



◆ **Features**

- 1、Magnetic-resin shielded construction reduces buzz noise to ultra-low levels;
- 2、Metallization on ferrite core results in excellent shock resistance and damage-free durability;
- 3、Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI);
- 4、30% higher current rating than conventional inductors of equal size;
- 5、Take up less PCB real estate and save more power.



◆ **Applications**

- 1、LED Lighting;
- 2、Mobile devices with multifunction such as adding color TV and camera;
- 3、Flat-screen TVs, blue-ray disc recorders, set top boxes;
- 4、Notebooks, desktop computers, servers, graphic cards;
- 5、Portable gaming devices, personal navigation systems, personal multimedia devices;
- 6、Automotive systems
- 7、Telecomm base stations

◆ **Lead Free Part Numbering**

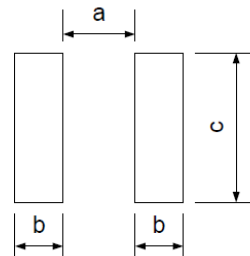
CMLW 6045 S 100 M S T
(1) (2) (3) (4) (5) (6) (7)

- (1) Series Type
- (2) Dimension: L X H
- (3) Material Code
- (4) Inductance: 2R2=2.2μH ;
100=10μH; 101=100μH
- (5) Inductance Tolerance: M=±20%, N=±30%
- (6) Company Code
- (7) Packaging : Tape Carrier Package

◆ **Dimensions**



Recommended Land Pattern



Unit:mm

Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
CMLW6045S	6.0±0.3	6.0±0.3	4.5Max.	4.9±0.3	1.55±0.3	2.90±0.3	2.8	1.7	5.7

◆ **Electrical Characteristics**

- 1) Operating and storage temperature range (individual chip without packing): cking): $-25^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- 2) Storage temperature range (packaging conditions): $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ and RH 70% (Max.)

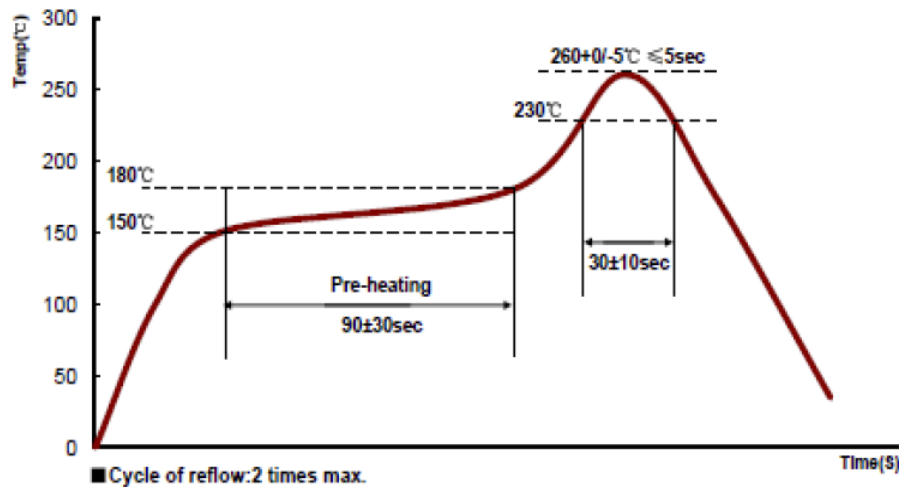
◆ **Construction and material**



Code	Part Name	Material Name
①	Ferrite Core	Ni-Zn Ferrite
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	Plating Electrodes	Ag
		Ni
		Sn
⑤	Outer Electrodes	Top surface solder coating Sn、Ag、Cu

◆ **REFLOW-PROFILE**

Limit Profile



Standard Profile (for EOC Solder paste S70G-HF)



