

# SMD Power Inductor

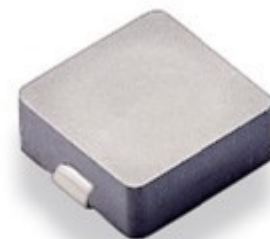
## CY1040AT125/DS



New Recommended Type

### Description

- Metal alloy
- Magnetically shielded
- LxWxH:11.5x10.3x4.1mm Max.
- Absolute maximum voltage (across inductor): 50V
- Product weight:2.4 g (Ref.)
- Moisture Sensitivity Level: 1
- AEC-Q200 qualified



### Environmental Data

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

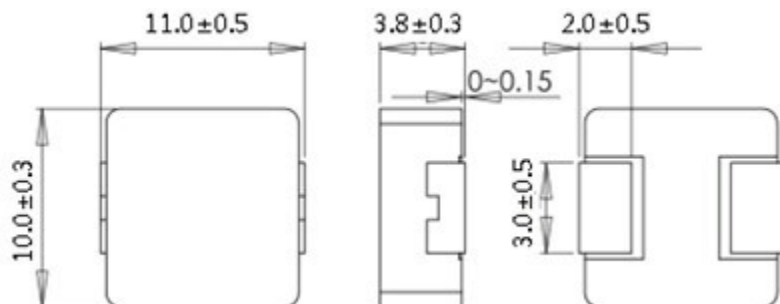
### Packaging

- Carrier tape and reel packaging
- 800pcs per reel

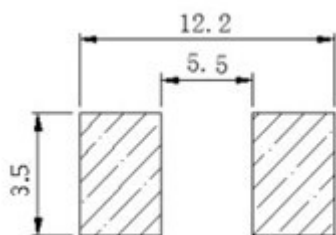
### Applications

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

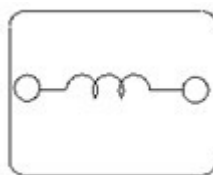
### Dimension - [mm]



### Recommended Land pattern - [mm]



### Wire Connection



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## CY1040AT125/DS



### Electrical Characteristics

Part Number	Inductance [Within] ( $\mu$ H) ※1	D.C.R. at 20°C Max.(Typ.) (m $\Omega$ )	Saturation Current (A) Max.(Typ.) ※2	Temperature Rise Current (A) Max.(Typ.) ※3
CY1040AT125DS-R22MC	0.22 $\pm$ 20%	1.00 (0.90)	62.80 (78.50)	35.00 (39.80)
CY1040AT125DS-R47MC	0.47 $\pm$ 20%	1.60 (1.40)	38.00 (47.50)	33.00 (37.50)
CY1040AT125DS-1R0MC	1.00 $\pm$ 20%	3.10 (2.70)	29.40 (36.80)	19.00 (21.50)
CY1040AT125DS-1R5MC	1.50 $\pm$ 20%	4.60 (4.00)	19.40 (24.20)	16.70 (19.00)
CY1040AT125DS-2R2MC	2.20 $\pm$ 20%	7.50 (6.50)	16.40 (20.50)	12.60 (14.20)
CY1040AT125DS-3R3MC	3.30 $\pm$ 20%	12.20 (10.60)	15.70 (19.60)	10.00 (11.40)
CY1040AT125DS-4R7MC	4.70 $\pm$ 20%	15.00 (13.00)	12.00 (15.00)	9.20 (10.50)
CY1040AT125DS-6R8MC	6.80 $\pm$ 20%	22.50 (19.60)	10.50 (13.10)	7.40 (8.40)
CY1040AT125DS-100MC	10.00 $\pm$ 20%	30.00 (26.00)	7.10 (8.90)	6.50 (7.60)
CY1040AT125DS-150MC	15.00 $\pm$ 20%	42.40 (36.80)	6.80 (8.50)	5.50 (6.30)
CY1040AT125DS-220MC	22.00 $\pm$ 20%	67.30 (58.50)	4.80 (6.00)	4.60 (5.20)
CY1040AT125DS-330MC	33.00 $\pm$ 20%	96.10 (83.60)	4.50 (5.70)	3.60 (4.10)
CY1040AT125DS-470MC	47.00 $\pm$ 20%	153.60 (133.60)	4.00 (5.00)	2.80 (3.10)
CY1040AT125DS-680MC	68.00 $\pm$ 20%	192 (167)	3.20 (4.00)	2.20 (2.80)

