

SMD Power Inductor size TCD105T125NP

1.Features

- Small size, high rated current, low DCR and magnetic shielding design.
- Suitable for SMT process Operating temperature -40 ~ +125 .
- Halogen free, lead free, RoHS compliant.

2. Applications

used in Notebook, Server, audio, security, mobile phone, smart home, communication equipment, and etc.

TCDRH 6D 38 T 125 NP - 6R8 N C

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Type name 形名

Dimensions 外形尺寸

Height (H) 高度尺寸

Characteristic 特性规格

L(D) Low DCR.Type 低DCR类型

H(P) High Saturation Current Type 高饱和电流类型

None or T Standard Type 标准类型

Operation Temperature 使用温度

None standard Type 标准品

125 The upper limit of operation temperature is +125 ° (Including coils self temperature rise)

使用温度上限+125C(包含线圈发热)

150 The upper limit of operation temperature is +150 °C (Including coils self temperature rise)

使用温度上限+150C(包含线圈发热)

Feature 分类

Lead-free NP 无铅

Halogen-free 无卤素

Inductance 电感值

1R0 1.0uH 100 10uH 101 100uH

Tolerance of inductance 电感值公差

K ±10% M ±20% N ±30%

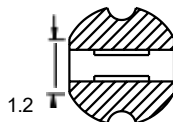
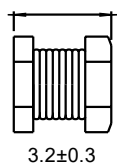
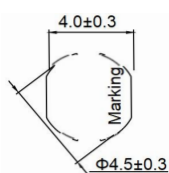
Packing 据包规格

C 载带 Carrier tape

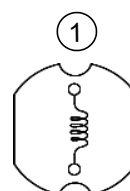
B 箱子 Box

EXTERNAL DIMENSIONS

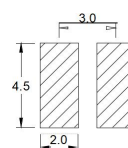
(Unit:mm)



Schematic



Reference Land Pattern (mm)



Electrical Properties:

Part No	Inductance (μ H)	D.C.R.(m Ω) Max.(Typ.) at 25 $^{\circ}$ C	Isat (A)*A Max.(Typ.) at 25 $^{\circ}$ C	Irms(A)*B Max.(Typ.)
TCD105T125NP-1R2MC	1.20($\pm$ 20%)	5.90(4.90)	12.0	9.68
TCD105T125NP-1R8MC	1.80($\pm$ 20%)	7.40(6.16)	10.2	8.94
TCD105T125NP-3R3MC	3.30($\pm$ 20%)	10.8(9.02)	7.90	7.11
TCD105T125NP-4R7MC	4.70($\pm$ 20%)	12.8(10.7)	7.00	6.85
TCD105T125NP-6R8MC	6.80($\pm$ 20%)	16.4(13.7)	5.80	6.06
TCD105T125NP-8R2MC	8.20($\pm$ 20%)	20.6(17.2)	5.10	5.48
TCD105T125NP-100KC	10.0($\pm$ 10%)	23.6(19.7)	4.50	5.11
TCD105T125NP-120KC	12.0($\pm$ 10%)	24.6(20.5)	4.20	4.95
TCD105T125NP-150KC	15.0($\pm$ 10%)	30.6(25.5)	3.80	4.44
TCD105T125NP-180KC	18.0($\pm$ 10%)	39.0(32.5)	3.50	3.95
TCD105T125NP-220KC	22.0($\pm$ 10%)	46.6(38.7)	3.20	3.60
TCD105T125NP-270KC	27.0($\pm$ 10%)	64.9(54.1)	2.85	3.05
TCD105T125NP-330KC	33.0($\pm$ 10%)	73.0(60.8)	2.60	2.85
TCD105T125NP-390KC	39.0($\pm$ 10%)	81.4(67.8)	2.40	2.72
TCD105T125NP-470KC	47.0($\pm$ 10%)	106(88.2)	2.20	2.38
TCD105T125NP-560KC	56.0($\pm$ 10%)	128(106)	2.00	2.21
TCD105T125NP-680KC	68.0($\pm$ 10%)	146(121)	1.80	2.02
TCD105T125NP-820KC	82.0($\pm$ 10%)	178(148)	1.60	1.74
TCD105T125NP-101KC	100($\pm$ 10%)	220(183)	1.45	1.65
TCD105T125NP-121KC	120($\pm$ 10%)	278(231)	1.35	1.45
TCD105T125NP-151KC	150($\pm$ 10%)	342(285)	1.23	1.32
TCD105T125NP-181KC	180($\pm$ 10%)	392(326)	1.13	1.26
TCD105T125NP-221KC	220($\pm$ 10%)	461(384)	1.02	1.14
TCD105T125NP-271KC	270($\pm$ 10%)	596(496)	0.92	1.00
TCD105T125NP-331KC	330($\pm$ 10%)	724(603)	0.82	0.90
TCD105T125NP-391KC	390($\pm$ 10%)	812(676)	0.76	0.83
TCD105T125NP-471KC	470($\pm$ 10%)	984(820)	0.70	0.77
TCD105T125NP-561KC	560($\pm$ 10%)	1174(978)	0.63	0.71
TCD105T125NP-681KC	680($\pm$ 10%)	1404(1170)	0.58	0.66
TCD105T125NP-821KC	820($\pm$ 10%)	1716(1430)	0.51	0.58
TCD105T125NP-102KC	1000($\pm$ 10%)	2210(1842)	0.47	0.52
TCD105T125NP-222KC	2200($\pm$ 10%)	4536(3780)	0.35	0.36

