

# SMD Inductors(Coils)

## For Power Line(Wound, Magnetic Shielded)

Conformity to RoHS Directive

### VLC Series VLC6045

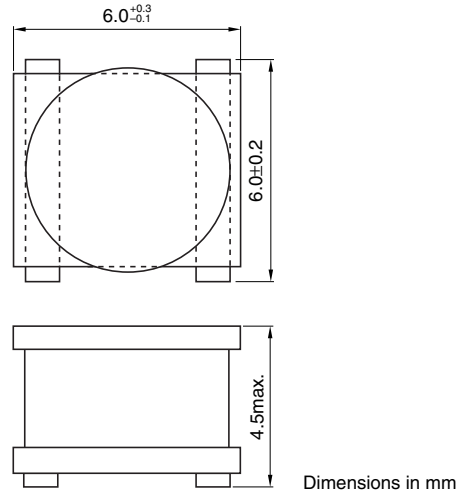
#### FEATURES

- Miniature size  
Mount area: 6×6mm  
Height: 4.5mm max.
- Generic use for portable DC to DC converter line
- Available for automatic mounting in tape and reel package.
- The products do not contain lead and support lead-free soldering.

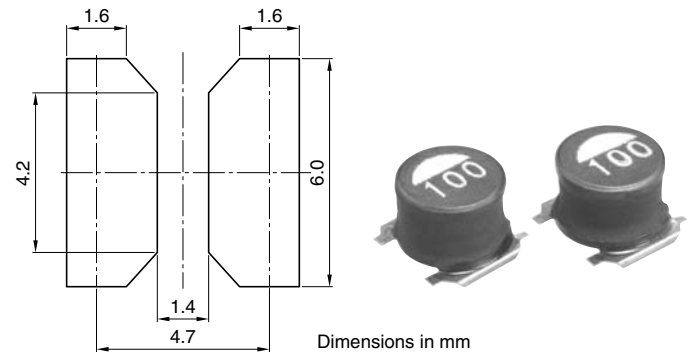
#### APPLICATIONS

DC to DC converters for LCD-TV, printers, note PC, etc.

#### SHAPES AND DIMENSIONS



#### RECOMMENDED PC BOARD PATTERN



#### ELECTRICAL CHARACTERISTICS

| Part No.      | Inductance<br>(μH) | Inductance<br>tolerance | Test frequency<br>(kHz) | DC resistance(Ω) |       | Rated current(A)*                  |                                   |
|---------------|--------------------|-------------------------|-------------------------|------------------|-------|------------------------------------|-----------------------------------|
|               |                    |                         |                         | max.             | typ.  | Based on inductance<br>change max. | Based on temperature<br>rise typ. |
| VLC6045T-1R5N | 1.5                | ±30%                    | 100                     | 0.015            | 0.011 | 5.7                                | 5.1                               |
| VLC6045T-2R2N | 2.2                | ±30%                    | 100                     | 0.017            | 0.013 | 5.5                                | 4.8                               |
| VLC6045T-3R3N | 3.3                | ±30%                    | 100                     | 0.020            | 0.017 | 4.7                                | 4.2                               |
| VLC6045T-4R7M | 4.7                | ±20%                    | 100                     | 0.027            | 0.023 | 3.8                                | 3.8                               |
| VLC6045T-6R8M | 6.8                | ±20%                    | 100                     | 0.041            | 0.035 | 3.0                                | 2.9                               |
| VLC6045T-100M | 10                 | ±20%                    | 100                     | 0.058            | 0.046 | 2.5                                | 2.5                               |
| VLC6045T-150M | 15                 | ±20%                    | 100                     | 0.091            | 0.076 | 2.1                                | 2.1                               |
| VLC6045T-220M | 22                 | ±20%                    | 100                     | 0.13             | 0.10  | 1.7                                | 1.7                               |
| VLC6045T-330M | 33                 | ±20%                    | 100                     | 0.18             | 0.15  | 1.4                                | 1.4                               |
| VLC6045T-470M | 47                 | ±20%                    | 100                     | 0.26             | 0.22  | 1.2                                | 1.1                               |
| VLC6045T-680M | 68                 | ±20%                    | 100                     | 0.41             | 0.34  | 0.9                                | 1.0                               |
| VLC6045T-101M | 100                | ±20%                    | 100                     | 0.59             | 0.49  | 0.8                                | 0.7                               |
| VLC6045T-151M | 150                | ±20%                    | 100                     | 0.75             | 0.63  | 0.6                                | 0.6                               |

\* 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)

• 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.