※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

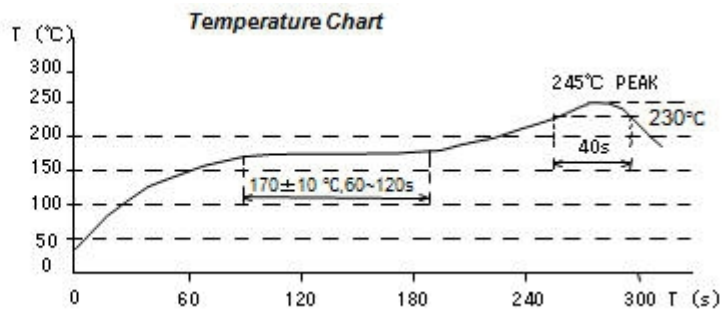
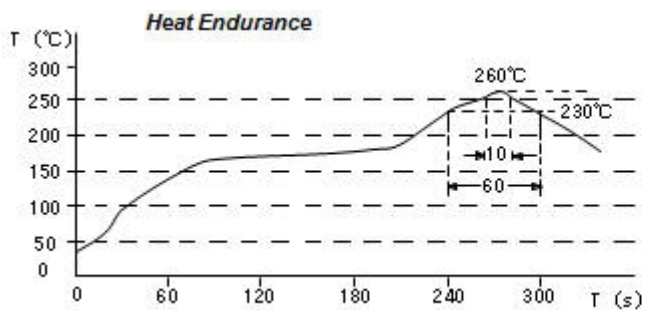
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New Recommended Type

### Solder Reflow Condition



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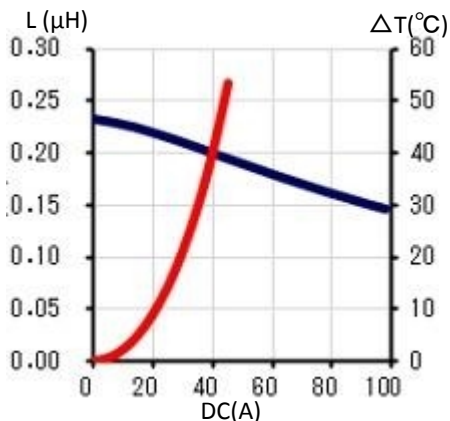
## CY1040AT125/DS



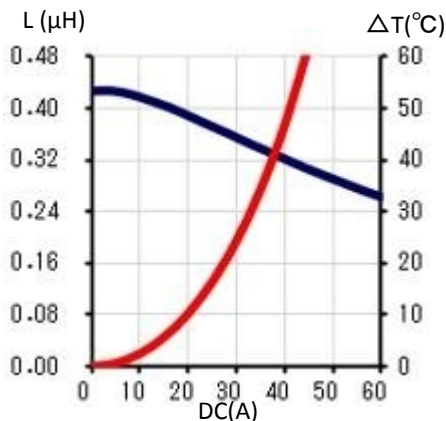
### Saturation Current & Temperature Rise Graph

