



◆ **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**

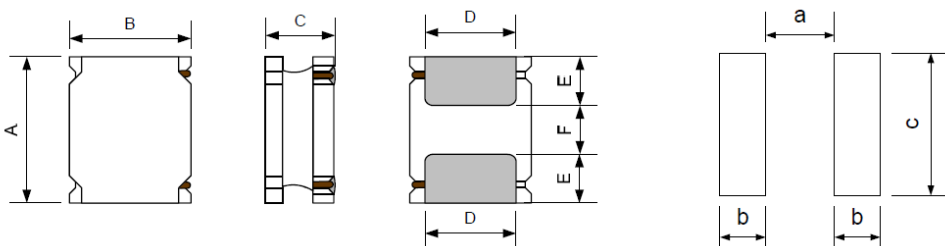
- 1、LED Lighting;
- 2、Mobile devices with multifunction such as adding color TV and camera;
- 3、Flat-screen TVs, blue-ray disc recorders, set top boxes;
- 4、Notebooks, desktop computers, servers, graphic cards;
- 5、Portable gaming devices, personal navigation systems, personal multimedia devices;
- 6、Automotive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

◆ **Lead Free Part Numbering**

**CMLW 4030 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.
CMLW4030S	4.0±0.2	4.0±0.2	3.0Max.	3.3±0.2	0.95±0.2	2.10±0.2	1.9	1.1	3.7

◆ **Electrical Characteristics**

- 1) Operating temperature range (Including self-heating): -40°C ~ +125°C
- 2) Storage temperature range (packaging conditions): -10°C~+40°C and RH 70% (Max.)

◆ **Construction and material**



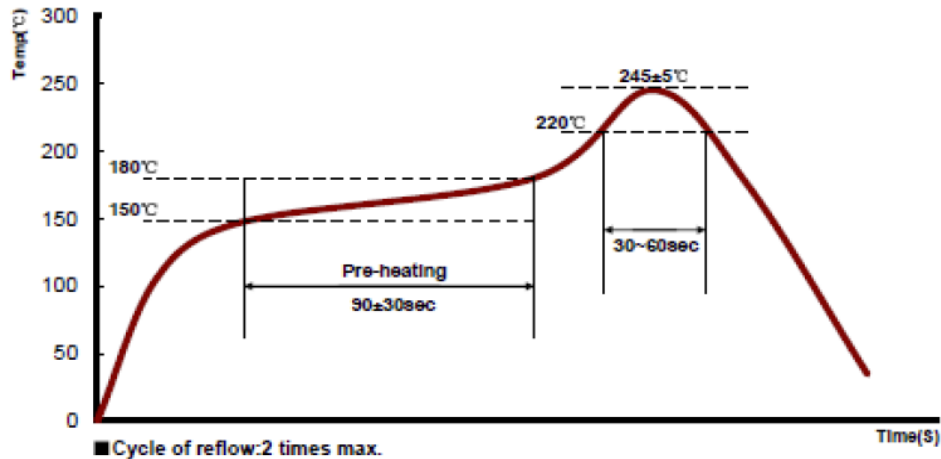
Code	Part Name	Material Name
①	Ferrite Core	Ni-Zn Ferrite
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	Plating Electrodes	Ag
		Ni
		Sn
⑤	Outer Electrodes	Top surface solder coating Sn、Ag、Cu

◆ **REFLOW-PROFILE**

**Limit Profile**



**Standard Profile (for EOC Solder paste S70G-HF)**



◆ Specification

Part Number	Inductance @100KHz, 1V ( $\mu$ H)	DC Resistance $\pm 30\%$ ( $\Omega$ )	Min.Self-resonant Frequency (MHz)	Saturation Current(A)	Heat Rating Current (A)
		DCR	S.R.F	Isat	Irms
<b>CMLW4030S Series</b>					
CMLW4030SR68NST	0.68 $\pm 30\%$	0.010	130	6.80	4.56
CMLW4030S1R0MST	1.0 $\pm 20\%$	0.014	80	5.46	4.15
CMLW4030S1R2MST	1.2 $\pm 20\%$	0.015	80	5.26	3.82
CMLW4030S1R5MST	1.5 $\pm 20\%$	0.020	62	5.14	3.34
CMLW4030S1R8MST	1.8 $\pm 20\%$	0.025	62	5.14	3.26
CMLW4030S2R2MST	2.2 $\pm 20\%$	0.030	52	4.90	2.95
CMLW4030S3R3MST	3.3 $\pm 20\%$	0.040	38	3.30	2.40
CMLW4030S4R7MST	4.7 $\pm 20\%$	0.060	31	2.90	2.00
CMLW4030S5R6MST	5.6 $\pm 20\%$	0.065	30	2.60	1.95
CMLW4030S6R8MST	6.8 $\pm 20\%$	0.090	24	2.75	1.60
CMLW4030S100MST	10 $\pm 20\%$	0.100	21	1.95	1.50
CMLW4030S120MST	12 $\pm 20\%$	0.135	18	1.70	1.30
CMLW4030S150MST	15 $\pm 20\%$	0.190	16	1.65	1.11
CMLW4030S180MST	18 $\pm 20\%$	0.200	10	1.40	1.10
CMLW4030S220MST	22 $\pm 20\%$	0.225	10	1.30	1.00
CMLW4030S330MST	33 $\pm 20\%$	0.330	10	1.10	0.84
CMLW4030S470MST	47 $\pm 20\%$	0.445	8.4	0.95	0.72
CMLW4030S560MST	56 $\pm 20\%$	0.555	8.4	0.85	0.65
CMLW4030S680MST	68 $\pm 20\%$	0.868	7	0.72	0.52
CMLW4030S750MST	75 $\pm 20\%$	1.020	6.3	0.70	0.48
CMLW4030S820MST	82 $\pm 20\%$	1.060	5.6	0.66	0.47
CMLW4030S101MST	100 $\pm 20\%$	1.150	5.6	0.60	0.45
CMLW4030S121MST	120 $\pm 20\%$	1.350	5.4	0.55	0.42
CMLW4030S151MST	150 $\pm 20\%$	1.800	4	0.50	0.30
CMLW4030S471MST	470 $\pm 20\%$	7.200	2	0.30	0.20
CMLW4030S681MST	680 $\pm 20\%$	7.580	1.2	0.19	0.14