◆ **Specification**

Part Number	Inductance @100KHz, 1V (μ H)	DC Resistance $\pm 30\%$ (Ω)	Min.Self-resonant Frequency (MHz)	Saturation Current(A)	Heat Rating Current (A)
		DCR	S.R.F	Isat	Irms
CMLW6045S Series					
CMLW6045SR82NST	0.82 \pm 30%	0.008	140	10.40	5.90
CMLW6045S1R0MST	1.0 \pm 20%	0.011	100	9.85	5.14
CMLW6045S1R5MST	1.5 \pm 20%	0.012	65	8.80	4.95
CMLW6045S1R8MST	1.8 \pm 20%	0.012	74	7.60	4.95
CMLW6045S2R2MST	2.2 \pm 20%	0.014	52	6.75	4.60
CMLW6045S3R3MST	3.3 \pm 20%	0.021	32	5.90	3.70
CMLW6045S3R6MST	3.6 \pm 20%	0.021	28	5.25	3.70
CMLW6045S4R7MST	4.7 \pm 20%	0.026	24	5.00	3.35
CMLW6045S5R6MST	5.6 \pm 20%	0.029	23	4.15	3.15
CMLW6045S6R8MST	6.8 \pm 20%	0.031	20	3.90	3.00
CMLW6045S8R2MST	8.2 \pm 20%	0.043	21	3.90	2.60
CMLW6045S100MST	10 \pm 20%	0.048	15	3.20	2.45
CMLW6045S120MST	12 \pm 20%	0.058	13	2.80	2.20
CMLW6045S150MST	15 \pm 20%	0.068	12	2.50	2.05
CMLW6045S220MST	22 \pm 20%	0.089	10	2.05	1.80
CMLW6045S330MST	33 \pm 20%	0.137	7.8	1.65	1.45
CMLW6045S470MST	47 \pm 20%	0.200	6.4	1.40	1.20
CMLW6045S560MST	56 \pm 20%	0.221	6.4	1.30	1.10
CMLW6045S680MST	68 \pm 20%	0.289	6.4	1.20	1.00
CMLW6045S820MST	82 \pm 20%	0.341	4.9	1.05	0.90
CMLW6045S101MST	100 \pm 20%	0.433	4.2	0.95	0.80
CMLW6045S121MST	120 \pm 20%	0.484	4.2	0.85	0.77
CMLW6045S151MST	150 \pm 20%	0.580	4.2	0.80	0.70
CMLW6045S221MST	220 \pm 20%	0.834	3.5	0.70	0.59
CMLW6045S331MST	330 \pm 20%	1.270	2.8	0.57	0.57
CMLW6045S471MST	470 \pm 20%	2.570	1.5	0.45	0.50

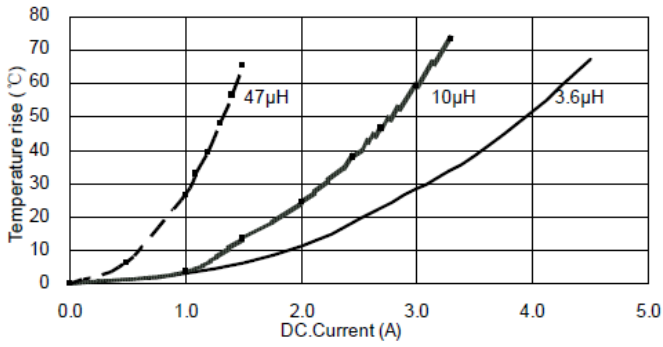
◆ **Note**

- 1: All test data is referenced to 20°C ambient;
- 2: Rated current: Isat or Irms, whichever is smaller;
- 3: Isat: DC current at which the inductance drops approximate 30% from its value without current;
- 4: Irms: DC current that causes the temperature rise ($\Delta T = 40^\circ\text{C}$) from 20°C ambient.

