



Outline:

- 7.1 x 7.1mm Typ.(L x W),4.8mm Typ.Height
- Carrier tape packing, suitable for SMT process
- Low DCR and excellent current handling
- Magnetically shielded construction
- In addition to the standard versions of inductors shown here custom inductors are available to meet your exact requirements

Features:

- Core material:Ferrite
- Environmental: RoHS, Reach compliant ,Halogen free
- Weight:0.64g
- Moisture Sensitivity:Level (MSL) 1
(unlimited floor life at <30°C / 85% relative humidity).
- Operating temperature range: -40°C~+125°C
(including coil's self temperature rise)
- Storage temperature range: -40°C~+125°C

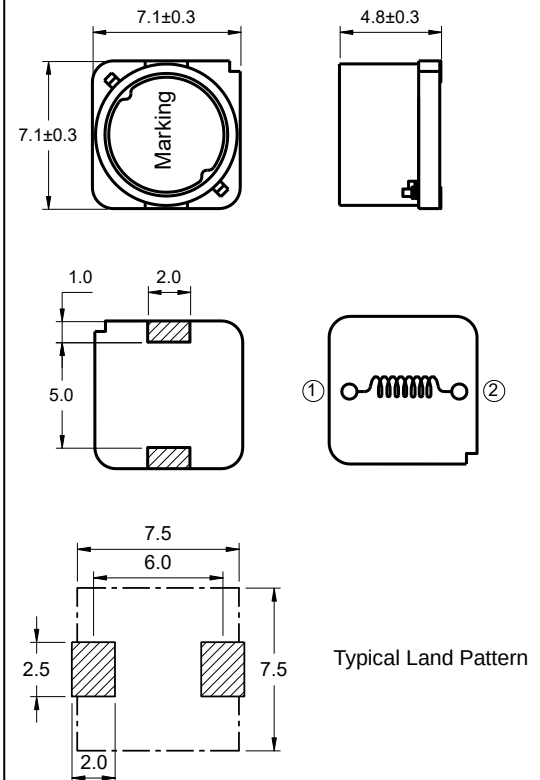
Application:

- Ideally used in Notebook PC,LCD T,Game machine STB
- buck converter,network communication equipment, and etc

1 Electrical Characteristics

Part No.	Inductance (μ H)※1	D.C.R. (m Ω)		Isat (A)※2	Irms (A) ※3
		Typical	Max		
TGEL0705-2R2N	2.20 $\pm$ 30%	21.3	25.6	6.50	4.00
TGEL0705-3R0N	3.00 $\pm$ 30%	24.2	29.0	6.00	3.74
TGEL0705-4R7N	4.70 $\pm$ 30%	31.0	37.2	4.80	3.31
TGEL0705-6R8N	6.80 $\pm$ 30%	36.0	43.2	4.00	3.07
TGEL0705-8R2N	8.20 $\pm$ 30%	40.0	48.0	3.50	2.91
TGEL0705-100M	10.0 $\pm$ 20%	56.0	67.2	3.20	2.46
TGEL0705-150M	15.0 $\pm$ 20%	77.0	92.4	2.70	2.10
TGEL0705-220M	22.0 $\pm$ 20%	108	130	2.30	1.77
TGEL0705-330M	33.0 $\pm$ 20%	138	166	1.85	1.57
TGEL0705-470M	47.0 $\pm$ 20%	177	212	1.55	1.38
TGEL0705-680M	68.0 $\pm$ 20%	252	302	1.30	1.16
TGEL0705-820M	82.0 $\pm$ 20%	292	350	1.15	1.08
TGEL0705-101M	100 $\pm$ 20%	390	468	1.00	0.93
TGEL0705-151M	150 $\pm$ 20%	580	696	0.85	0.76
TGEL0705-221M	220 $\pm$ 20%	890	1,068	0.70	0.62
TGEL0705-331M	330 $\pm$ 20%	1,488	1,786	0.56	0.48
TGEL0705-471M	470 $\pm$ 20%	1,840	2,208	0.47	0.43
TGEL0705-681M	680 $\pm$ 20%	2,620	3,144	0.39	0.36
TGEL0705-821M	820 $\pm$ 20%	3,020	3,624	0.35	0.33
TGEL0705-102M	1,000 $\pm$ 20%	3,950	4,740	0.31	0.29