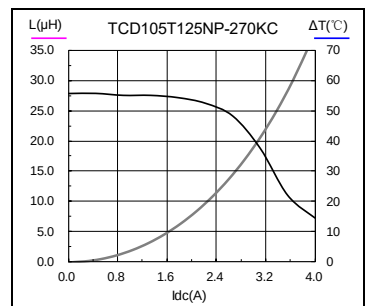
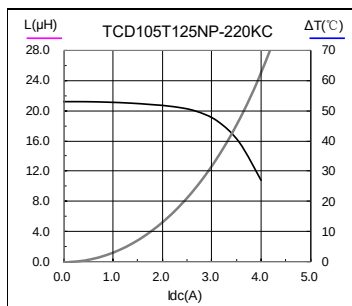
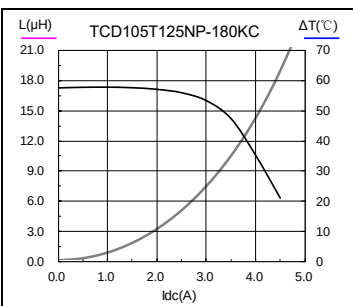
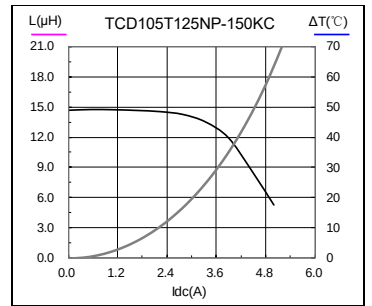
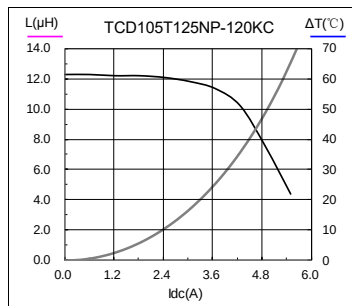
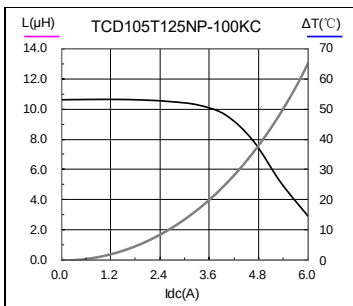
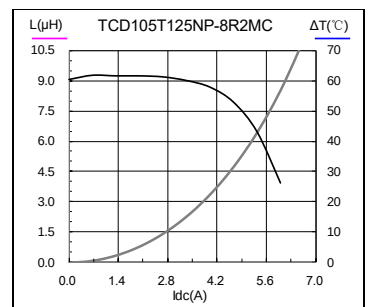
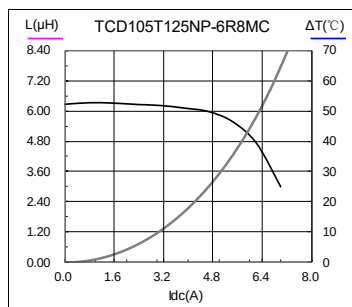
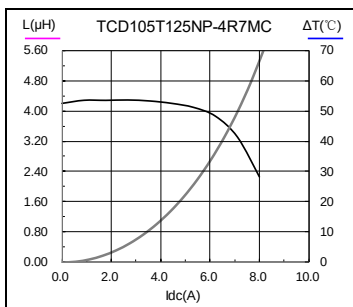
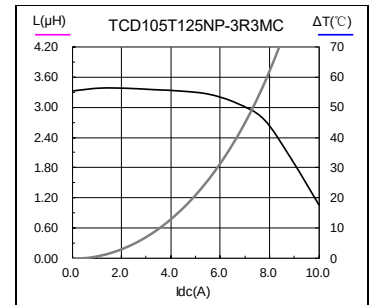
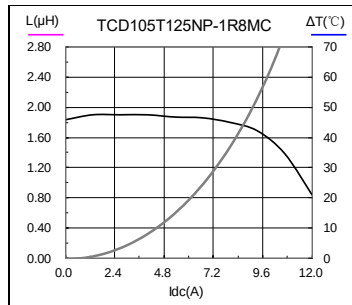
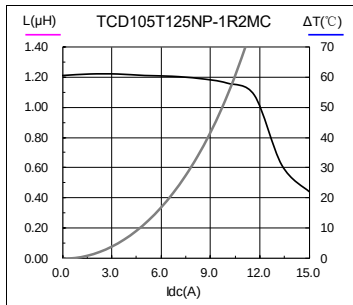
■ All data is tested based on 25 $^{\circ}$ C ambient temperature.