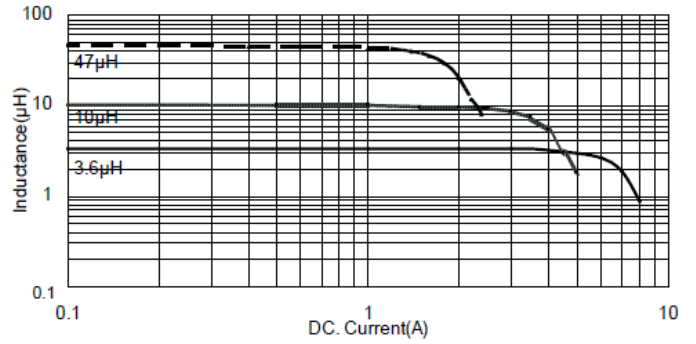
◆ TYPICAL ELECTRICAL CHARACTERISTICS

CMLW6045S Series

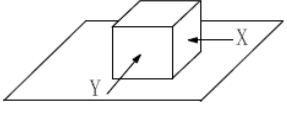
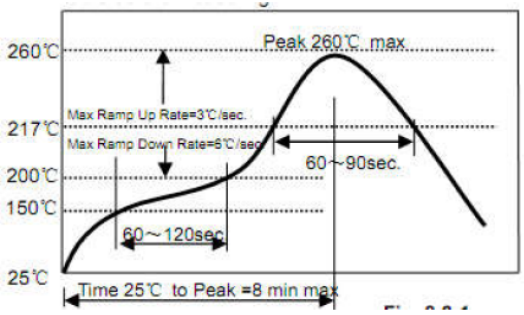
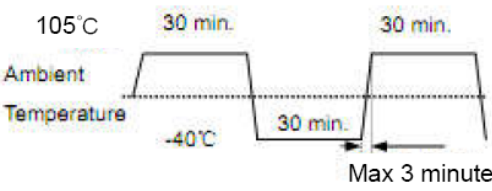
Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

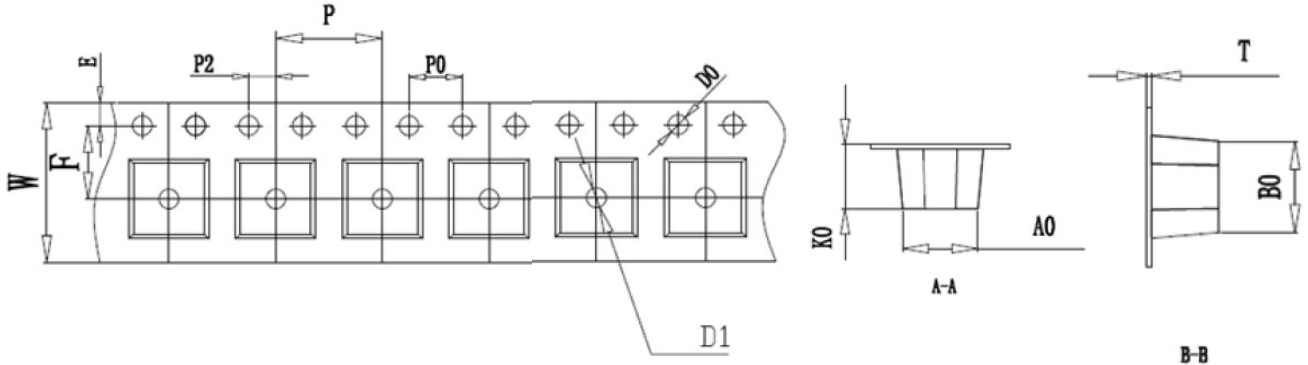


◆ Reliability Test

Items	Requirements	Test Methods and Remarks
A. Terminal Strength	No removal or split of the termination or other defects shall occur.  Fig.7.1-1	1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.7.1-1) using eutectic solder. Then apply a force in the direction of the arrow. 2) 10N force. 3) Keep time: 5±2s
B. High Temperature	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Storage Temperature :125+/-5°C 2) Duration : 96 ±4 Hours 3) Recovery : then measured at room ambient temperature after placing 24 hours.
C. Low Temperature	1. No visible mechanical damage 2. Inductance change: Within ±10%	1) Temperature and time: -40±5°C 2) Duration: 96±4 hours 3) TRecovery : then measured at room ambient temperature after placing 24 hours.
D. Vibration test	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Frequency range:10HZ~55HZ~10HZ 2) Amplitude:1.5mm p-p 3) Direction:X,Y,Z 4) Time:1 minute/cycle,2hours per axis
E. High Temperature Storage Tested	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Storage Temperature :60+/-2°C 2) Relative Humidity :90-95% RH 3) Duration : 96 ±4 Hours 4) Recovery : then measured at room ambient temperature after placing 24 hours.
F. Resistance to Soldering Heat	1. No visible mechanical damage. 2. Inductance change: Within ±10%  Fig. 1	1) Re-flowing Profile: Please refer to Fig. 1 2) Test board thickness: 1.0mm 3) Test board material: glass epoxy resin 4) The chip shall be stabilized at normal condition for 1~2 hours before measuring
G. Thermal Shock	1. No visible mechanical damage. 2. Inductance change: Within ±10%  Fig. 2	1) Temperature and time: -40±3°C for 30±3 min→105°C for 30±3min, please refer to Fig. 2. 2) Transforming interval: Max, 3 minute 3) Tested cycle: 100 cycles 4) The chip shall be stabilized at normal condition for 1~2 hours before measuring