2 Product Dimensions (mm)

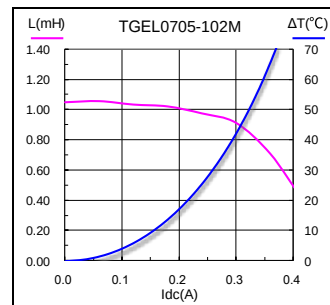
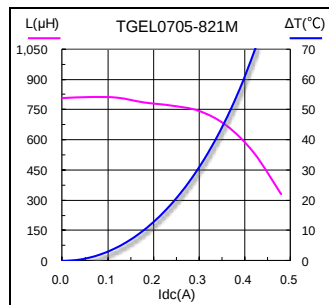
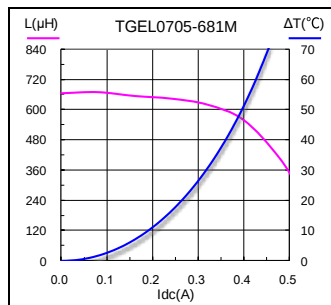
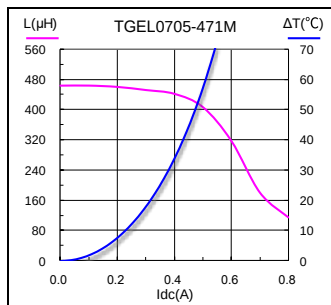
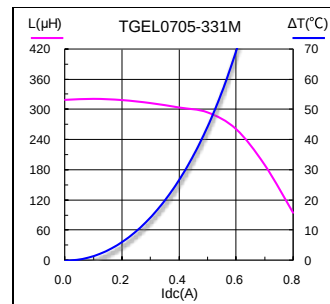
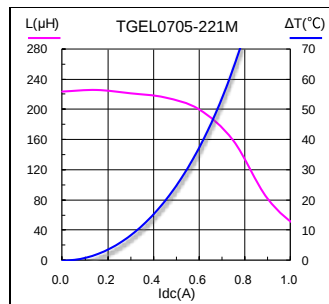
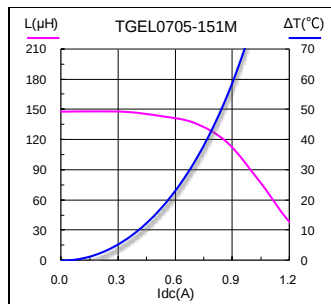
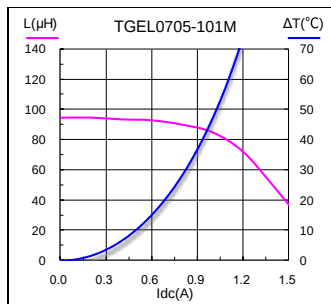
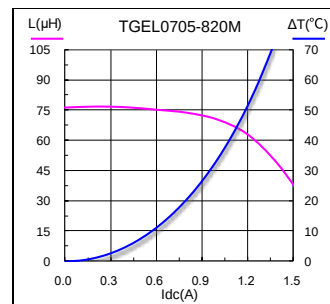
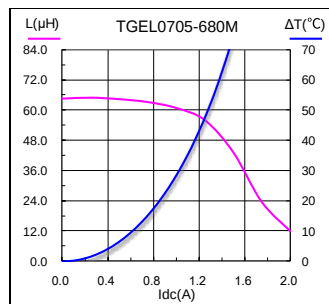
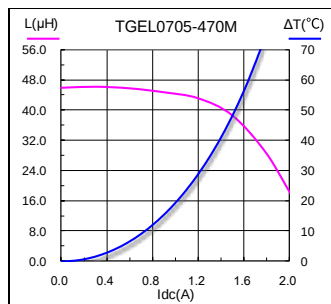
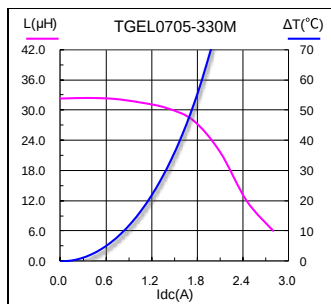
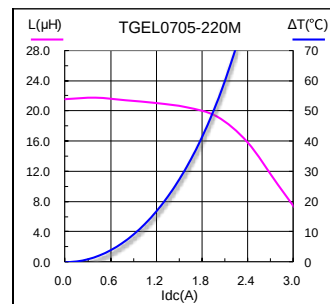
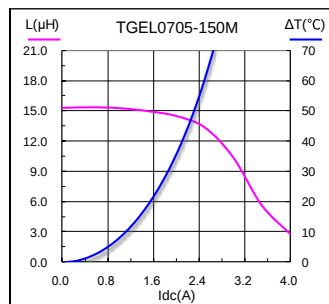
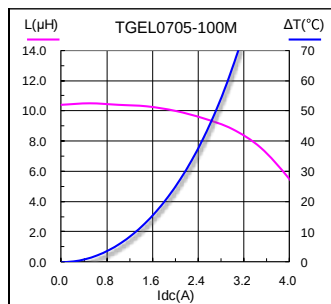
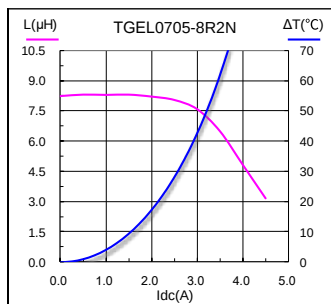
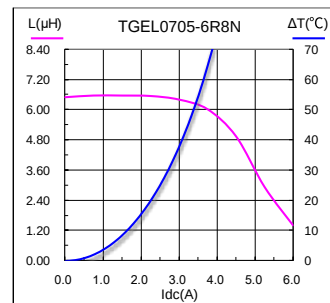
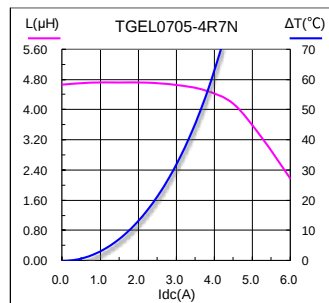
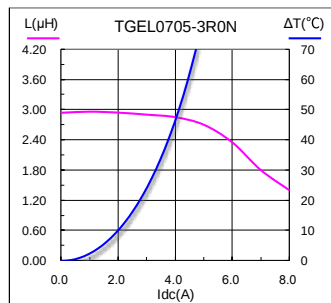