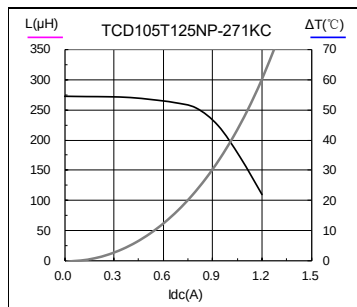
1 Inductance measure condition at 100kHz, 0.1V.

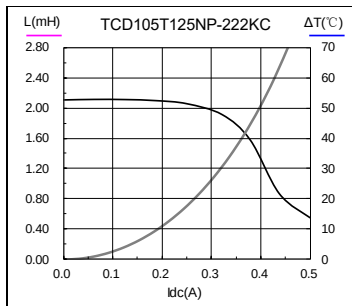
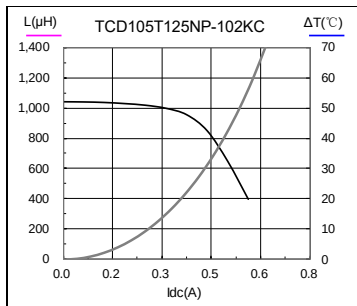
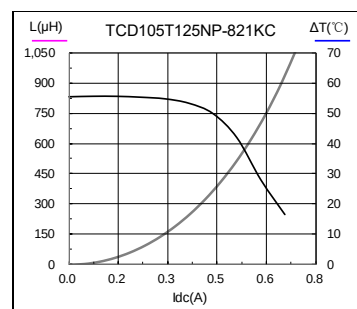
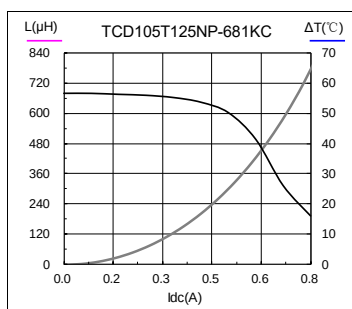
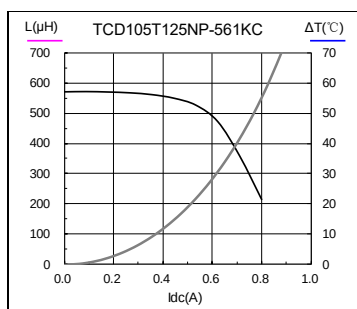
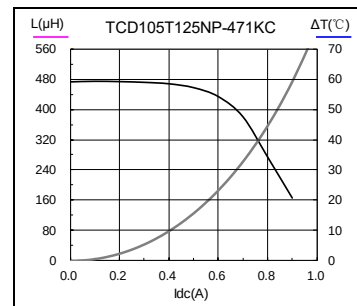
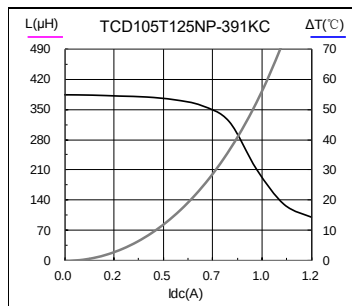
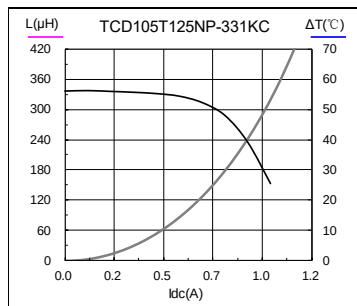
2 Saturation current: the actual value of DC current when the inductance decrease 20% of its initial value.

