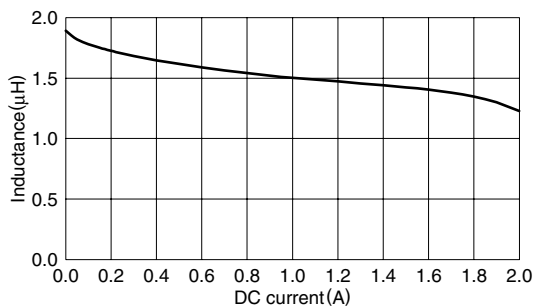
\*2 Inductance is at 1/2 I<sub>dc1</sub> power distribution. The L value at 0A is higher than the guaranteed performance.

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

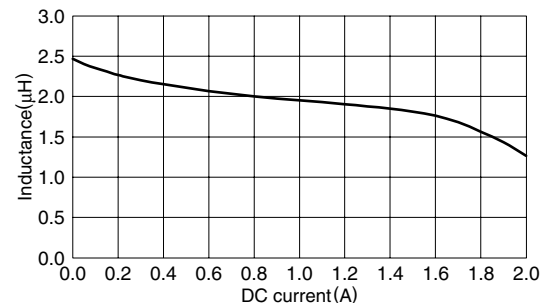
### TYPICAL ELECTRICAL CHARACTERISTICS

#### INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

##### VLF4012AT-1R5M1R6



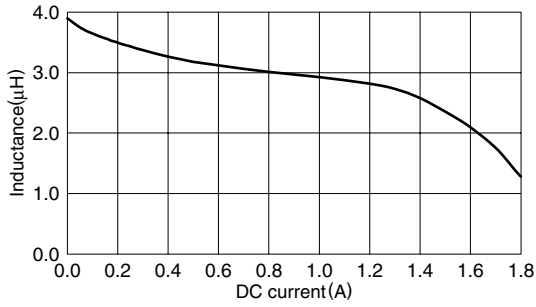
##### VLF4012AT-2R2M1R5



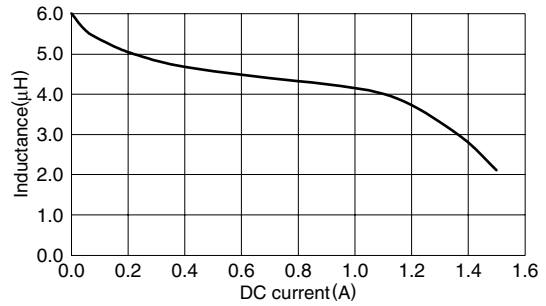
- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

- All specifications are subject to change without notice.

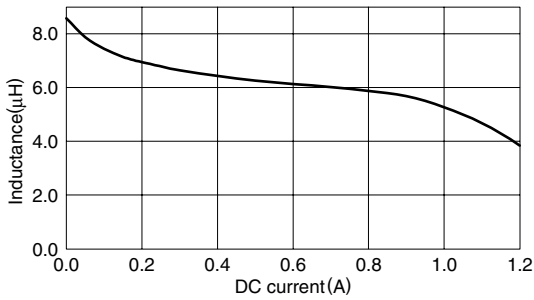
**TYPICAL ELECTRICAL CHARACTERISTICS**  
**INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS**  
**VLF4012AT-3R3M1R3**



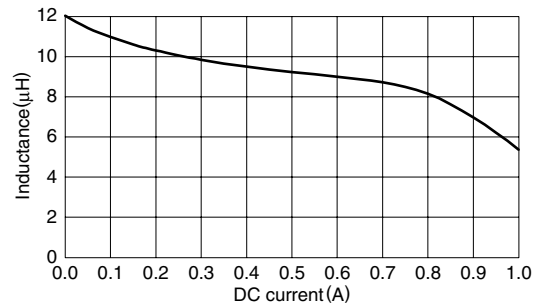
**VLF4012AT-4R7M1R1**



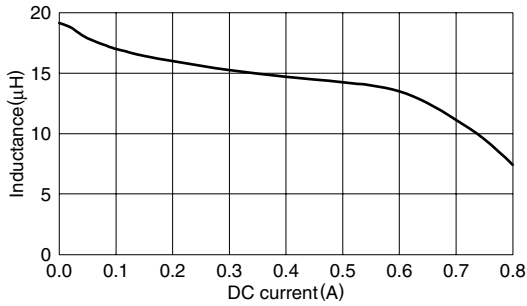
**VLF4012AT-6R8MR96**



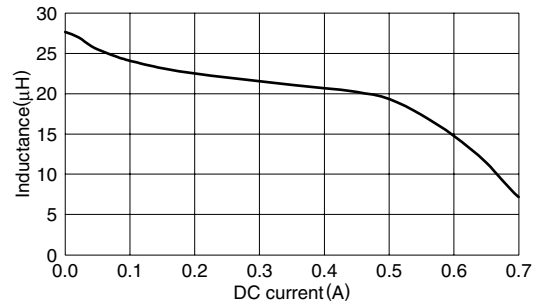
**VLF4012AT-100MR79**



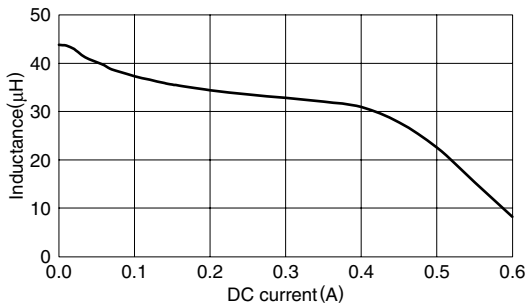
**VLF4012AT-150MR63**



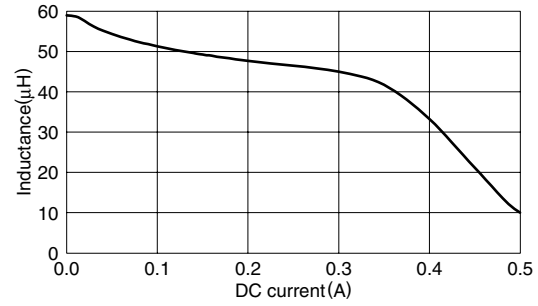
**VLF4012AT-220MR51**



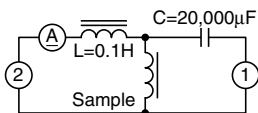
**VLF4012AT-330MR39**



**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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