All data is tested on 25°C ambient temperature

- 1.Inductance measure condition at 100kHz,0.1V
- 2.Isat:the actual value of DC current when the Inductance decrease 20% of its initial value
3. Irms:the actual value of DC current when the the temperature rise is $\Delta T 40^{\circ}\text{C}$ ($T_a=25^{\circ}\text{C}$)

The graph shows the relationship between DC current (I_{dc}), inductance (L), and temperature rise (ΔT) for the TGE0705-2R2N inductor. The x-axis represents I_{dc} in Amperes (A), ranging from 0.0 to 8.0. The left y-axis represents L in microhenries (μH), ranging from 0.00 to 2.80. The right y-axis represents ΔT in degrees Celsius ($^{\circ}C$), ranging from 0 to 70. The blue curve shows that inductance decreases as DC current increases. The pink curve shows that temperature rise increases with DC current, starting at 0 $^{\circ}C$ for 0 A and reaching approximately 30 $^{\circ}C$ at 8.0 A.

I_{dc} (A)	L (μH)	ΔT ($^{\circ}C$)
0.0	2.40	0
2.0	2.35	5
4.0	2.20	15
6.0	1.80	25
8.0	1.20	30



4.1 Carrier Tape Dimensions (mm)



Figure 1: Dimensions and cover tape peeling condition

Top View Dimensions:

- Segment Width: 13.0 ± 0.5
- Segment Length: 21.0 ± 0.8
- Segment Spacing: 2.0 ± 0.5

Side View Dimensions:

- Total Width: 22.40 Max.
- Central Hole Diameter: $16.4^{+2.0}_{-0}$
- Segment Width: 100 Min.
- Carrier Tape Width: 15.90 Min.

Cover tape peeling off condition:

- Cover tape peeling force shall be 0.1 to 1.3N.
- Reference peeling speed $300 \pm 10 \text{ mm/min.}$

Peeling Process Diagram:

