

SMD Power Inductor

CY0420AT125/DS



 Recommended Type

Description

- Metal alloy
- Magnetically shielded
- LxWxH:4.75x4.4x2mm Max.
- Absolute maximum voltage (across inductor): 50V
- Product weight:0.18 g (Ref.)
- Moisture Sensitivity Level: 1
- AEC-Q200 qualified



Environmental Data

- Operating temperature range: -40°C~+125°C (including coil's self temperature rise)

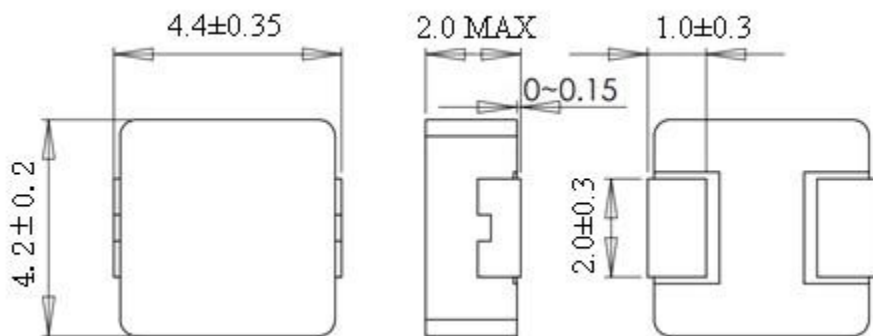
Packaging

- Carrier tape and reel packaging
- 3000pcs per reel

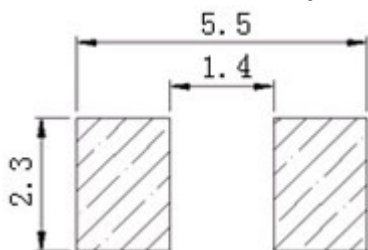
Applications

- Suitable for DC/DC converter on ECU and LED head light, the other high reliability environment for automotive application.

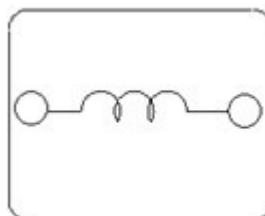
Dimension - [mm]



Recommended Land pattern - [mm]



Wire Connection



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Electrical Characteristics

| Part Number | Inductance [Within] (μ H) ※1 | D.C.R. at 20°C Max.(Typ.) (m Ω) | Saturation Current (A) Max.(Typ.) ※2 | Temperature Rise Current (A) Max.(Typ.) ※3 |
|---------------------|-----------------------------------|---|--------------------------------------|--|
| CY0420AT125DS-R22MC | 0.22 \pm 20% | 6.90 (6.00) | 18.40 (23.00) | 8.00 (9.00) |
| CY0420AT125DS-R47MC | 0.47 \pm 20% | 13.50 (11.50) | 10.20 (12.80) | 6.40 (7.00) |
| CY0420AT125DS-R56MC | 0.56 \pm 20% | 14.00 (12.00) | 8.60 (10.80) | 6.00 (6.50) |
| CY0420AT125DS-R68MC | 0.68 \pm 20% | 17.00 (14.50) | 8.00 (10.00) | 5.60 (6.30) |
| CY0420AT125DS-R82MC | 0.82 \pm 20% | 23.00 (20.00) | 7.20 (9.00) | 4.40 (5.00) |
| CY0420AT125DS-1R0MC | 1.00 \pm 20% | 26.00 (22.50) | 6.20 (7.80) | 4.20 (4.80) |
| CY0420AT125DS-1R2MC | 1.20 \pm 20% | 31.00 (27.00) | 6.10 (7.70) | 4.10 (4.50) |
| CY0420AT125DS-2R2MC | 2.20 \pm 20% | 53.00 (46.00) | 5.50 (6.90) | 3.20 (3.60) |
| CY0420AT125DS-3R3MC | 3.30 \pm 20% | 85.00 (74.00) | 4.40 (5.60) | 2.20 (2.50) |
| CY0420AT125DS-4R7MC | 4.70 \pm 20% | 115 (100) | 3.80 (4.80) | 2.00 (2.20) |
| CY0420AT125DS-6R8MC | 6.80 \pm 20% | 152 (132) | 2.80 (3.50) | 1.70 (2.00) |
| CY0420AT125DS-8R2MC | 8.20 \pm 20% | 178 (155) | 2.30 (2.90) | 1.60 (1.80) |
| CY0420AT125DS-100MC | 10.00 \pm 20% | 190 (165) | 2.00 (2.50) | 1.50 (1.70) |

