

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

Conformity to RoHS Directive

## VLS Series VLS4012

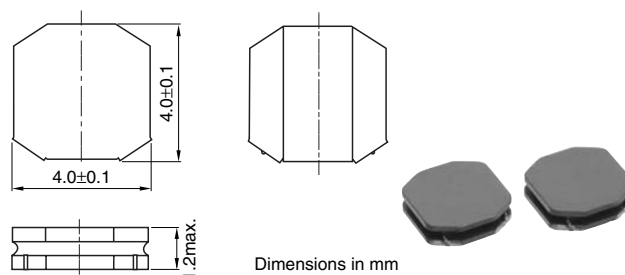
### FEATURES

- Miniature size  
Mount area: 4×4mm  
Height: 1.2mm max.
- 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 do not contain lead and support lead-free soldering.

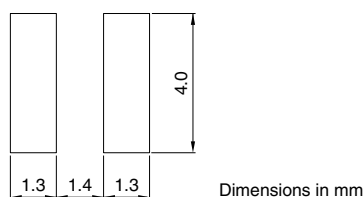
### APPLICATIONS

DVCs, DSCs, PDAs, LCD displays, Cellular phones, HDDs, etc.

### SHAPES AND DIMENSIONS



### RECOMMENDED PC BOARD PATTERN



### ELECTRICAL CHARACTERISTICS

Part No.	Inductance ( $\mu\text{H}$ )	Inductance tolerance (%)	Test frequency (MHz)	DC resistance ( $\Omega$ )		Rated current(A)*		
				max.	typ.	Based on inductance change		Based on temperature rise typ.
VLS4012T-1R0N1R6	1	$\pm 30$	1	0.06	0.05	2.5	2.8	1.6
VLS4012T-1R5N1R5	1.5	$\pm 30$	1	0.072	0.06	2.1	2.3	1.5
VLS4012T-2R2M1R4	2.2	$\pm 20$	1	0.084	0.07	1.7	1.9	1.4
VLS4012T-3R3M1R2	3.3	$\pm 20$	1	0.102	0.085	1.4	1.6	1.2
VLS4012T-4R7M1R1	4.7	$\pm 20$	1	0.132	0.11	1.2	1.4	1.1
VLS4012T-6R8M1R0	6.8	$\pm 20$	1	0.156	0.13	1	1.2	1
VLS4012T-100MR82	10	$\pm 20$	1	0.24	0.2	0.89	0.99	0.82
VLS4012T-150MR65	15	$\pm 20$	1	0.372	0.31	0.7	0.78	0.65
VLS4012T-220MR57	22	$\pm 20$	1	0.492	0.41	0.63	0.7	0.57
VLS4012T-330MR44	33	$\pm 20$	1	0.816	0.68	0.47	0.53	0.44
VLS4012T-470MR39	47	$\pm 20$	1	1.02	0.85	0.41	0.46	0.39

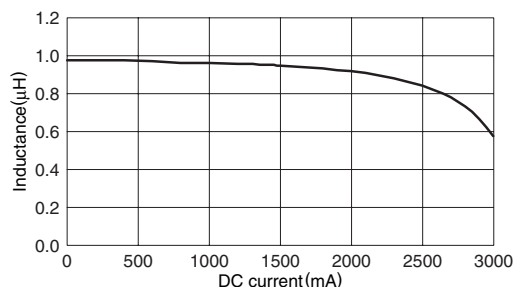
\* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the nominal value of inductance has fallen by 30%, whichever is smaller.

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

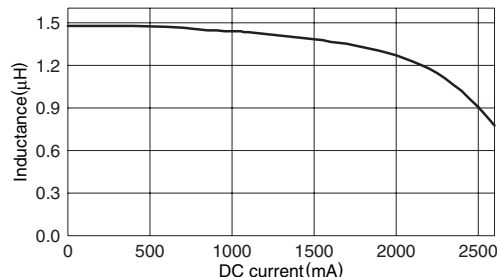
### TYPICAL ELECTRICAL CHARACTERISTICS

#### INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

##### VLS4012T-1R0N1R6



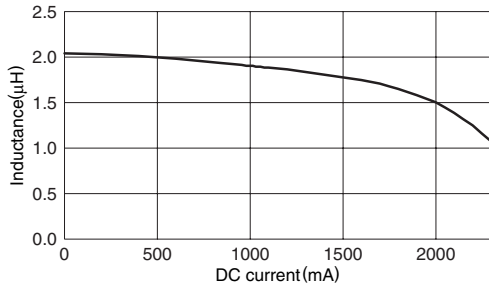
##### VLS4012T-1R5N1R5



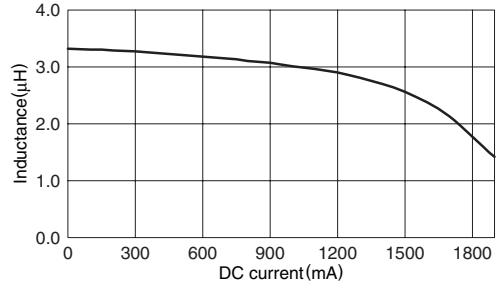
- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

- All specifications are subject to change without notice.