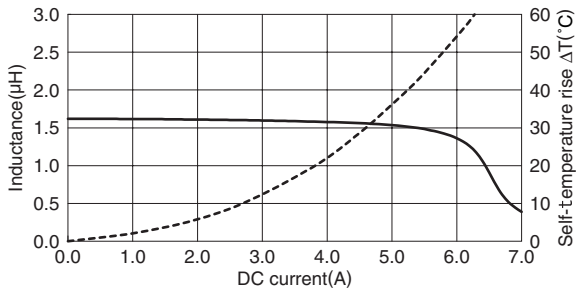
• All specifications are subject to change without notice.

# TYPICAL ELECTRICAL CHARACTERISTICS

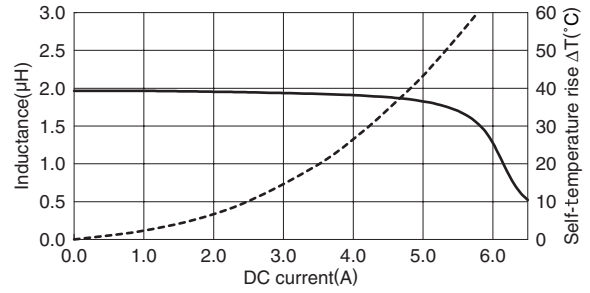
## INDUCTANCE CHANGE and TEMPERATURE RISE vs. $I_{dc}$ SUPERPOSITION

—  $I_{dc}$  vs. Inductance( $\mu$ H)  
 - - -  $I_{dc}$  vs.  $\Delta T(^{\circ}\text{C})$