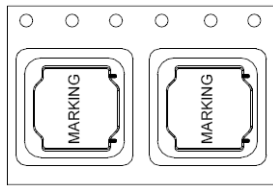
◆Packaging and Marking:

1. Carrier Tape Dimensions:

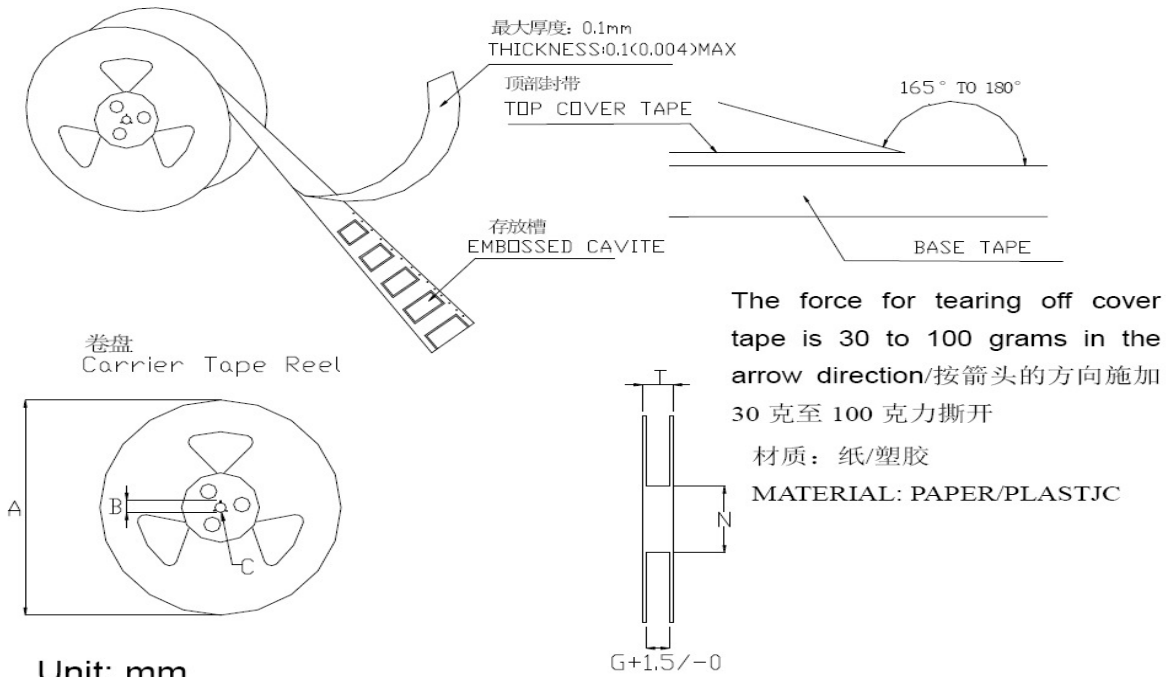


ITEM	W	A0	B0	K	P1	F	E	D0	P0	P2	T
DIM	12.00	6.3	6.3	4.7	8.00	5.50	1.75	1.50	4.00	2.00	0.40
TOLE	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	±0.1	±0.1	±0.05

2. Taping Dimensions:



3. Reel Dimensions:



Type	A	B	C	G	N	T
12mm	330	21±0.8	13±0.4	12.4	100	16.4

4. Packaging Quantity:

Standard Packing Quantity: 1500 pcs/reel