※1 Measuring frequency inductance at 100kHz, 0.25V.

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

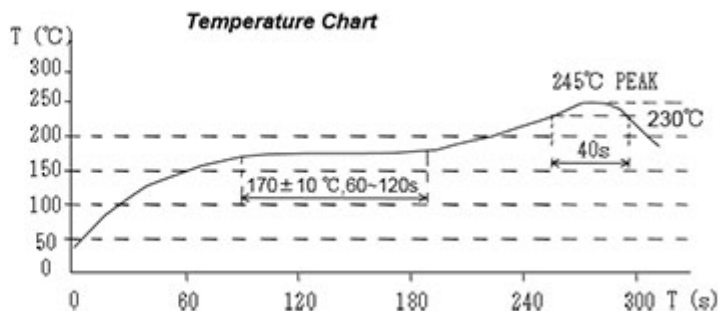
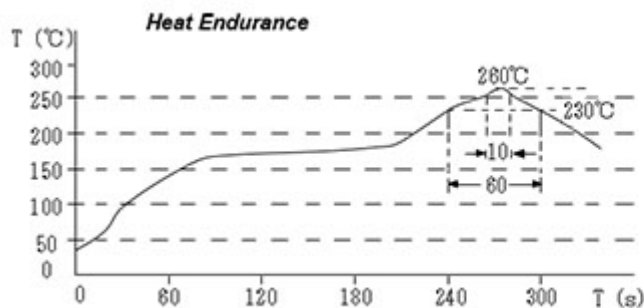
※3 Temperature rise current: The value of DC current when the temperature of coil becomes $\Delta T=40^{\circ}\text{C}$ ($T_a=25^{\circ}\text{C}$).

※ The allowable current shall be defined smaller value of either the saturation current or the temperature rise current, when being generated DC current.

※ Within a suitable application, the part temperature depends on circuit design and certain heat dissipation conditions. This should be checked in a worst case operation mode. In normal case, the max standard operating temperature of $+125^{\circ}\text{C}$ should not be exceeded.

※ Absolute maximum voltage(across inductor) : 50V

Solder Reflow Condition



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Recommended Type

Saturation Current & Temperature Rise Graph

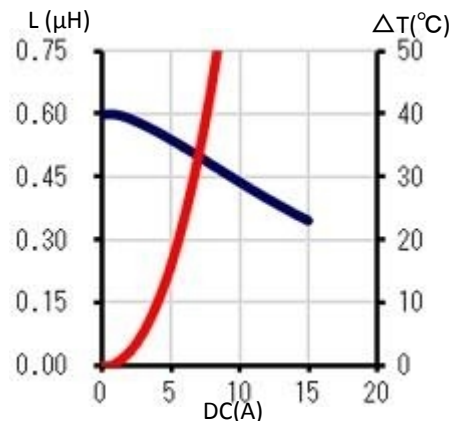
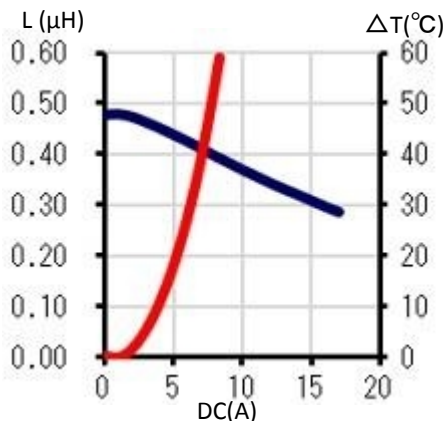
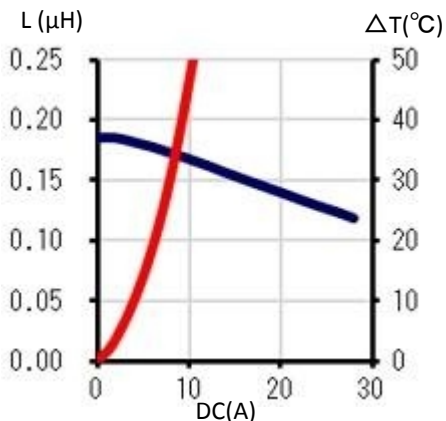
— L (25°C)

