

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

Conformity to RoHS Directive

### VLF Series VLF5014S

#### **FEATURES**

· Miniature size

Mount area: 4.6×4.8mm

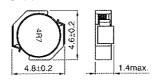
Low profile: 1.4mm max. height

- · 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

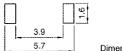
### SHAPES AND DIMENSIONS





Dimensions in mm

### RECOMMENDED PC BOARD PATTERN



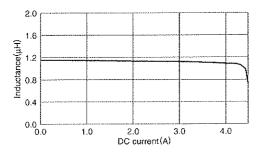
Dimensions in mm

### **ELECTRICAL CHARACTERISTICS**

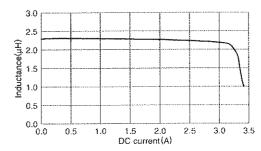
| Part No.          | Inductance<br>(µH) | Inductance<br>tolerance(%) | Test frequency<br>(MHz) | DC resistance(Ω) |       | Rated current(A)*               |                                |
|-------------------|--------------------|----------------------------|-------------------------|------------------|-------|---------------------------------|--------------------------------|
|                   |                    |                            |                         | max.             | typ.  | Based on inductance change max. | Based on temperature rise tvo. |
| VLF5014ST-1R0N2R7 | 1                  | ±30                        | 1                       | 0.05             | 0.041 | 4                               | 2.7                            |
| VLF5014ST-2R2M2R3 | 2.2                | ±20                        | 1                       | 0.073            | 0.059 | 3                               | 2.3                            |
| VLF5014ST-3R3M2R0 | 3.3                | ±20                        | 1                       | 0.1              | 0.077 | 2.3                             | 2                              |
| VLF5014ST-4R7M1R7 | 4.7                | ±20                        | 1                       | 0.12             | 0.098 | 2                               | 1.7                            |
| VLF5014ST-6R8M1R4 | 6.8                | ±20                        | 1                       | 0.2              | 0.16  | 1.6                             | 1,4                            |
| VLF5014ST-100M1R2 | 10                 | ±20                        | 1                       | 0.25             | 0.21  | 1,5                             | 1.2                            |

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 failen by 30%, whichever is smaller.

## TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS VLF5014ST-1R0N2R7



### VLF5014ST-2R2M2R3



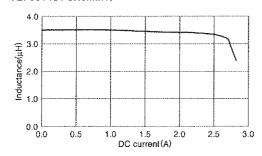
<sup>•</sup> Operating temperature range: -40 to +105°C (Including self-temperature rise)

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.

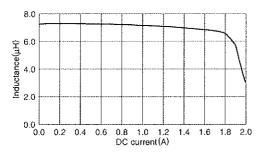
All specifications are subject to change without notice.



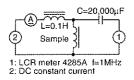
## TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS VLF5014ST-3R3M2R0



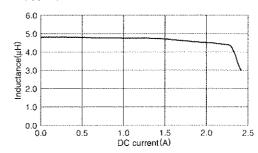
### VLF5014ST-6R8M1R4



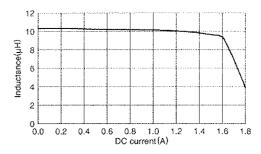
### **TEST CIRCUIT**



### VLF5014ST-4R7M1R7



### VLF5014ST-100M1R2



<sup>•</sup> All specifications are subject to change without notice.