

# SMD Power Inductor

## 0830CDMCC/DS



### Description

- Metal compound molding type construction
- Magnetically shielded
- Low audible core noise
- Suitable for large current.
- LxWxH:8.4x8.0x3.0mm Max.
- Product weight: 1.0g (Ref.)
- Moisture Sensitivity Level: 1



### Environmental Data

- Operating temperature range: -55°C~+125°C (including coil's self temperature rise)
- Storage temperature range: -55°C~+125°C

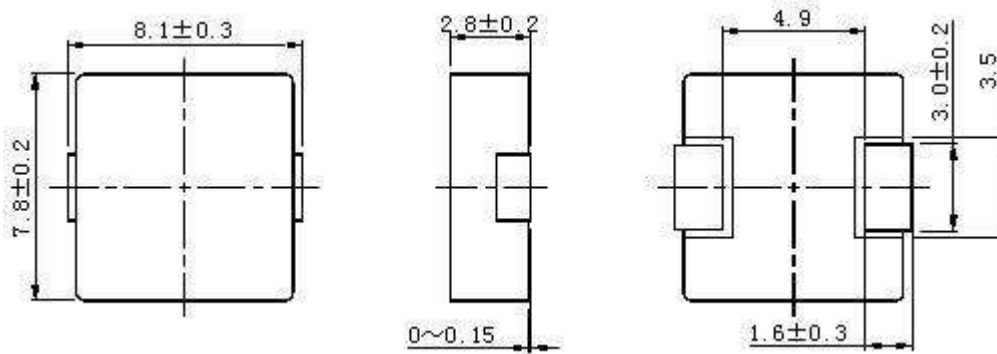
### Packaging

- Carrier tape and reel packaging.
- 1,000pcs per reel.

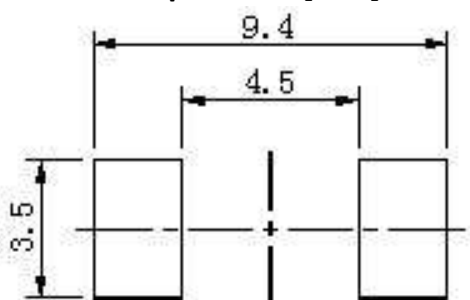
### Applications

- Ideally used in notebook, ultrabook, tablet PC, LCD display, Server application
- High current, POL converters
- Low profile, high current power supplies
- Battery powered devices.
- DC/DC converter in distributed power systems

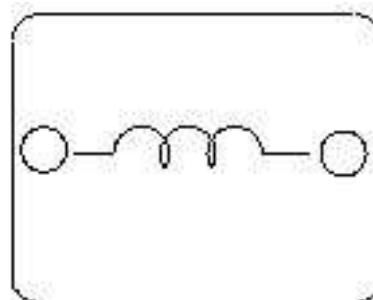
### Dimension - [mm]



### Recommended Land pattern - [mm]



### Wire Connection



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### Electrical Characteristics