— ΔT

1. CY0420AT125DS-R22MC

2. CY0420AT125DS-R47MC

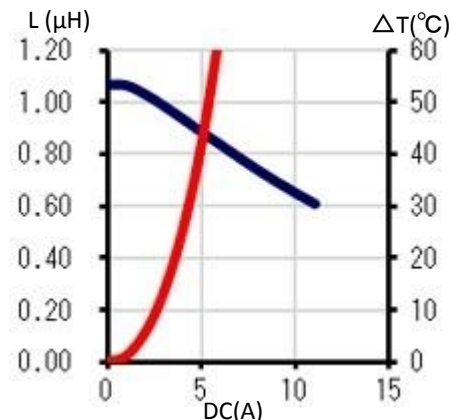
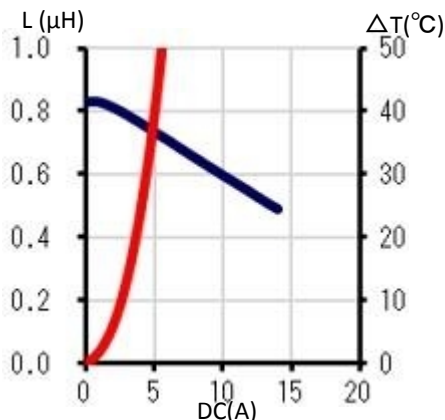
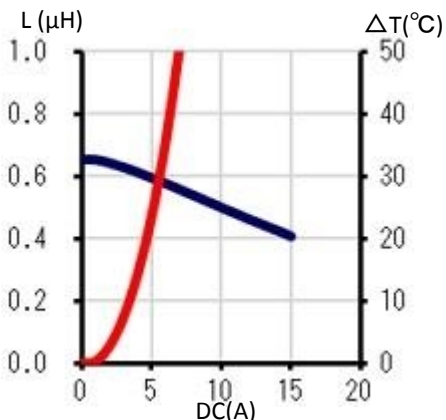
3. CY0420AT125DS-R56MC



4. CY0420AT125DS-R68MC

5. CY0420AT125DS-R82MC

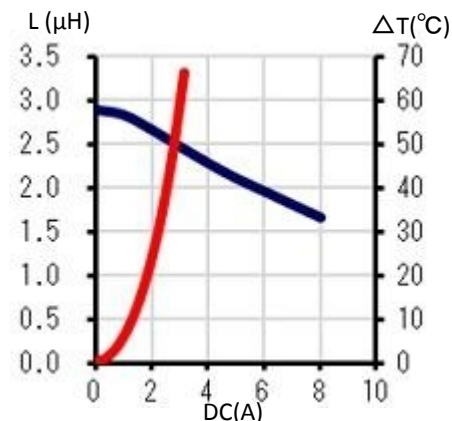
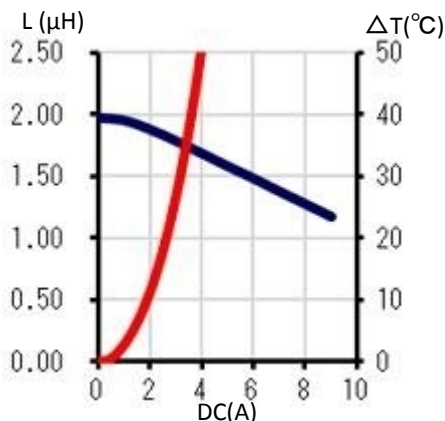
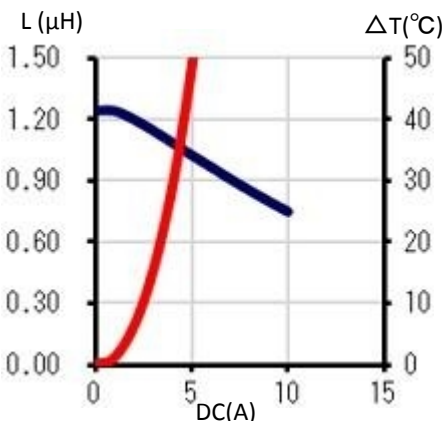
6. CY0420AT125DS-1R0MC



