

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

Conformity to RoHS Directive

## VLS Series VLS2012E

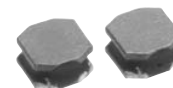
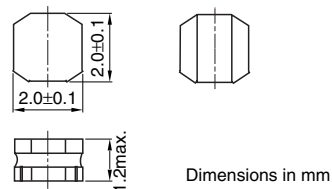
### FEATURES

- Miniature size  
Mount area: 2×2mm  
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.

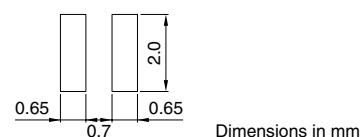
### APPLICATIONS

Cellular phones, DVCs, DSCs, PDAs, LCD displays, 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)* Based on inductance change		Based on temperature rise typ.
				max.	typ.	max.	typ.	
VLS2012ET-R47N	0.47	$\pm 30$	1.0	0.059	0.049	2.05	2.25	2.00
VLS2012ET-R68N	0.68	$\pm 30$	1.0	0.066	0.055	1.70	1.90	1.85
VLS2012ET-1R0N	1.0	$\pm 30$	1.0	0.086	0.071	1.45	1.65	1.65
VLS2012ET-1R5N	1.5	$\pm 30$	1.0	0.108	0.090	1.20	1.30	1.45
VLS2012ET-2R2M	2.2	$\pm 20$	1.0	0.153	0.127	1.00	1.10	1.25
VLS2012ET-3R3M	3.3	$\pm 20$	1.0	0.228	0.190	0.84	0.93	1.00
VLS2012ET-4R7M	4.7	$\pm 20$	1.0	0.336	0.280	0.70	0.78	0.84
VLS2012ET-6R8M	6.8	$\pm 20$	1.0	0.498	0.415	0.57	0.64	0.69
VLS2012ET-100M	10	$\pm 20$	1.0	0.834	0.695	0.47	0.52	0.53
VLS2012ET-150M	15	$\pm 20$	1.0	1.062	0.885	0.40	0.44	0.47
VLS2012ET-220M	22	$\pm 20$	1.0	1.764	1.470	0.33	0.37	0.35

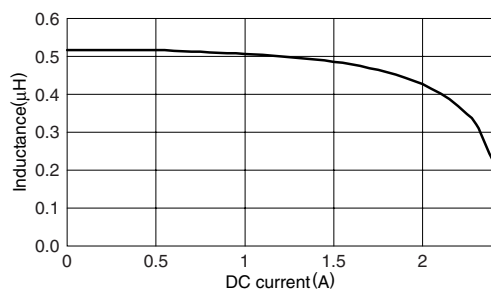
\* Rated current: Value obtained when current flows and the temperature has risen to 40°C or when DC current flows and the nominal value of inductance has fallen by 30%, whichever is smaller.

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

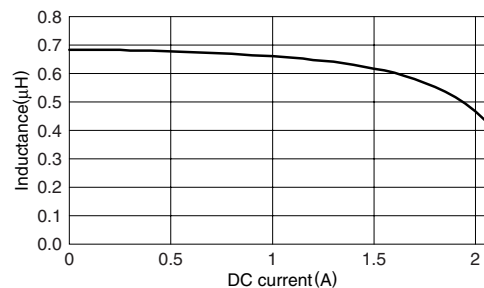
### TYPICAL ELECTRICAL CHARACTERISTICS

#### INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

##### VLS2012ET-R47N



##### VLS2012ET-R68N

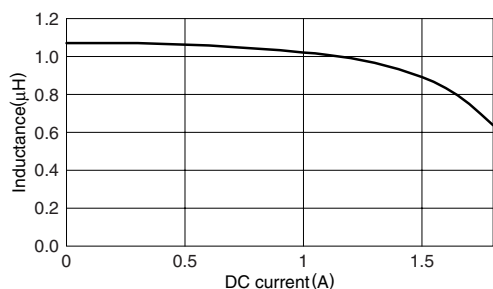


- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

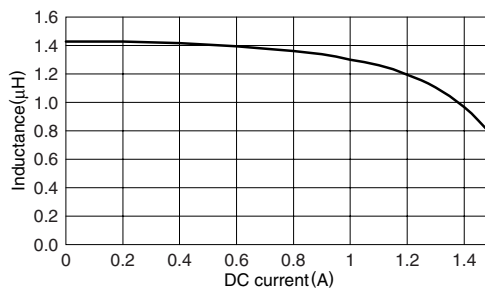
- All specifications are subject to change without notice.