| Part Number       | Inductance<br>[Within]<br>( $\mu$ H) ※1 | D.C.R. at 20°C<br>Max.(Typ.) (m $\Omega$ ) | Saturation Current<br>(A) Max.(Typ.) ※2 | Temperature<br>Rise Current<br>(A) Max.(Typ.)<br>※3 |
|-------------------|---|--|---|---|
| 0830CDMCCDS-R22MC | 0.22 $\pm$ 20%                          | 2.30<br>(1.90)                             | 30.50<br>(36.00)                        | (27.00)   |
| 0830CDMCCDS-R33MC | 0.33 $\pm$ 20%                          | 2.60<br>(2.20)                             | 24.00<br>(28.00)                        | (25.00)   |
| 0830CDMCCDS-R47MC | 0.47 $\pm$ 20%                          | 3.10<br>(2.60)                             | 20.00<br>(23.00)                        | (23.00)   |
| 0830CDMCCDS-R68MC | 0.68 $\pm$ 20%                          | 4.30<br>(3.60)                             | 17.60<br>(20.70)                        | (20.00)   |
| 0830CDMCCDS-R82MC | 0.82 $\pm$ 20%                          | 4.70<br>(3.90)                             | 15.30<br>(18.00)                        | (19.00)   |
| 0830CDMCCDS-1R0MC | 1.00 $\pm$ 20%                          | 5.40<br>(4.50)                             | 14.50<br>(17.00)                        | (17.00)   |
| 0830CDMCCDS-1R2MC | 1.20 $\pm$ 20%                          | 6.70<br>(5.60)                             | 13.00<br>(15.30)                        | (16.00)   |
| 0830CDMCCDS-1R5MC | 1.50 $\pm$ 20%                          | 9.40<br>(7.80)                             | 12.50<br>(15.00)                        | (11.50)   |
| 0830CDMCCDS-1R8MC | 1.80 $\pm$ 20%                          | 8.50<br>(7.10)                             | 10.30<br>(12.20)                        | (14.00)   |
| 0830CDMCCDS-2R2MC | 2.20 $\pm$ 20%                          | 13.00<br>(10.80)                           | 9.90<br>(11.70)                         | (10.00)   |
| 0830CDMCCDS-3R3MC | 3.30 $\pm$ 20%                          | 19.00<br>(16.20)                           | 8.00<br>(9.50)                          | (9.50)  |
| 0830CDMCCDS-4R7MC | 4.70 $\pm$ 20%                          | 31.00<br>(26.00)                           | 7.30<br>(8.60)                          | (6.50)  |
| 0830CDMCCDS-5R6MC | 5.60 $\pm$ 20%                          | 35.00<br>(29.00)                           | 5.70<br>(6.80)                          | (6.30)  |
| 0830CDMCCDS-6R8MC | 6.80 $\pm$ 20%                          | 43.00<br>(36.00)                           | 5.40<br>(6.30)                          | (6.00)  |
| 0830CDMCCDS-8R2MC | 8.20 $\pm$ 20%                          | 54.00<br>(45.00)                           | 5.10<br>(6.00)                          | (5.00)  |
| 0830CDMCCDS-100MC | 10.00 $\pm$ 20%                         | 72.00<br>(60.00)                           | 4.60<br>(5.40)                          | (4.50)  |
| 0830CDMCCDS-150MC | 15.00 $\pm$ 20%                         | 100<br>(84.00)                             | 4.00<br>(4.70)                          | (3.60)  |
| 0830CDMCCDS-220MC | 22.00 $\pm$ 20%                         | 145<br>(120)                               | 3.30<br>(3.90)                          | (3.00)  |
| 0830CDMCCDS-330MC | 33.00 $\pm$ 20%                         | 204<br>(170)                               | 2.80<br>(3.20)                          | (2.50)  |

※1 Measuring frequency Inductance at 100kHz 1V

※2 Saturation current: This indicates the value of D.C. current when the inductance becomes 30% lower than its initial value.

※3 Temperature rise current: The actual value of D.C. current when the temperature of coil becomes

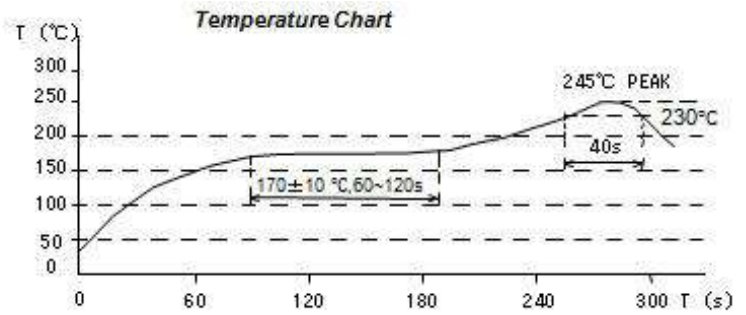
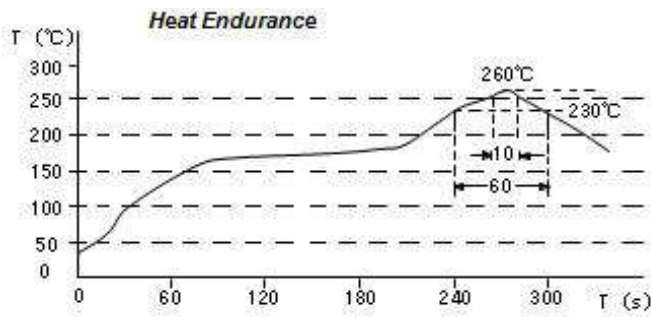
$\Delta T=40^{\circ}\text{C}$  ( $T_a=25^{\circ}\text{C}$ ). (Test board condition: FR4, Copper=70  $\mu$ m, four-layer PWB t=1.6mm)

