

# SMD Inductors(Coils)

## For Power Line(Wound, Magnetic Shielded)

Conformity to RoHS Directive

### VLF Series VLF5012S

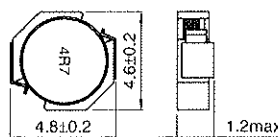
#### FEATURES

- Miniature size  
Mount area: 4.6×4.8mm  
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

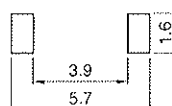
#### SHAPES AND DIMENSIONS



Dimensions in mm



#### RECOMMENDED PC BOARD PATTERN



Dimensions in mm

#### ELECTRICAL CHARACTERISTICS

| Part No.          | Inductance (μH) | Inductance tolerance(%) | Test frequency (MHz) | DC resistance(Ω) |       | Rated current(A)*               |                                |
|-------------------|-----------------|-------------------------|----------------------|------------------|-------|---------------------------------|--------------------------------|
|                   |                 |                         |                      | max.             | typ.  | Based on inductance change max. | Based on temperature rise typ. |
| VLF5012ST-1R0N2R5 | 1               | ±30                     | 1                    | 0.05             | 0.042 | 3.3                             | 2.5                            |
| VLF5012ST-2R2M2R0 | 2.2             | ±20                     | 1                    | 0.083            | 0.069 | 2.4                             | 2                              |
| VLF5012ST-3R3M1R7 | 3.3             | ±20                     | 1                    | 0.12             | 0.095 | 2                               | 1.7                            |
| VLF5012ST-4R7M1R4 | 4.7             | ±20                     | 1                    | 0.16             | 0.13  | 1.7                             | 1.4                            |
| VLF5012ST-6R8M1R2 | 6.8             | ±20                     | 1                    | 0.22             | 0.18  | 1.4                             | 1.2                            |
| VLF5012ST-100M1R0 | 10              | ±20                     | 1                    | 0.29             | 0.24  | 1.2                             | 1                              |

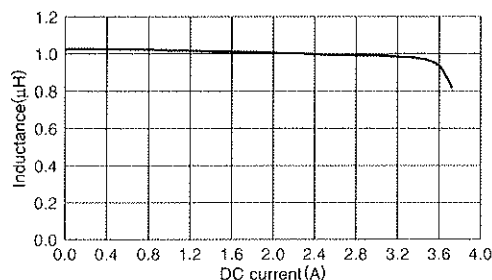
\* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the nominal value of inductance has fallen by 30%, whichever is smaller.

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

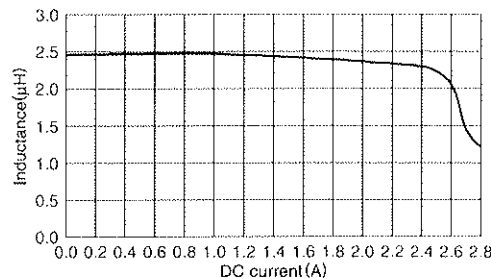
#### TYPICAL ELECTRICAL CHARACTERISTICS

##### INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

###### VLF5012ST-1R0N2R5



###### VLF5012ST-2R2M2R0



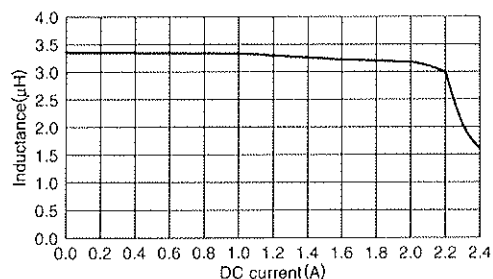
- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

- All specifications are subject to change without notice.

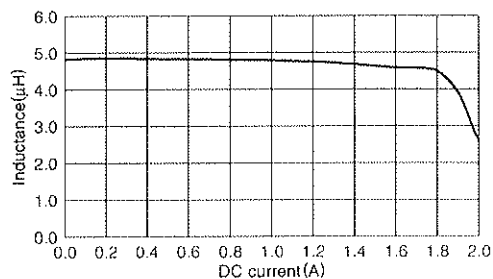
# TYPICAL ELECTRICAL CHARACTERISTICS

## INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

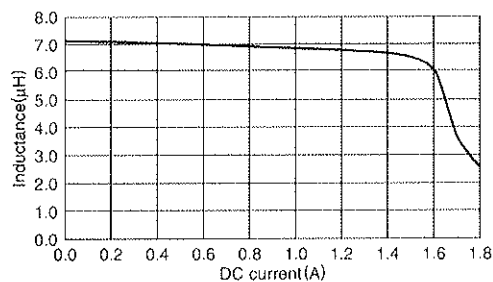
VLF5012ST-3R3M1R7



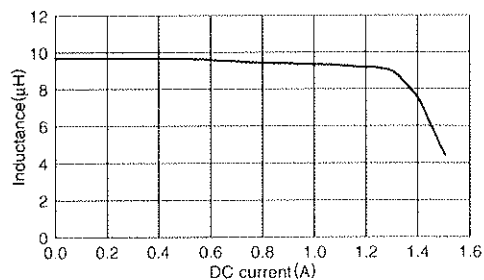
VLF5012ST-4R7M1R4



VLF5012ST-6R8M1R2



VLF5012ST-100M1R0



## TEST CIRCUIT