7. CY0420AT125DS-1R2MC

8. CY0420AT125DS-2R2MC

9. CY0420AT125DS-3R3MC



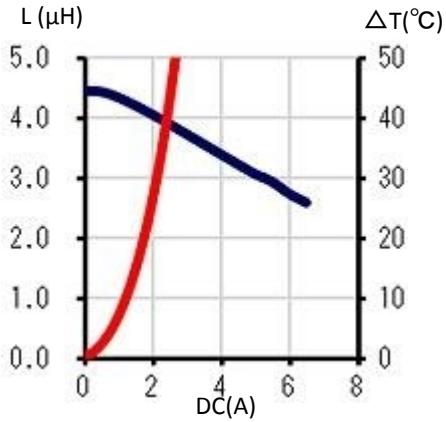
Note: This specification is subject to change without notice. Please contact your nearest sales office for updated information when placing an order.

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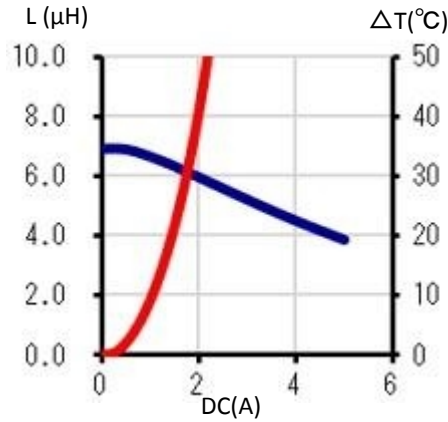
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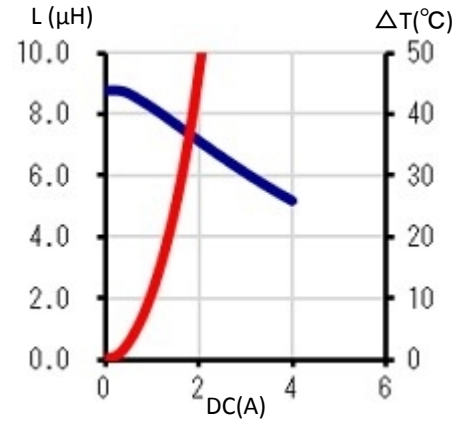
10. CY0420AT125DS-4R7MC



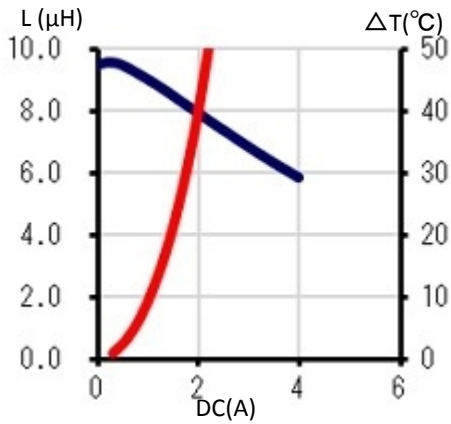
11. CY0420AT125DS-6R8MC



12. CY0420AT125DS-8R2MC



13. CY0420AT125DS-100MC



For sales office information, please [click here](#) to visit our website.