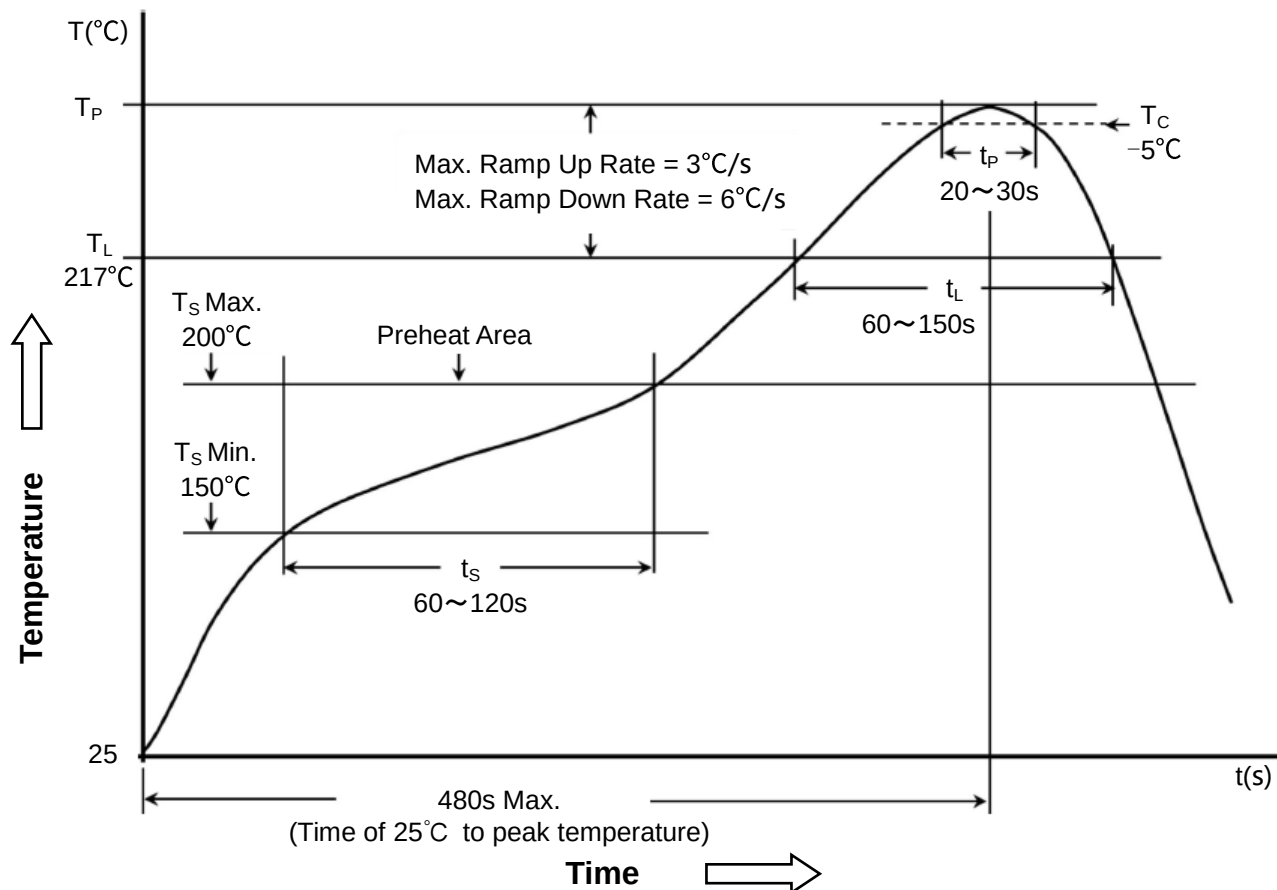
- Labels: Label, Cover tape, Sprocket hole, Unreeling direc.
- Peeling Angle: $165^\circ \sim 180^\circ$
- Directions: Pull direction, Unreeling direction
- Carrier tape

■ Inner Carton: 365×345×105mm ■ Out Carton : 385×365×245mm

Anhui Tiger Co., Ltd

5 Soldering Specification

5.1 Reflow Profile for SMT Components



5.2 Classification of Peak Package Body Temperature (T_P)

	Package Thickness	Package Volume		
		<350 mm ³	350~2000 mm ³	>2000 mm ³
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6~2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

※ Reflow is referred to standard IPC/JEDEC J-STD-020D.

6 Notice of Use

- 6.1 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.
- 6.2 Product in packing storage condition: temperature 5~40°C, RH≤70%.
If taking out for use, the remaining products should be sealed in plastic bags and preserved in accordance with the above conditions, to avoid oxidation of terminals (electrodes), affecting soldering status.
- 6.3 A storage of Codaca Electronic products for longer than 12 months is not recommended, Within other effects, the terminals may suffer degradation, resulting in bad solderability. Therefore, all products shall be used within the period of 12 months based on the day of shipment.
- 6.4 Do not keep products in unsuitable storage conditions, such as areas susceptible to high temperatures, high humidity, dust or corrosion.
- 6.5 Always handle products with care.
- 6.6 Don't touch electrodes directly with bare hands as oil secretions may inhibit soldering.
Always ensure optimum conditions for soldering.
- 6.7 When this product will be used on a similar or new project to the original one,
sometimes it might be unable to satisfy the specifications due to different condition of usage.
- 6.8 This inductor itself does not have any protective function in abnormal condition, such as overload, short-circuit, open-circuit conditions, etc. Therefore, it shall be confirmed that there is no risk of smoke, fire, dielectric withstand voltage, insulation resistance, etc., or use in abnormal conditions protective devices or protection circuit in the end product.
- 6.9 Hi-Pot test with higher voltage than spec value will damage insulating material and shorten its life.
- 6.10 If using in potting compound, the magnet wire coating might be damaged, please consult with us.
- 6.11 Refrain from rinsing coils. If necessary, please consult with us.