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### Solder Reflow Condition



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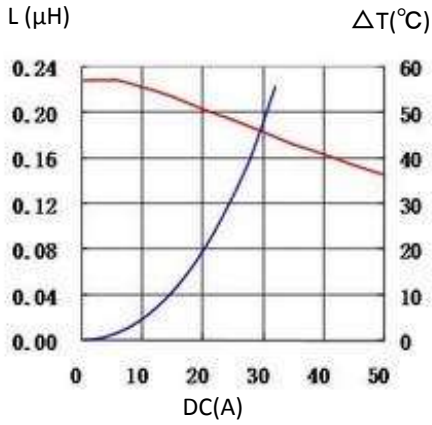
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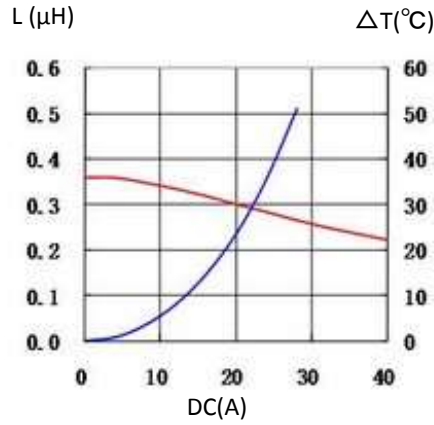
### Saturation Current & Temperature Rise Graph

— L (20°C) —  $\Delta T$

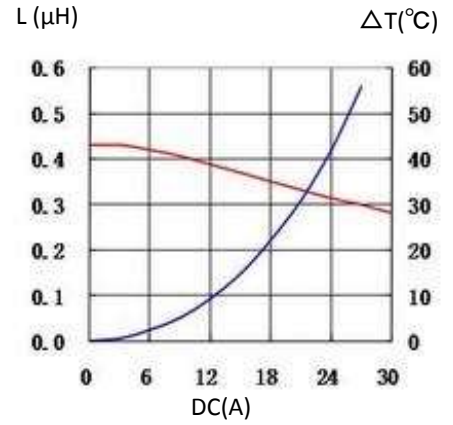
1. 0830CDMCCDS-R22MC



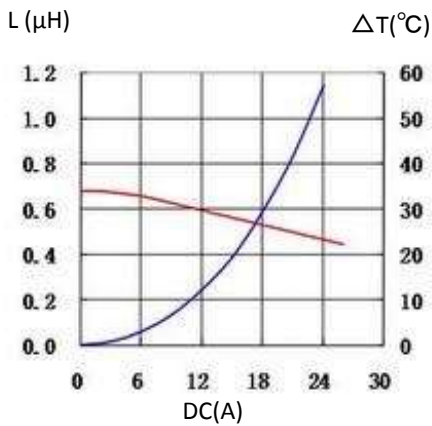
2. 0830CDMCCDS-R33MC



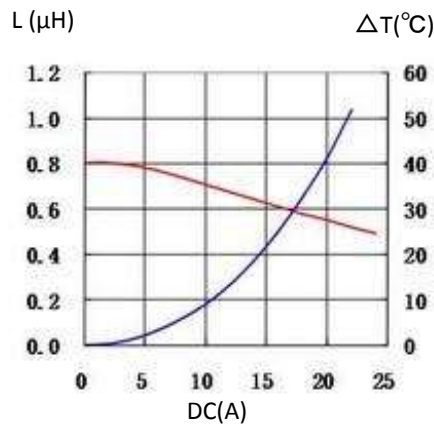
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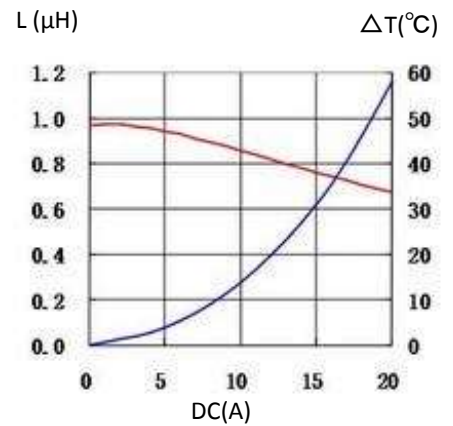
4. 0830CDMCCDS-R68MC