— L (25°C)      —  $\Delta T$

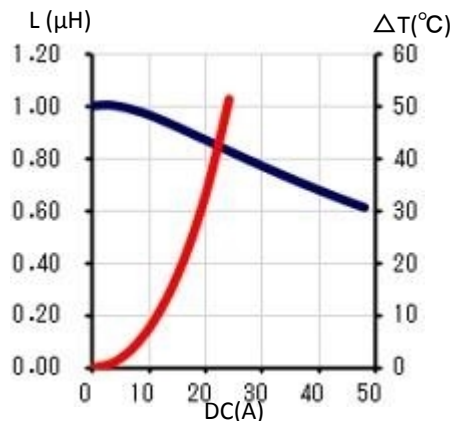
1. CY1040AT125DS-R22MC



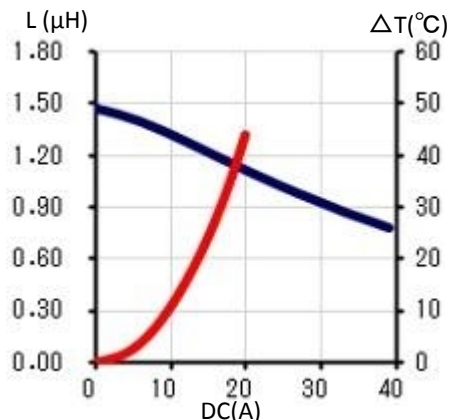
2. CY1040AT125DS-R47MC



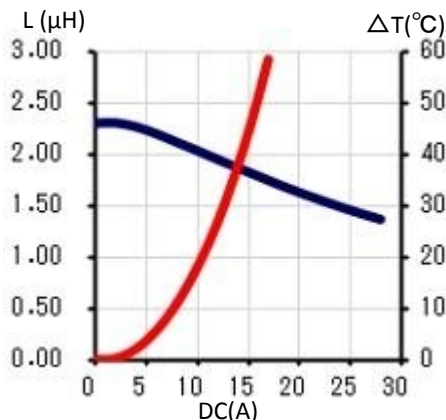
3. CY1040AT125DS-1R0MC



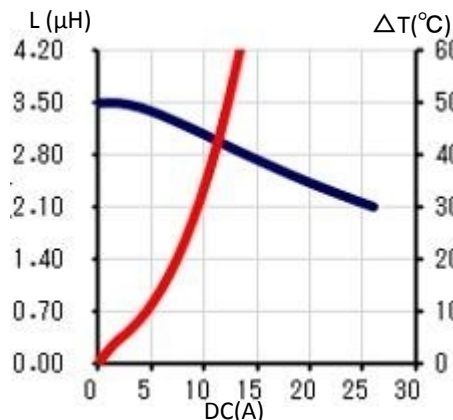
4. CY1040AT125DS-1R5MC



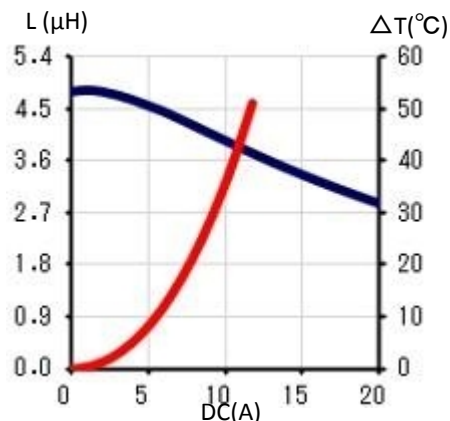
5. CY1040AT125DS-2R2MC



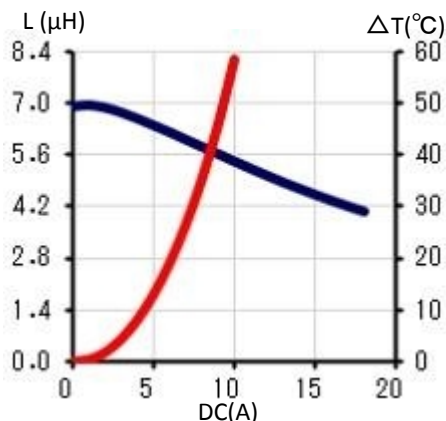
6. CY1040AT125DS-3R3MC



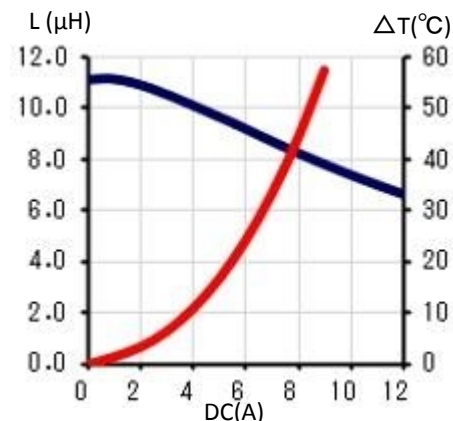
7. CY1040AT125DS-4R7MC



8. CY1040AT125DS-6R8MC



9. CY1040AT125DS-100MC



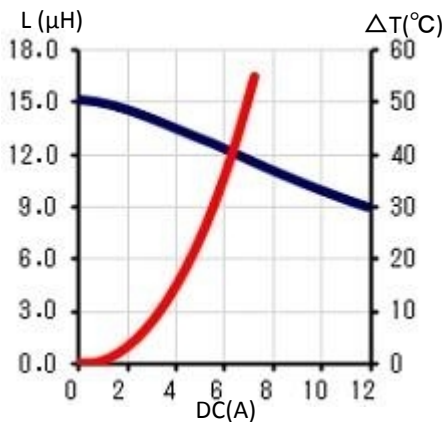