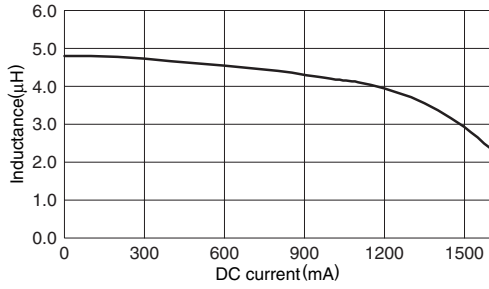
**TYPICAL ELECTRICAL CHARACTERISTICS**  
**INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS**  
**VLS4012T-2R2M1R4**



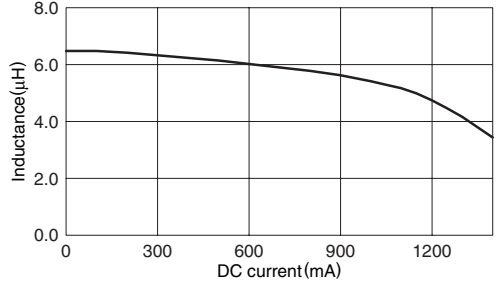
**VLS4012T-3R3M1R2**



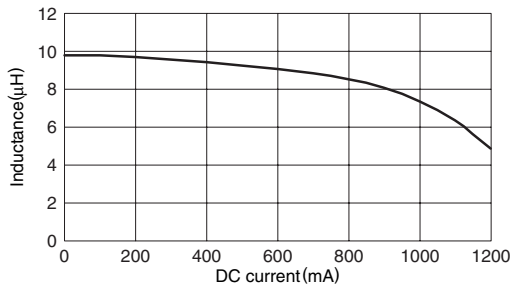
**VLS4012T-4R7M1R1**



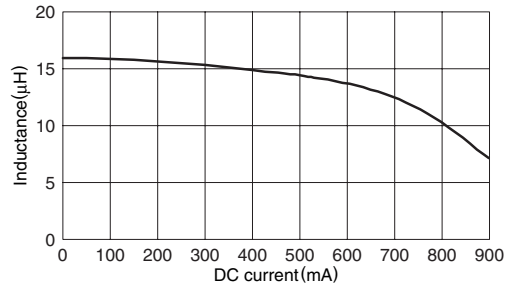
**VLS4012T-6R8M1R0**



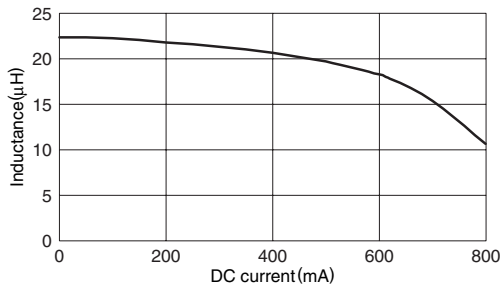
**VLS4012T-100MR82**



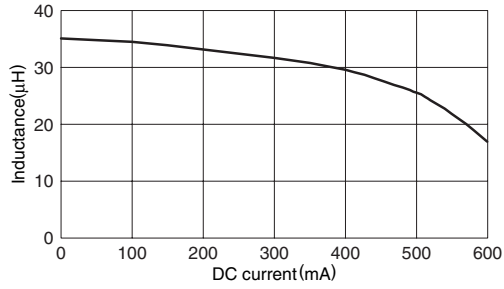
**VLS4012T-150MR65**



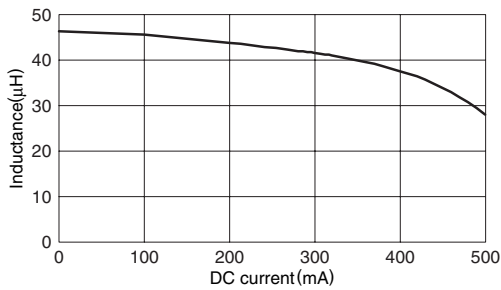
**VLS4012T-220MR57**



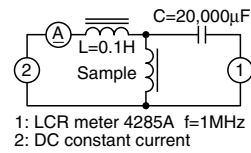
**VLS4012T-330MR44**



**VLS4012T-470MR39**



**TEST CIRCUIT**



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