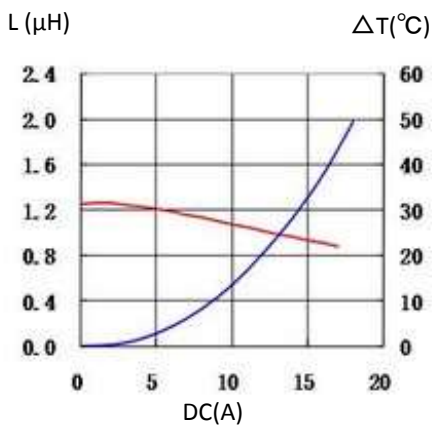
5. 0830CDMCCDS-R82MC



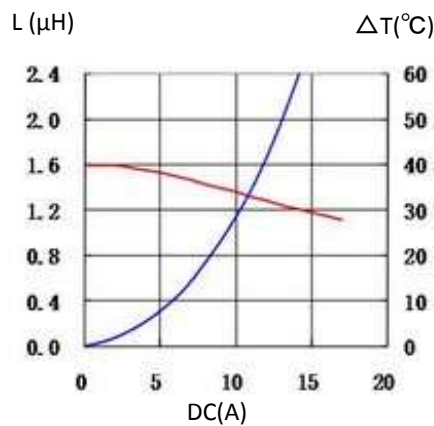
6. 0830CDMCCDS-1R0MC



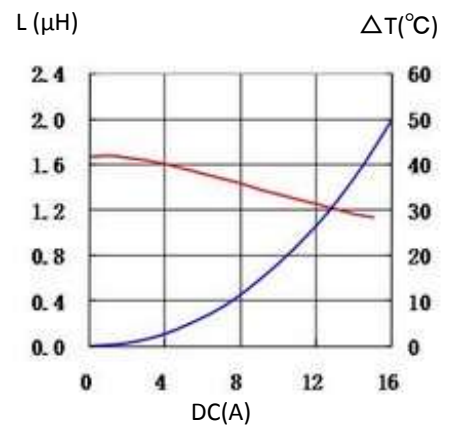
7. 0830CDMCCDS-1R2MC



8. 0830CDMCCDS-1R5MC



9. 0830CDMCCDS-1R8MC

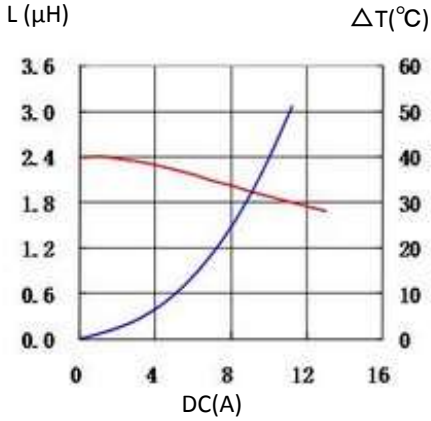


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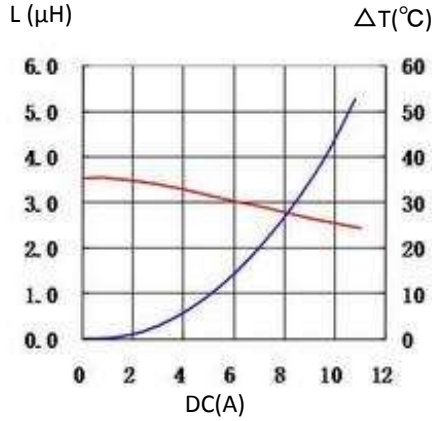
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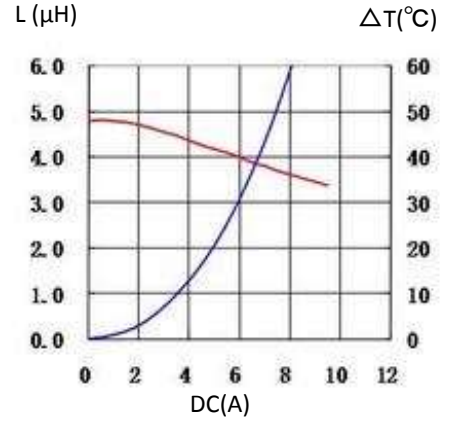
10. 0830CDMCCDS-2R2MC