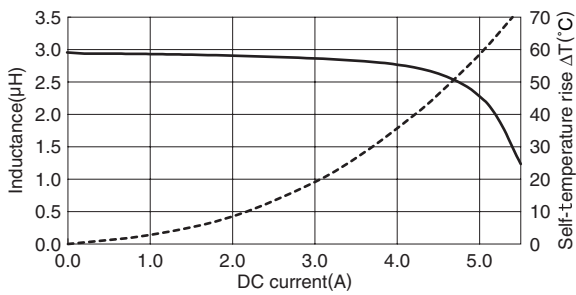
**VLC6045T-1R5N**



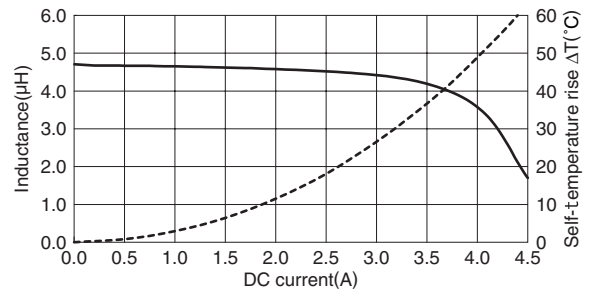
**VLC6045T-2R2N**



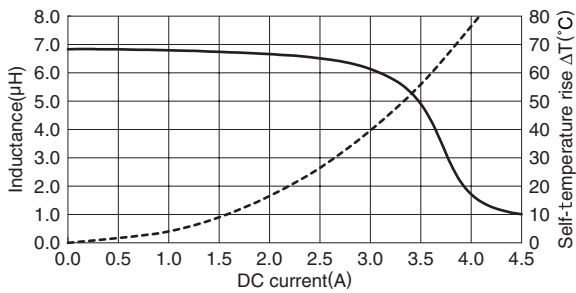
**VLC6045T-3R3N**



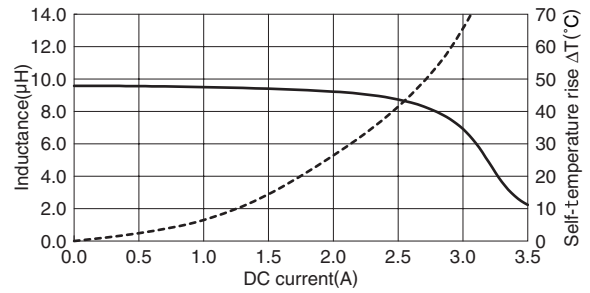
**VLC6045T-4R7M**



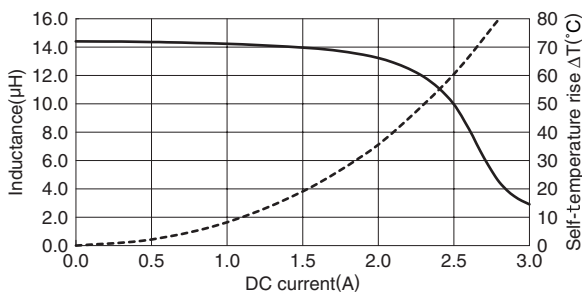
**VLC6045T-6R8M**



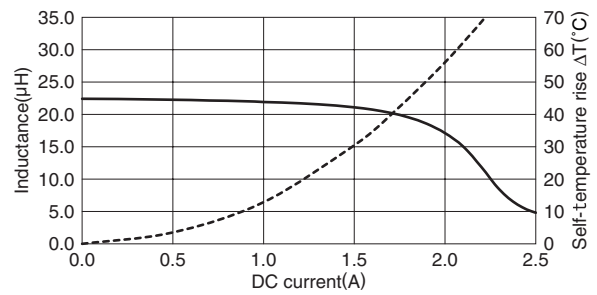
**VLC6045T-100M**



**VLC6045T-150M**



**VLC6045T-220M**

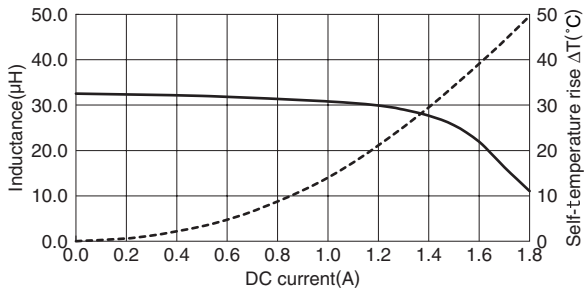


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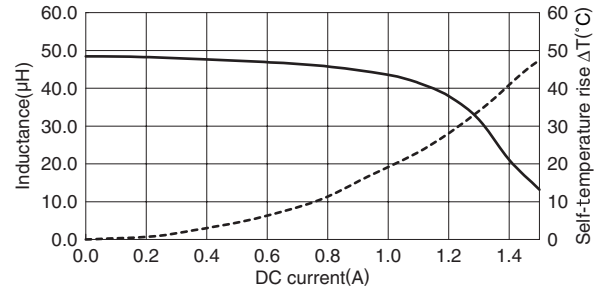
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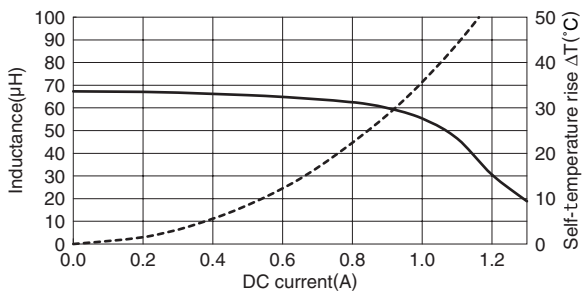
**VLC6045T-330M**



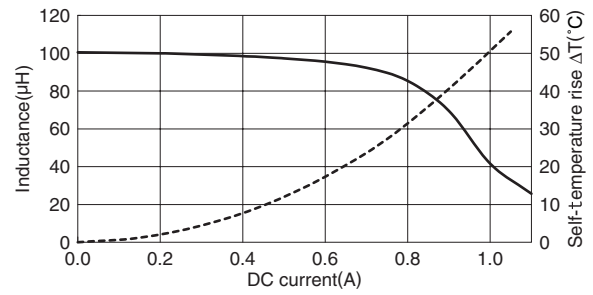
**VLC6045T-470M**



**VLC6045T-680M**



**VLC6045T-101M**



**VLC6045T-151M**