3 Temperature rise current: the actual value of DC current when the temperature rise is ΔT 40 $^{\circ}$ C (T_a =25 $^{\circ}$ C).

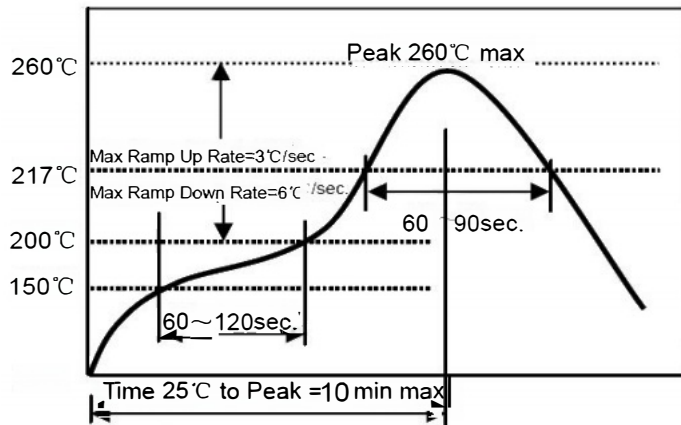
Special remind: Circuit design, component placement, PCB size and thickness, cooling system and etc. all will affect the product temperature. Please verify the product temperature in the final application.







Reflow Profile for SMT Components



Re-flowing Profile

Preheat condition: 150 ~ 200°C/60~120sec

Allowed time above 217°C: 80~90sec.

Max temp: 260°C

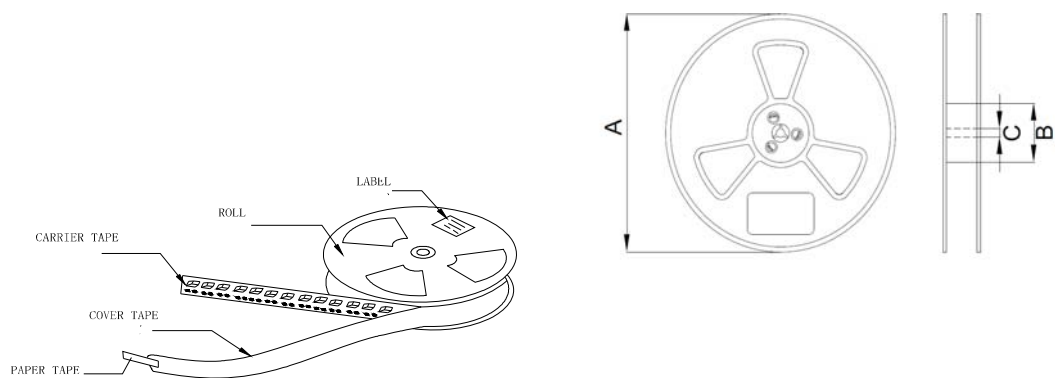
Max time at max temp: 5 sec.

Solder paste: Sn/3.0Ag/0.5Cu

Allowed Reflow time: 2x

Reflow is reiened tostandad IPCJJEDECJSTD02OD.

- Remark:
- All test data is reference to 25°C ambient.
 - Test Condition: 1MHz, 0.1Vrms
 - Isat:Max.Value,DC current at which the inductance drops less than 30%from its value without current;
 - Typ.Value,DC current at which the inductance drops 30%from its value without current.
 - Irms: For Max.Value, $\Delta T < 40^{\circ}\text{C}$: for Typ.Value, ΔT is approximate 40°C .
 - Operat between temperature range-40°C to +125°C (Including self-temperature rise)
 - Absolute maximum voltage:DC 70V



ProductSerie	Quantity Reel	InnerCartonQuantity
TCD105T125NP	1000PCS	(1000×2)=2000pcs

Type	Reel Dimension (mm)			Quantity (Pcs/Reel)
	A	B	C	
TCD43T125NP	330	100	13	2000
TCD54T125NP	330	100	13	1500
TCD75T125NP	330	100	13	1000
TCD105T125NP	330	100	13	1000