

# SMD Inductors(Coils)

## For Power Line(Wound, Magnetic Shielded)

Conformity to RoHS Directive

### VLF Series VLF3010A-1

#### FEATURES

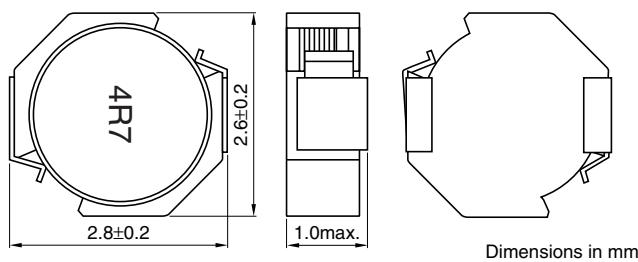
- Miniature size
- Mount area: 2.6×2.8mm
- Low profile: 1.0mm max. height
- Generic use for portable DC to DC converter line.
- High magnetic shield construction should actualize high resolution for EMC protection.
- Available for automatic mounting in tape and reel package.
- The products contain no lead and also support lead-free soldering.
- It is a product conforming to RoHS directive.



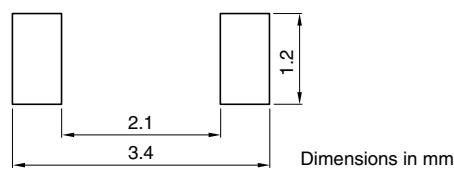
#### APPLICATIONS

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 $I_{dc1}$ ] <sup>2</sup> ( $\mu$ H)	Inductance tolerance	Test frequency (kHz)	DC resistance( $\Omega$ ) max.	DC resistance( $\Omega$ ) typ.	Rated current <sup>*1</sup> (A) Based on inductance change $I_{dc1}$ max.	Rated current <sup>*1</sup> (A) Based on temperature rise $I_{dc2}$ typ.
VLF3010AT-1R5N1R2-1	1.5	±30%	100	0.078	0.068	1.2	1.5
VLF3010AT-2R2M1R0-1	2.2	±20%	100	0.12	0.10	1.0	1.2
VLF3010AT-3R3MR87-1	3.3	±20%	100	0.17	0.15	0.87	1.0
VLF3010AT-4R7MR70-1	4.7	±20%	100	0.28	0.24	0.70	0.82
VLF3010AT-6R8MR61-1	6.8	±20%	100	0.39	0.34	0.61	0.68
VLF3010AT-100MR49-1	10.0	±20%	100	0.67	0.58	0.49	0.52
VLF3010AT-150MR40-1	15.0	±20%	100	0.86	0.75	0.40	0.46
VLF3010AT-220MR33-1	22.0	±20%	100	1.5	1.3	0.33	0.35

<sup>\*1</sup> Rated current: The rated current is the smaller of the values given based on the rate of inductance change (30% decrease from the initial value) or the temperature rise (temperature rise of 40°C caused by the heat generated by the product itself).

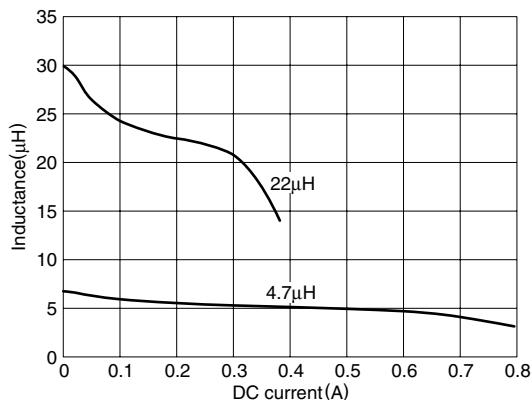
<sup>\*2</sup> Inductance is at 1/2  $I_{dc1}$  power distribution. The L value at 0A is higher than the guaranteed performance.

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

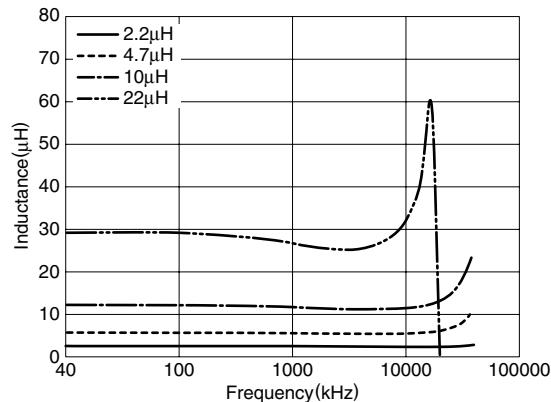
• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.

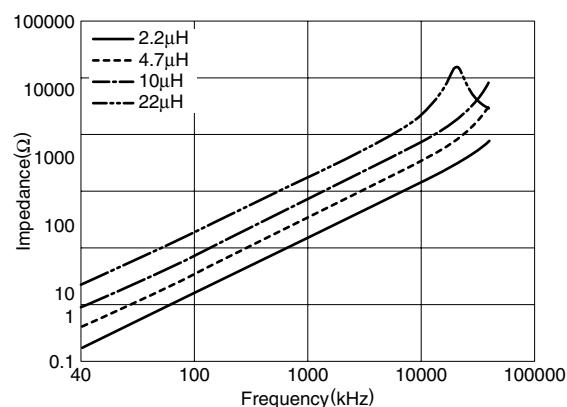
**TYPICAL ELECTRICAL CHARACTERISTICS**  
**INDUCTANCE CHANGE vs. DC SUPERPOSITION**  
**CHARACTERISTICS**



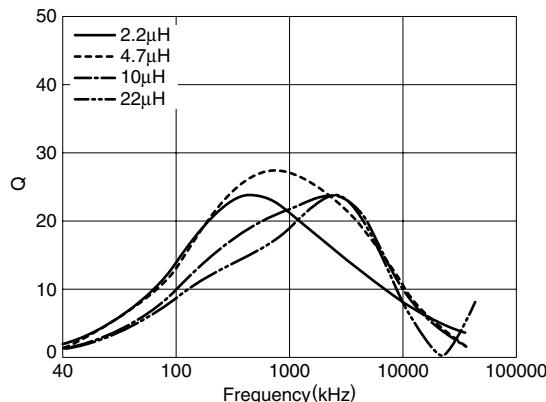
**INDUCTANCE vs. FREQUENCY CHARACTERISTICS**



**IMPEDANCE vs. FREQUENCY CHARACTERISTICS**

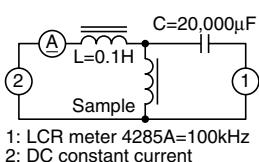


**Q vs. FREQUENCY CHARACTERISTICS**



- Test equipment: YHP4194A IMPEDANCE/GAIN-PHASE ANALYZER(10kHz to 40MHz)

**TEST CIRCUIT**



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