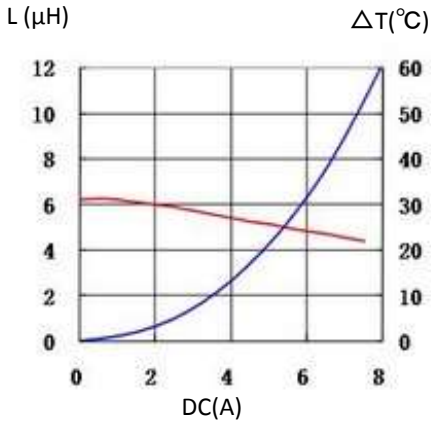
11. 0830CDMCCDS-3R3MC



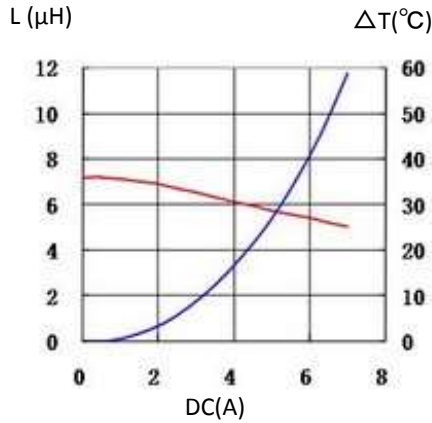
12. 0830CDMCCDS-4R7MC



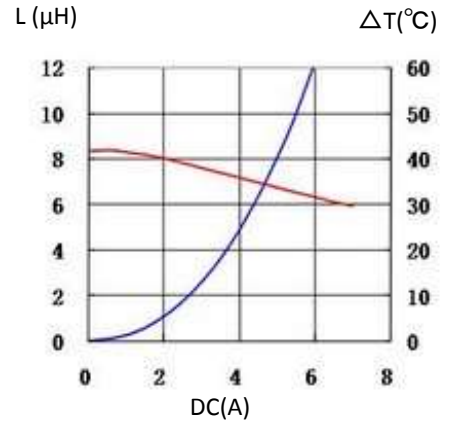
13. 0830CDMCCDS-5R6MC



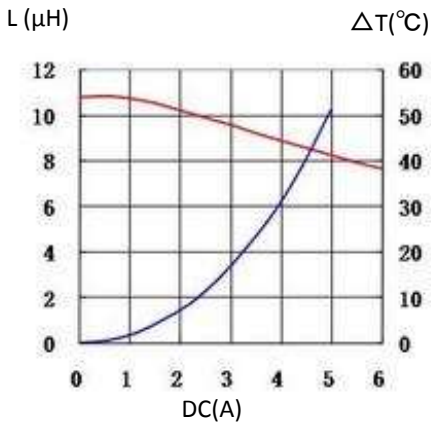
14. 0830CDMCCDS-6R8MC



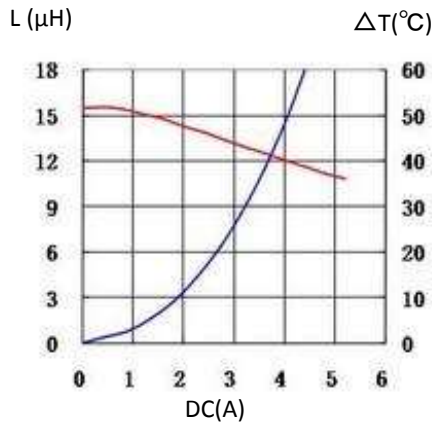
15. 0830CDMCCDS-8R2MC



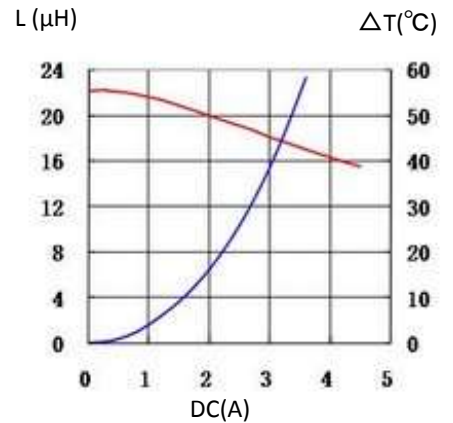
16. 0830CDMCCDS-100MC



17. 0830CDMCCDS-150MC



18. 0830CDMCCDS-220MC



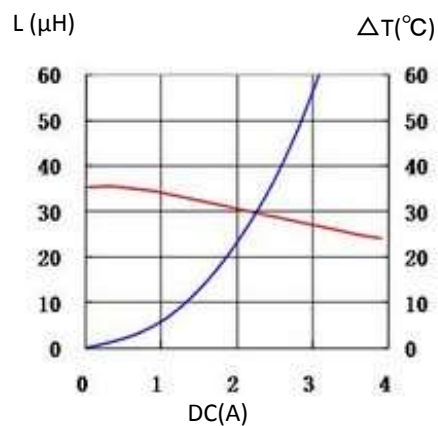
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Recommended Type

19. 0830CDMCCDS-330MC



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