### TYPICAL ELECTRICAL CHARACTERISTICS INDUCTANCE vs. DC SUPERPOSITION CHARACTERISTICS

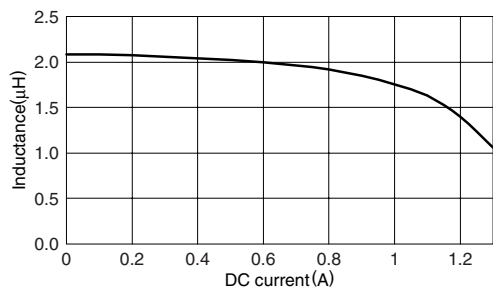
VLS2012ET-1R0N



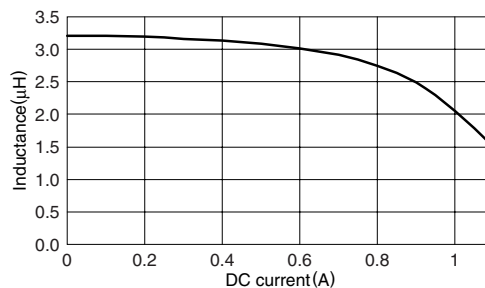
VLS2012ET-1R5N



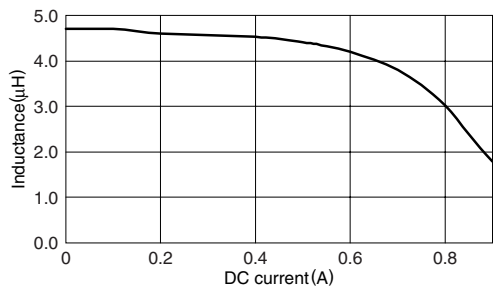
VLS2012ET-2R2M



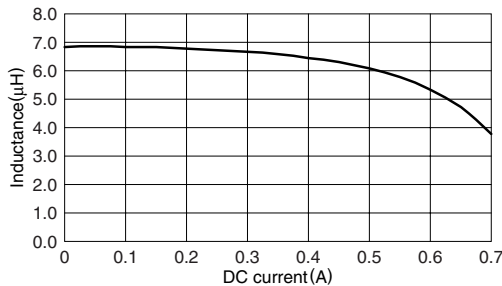
VLS2012ET-3R3M



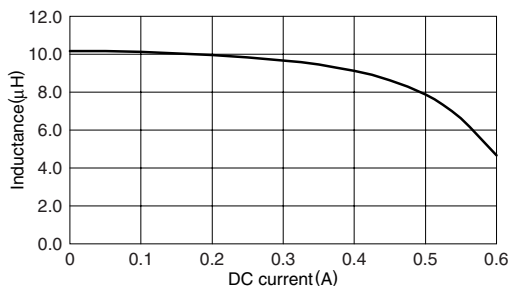
VLS2012ET-4R7M



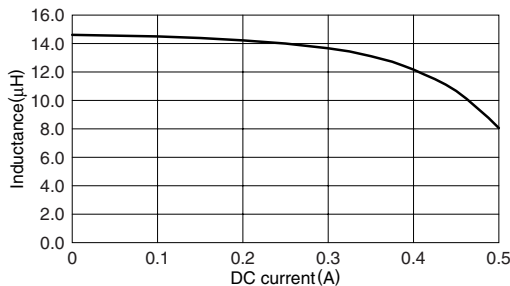
VLS2012ET-6R8M



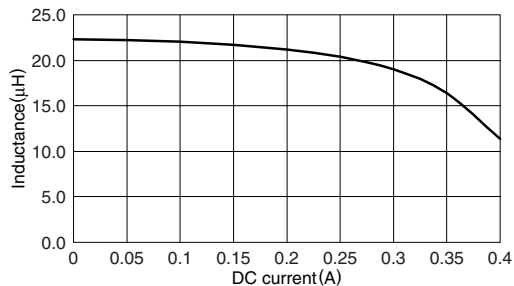
VLS2012ET-100M



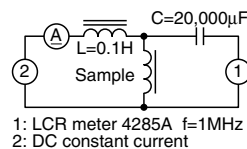
VLS2012ET-150M



VLS2012ET-220M



#### TEST CIRCUIT



1: LCR meter 4285A  $f=1MHz$   
2: DC constant current

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