Note: This specification is subject to change without notice. Please contact your nearest sales office for updated information when placing an order.

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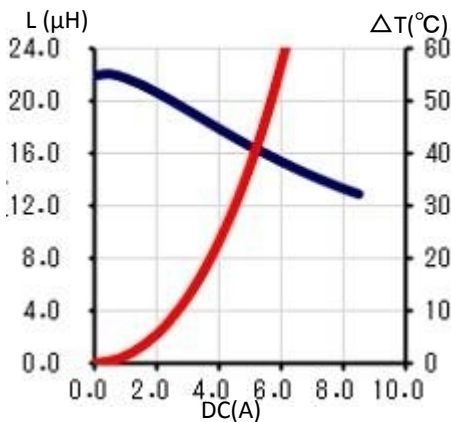
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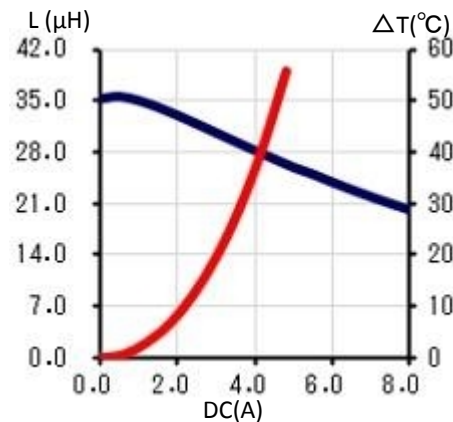
10. CY1040AT125DS-150MC



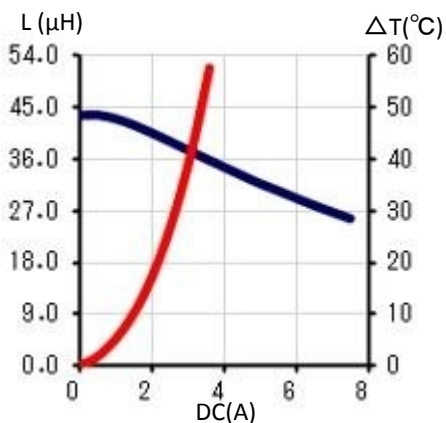
11. CY1040AT125DS-220MC



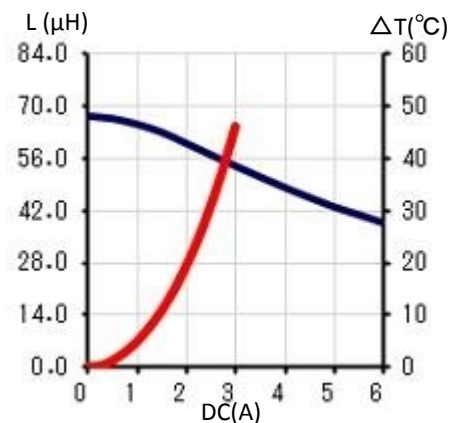
12. CY1040AT125DS-330MC



13. CY1040AT125DS-470MC



14. CY1040AT125DS-680MC



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