TDK

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

Conformity to RoHS Directive

VLF Series VLF3010A-1

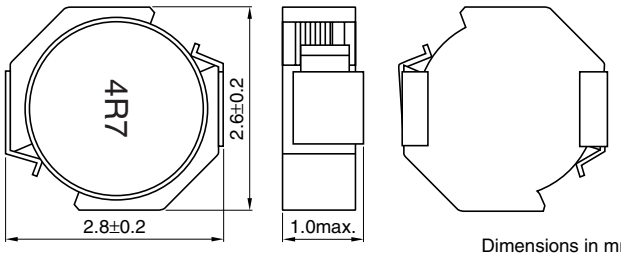
FEATURES

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

APPLICATIONS

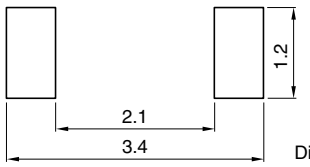
Power souce inductor for mobile devices such as mobile phones, HDDs, and DSCs

SHAPES AND DIMENSIONS



Dimensions in mm

RECOMMENDED PC BOARD PATTERN



Dimensions in mm

ELECTRICAL CHARACTERISTICS

Part No.	Inductance [at 1/2 Idc1]*2 (μH)	Inductance tolerance	Test frequency (kHz)	DC resistance(Ω)		Rated current*1(A)	
				max.	typ.	Based on inductance change Idc1 max.	Based on temperature rise Idc2 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

*1 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).

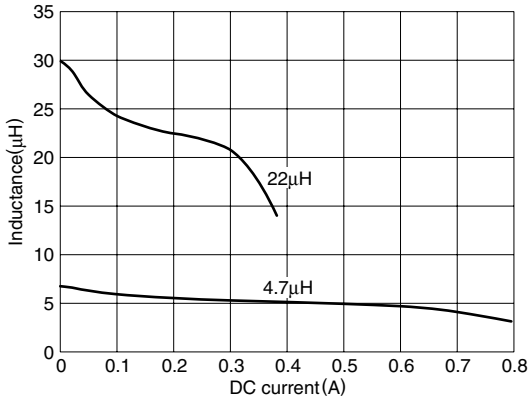
*2 Inductance is at 1/2 Idc1 power distribution. The L vaule at 0A is higher than the guaranteed performance.

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

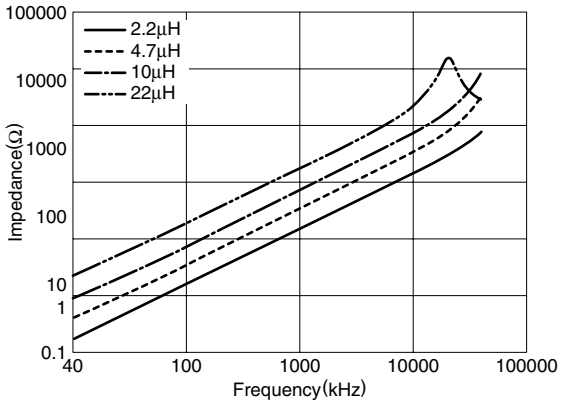
- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

TYPICAL ELECTRICAL CHARACTERISTICS

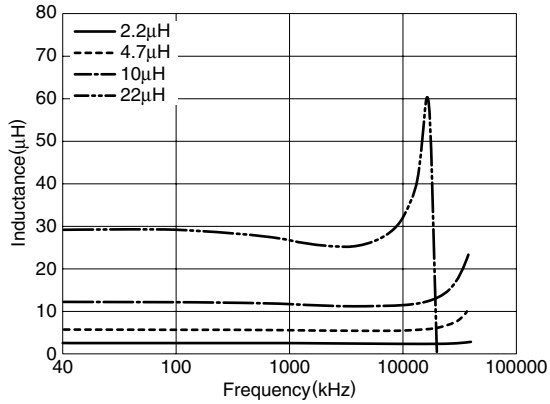
INDUCTANCE CHANGE vs. DC SUPERPOSITION CHARACTERISTICS



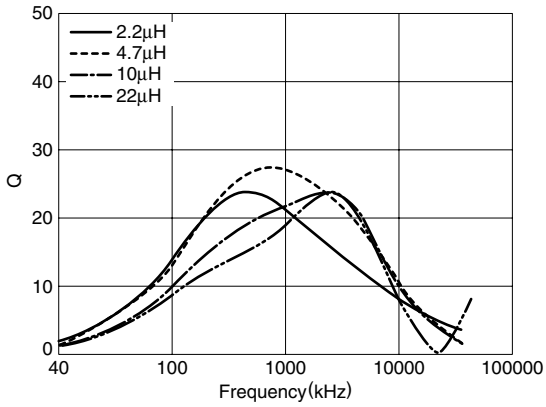
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INDUCTANCE vs. FREQUENCY CHARACTERISTICS

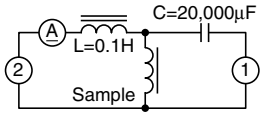


Q vs. FREQUENCY CHARACTERISTICS



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

TEST CIRCUIT



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