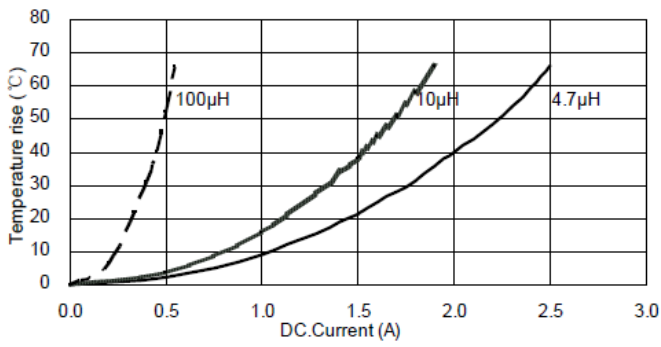
◆ Note

- 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 ( $\Delta T = 40^\circ C$ ) from 20°C ambient.

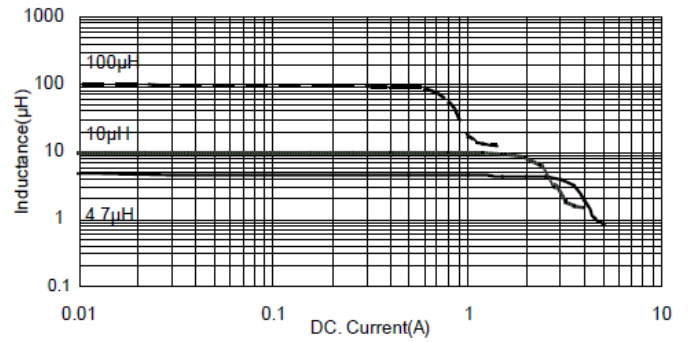
◆ TYPICAL ELECTRICAL CHARACTERISTICS

**CMLW4030 Series**

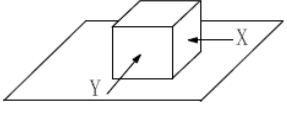
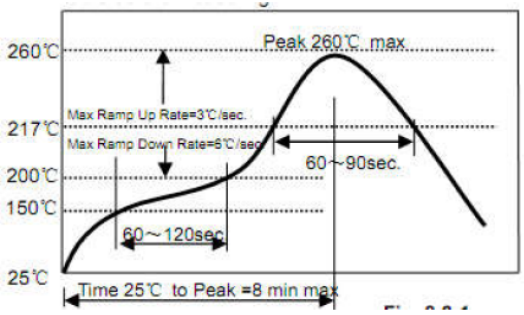
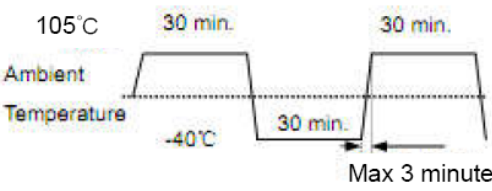
Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

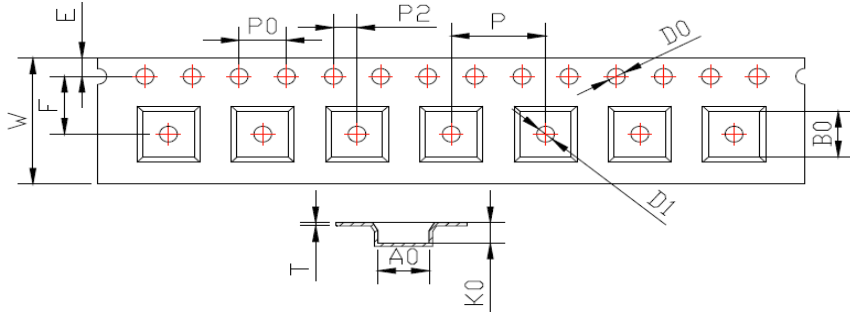


◆ Reliability Test

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

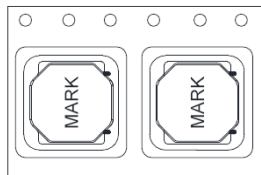
### ◆Packaging and Marking:

#### 1. Carrier Tape Dimensions:

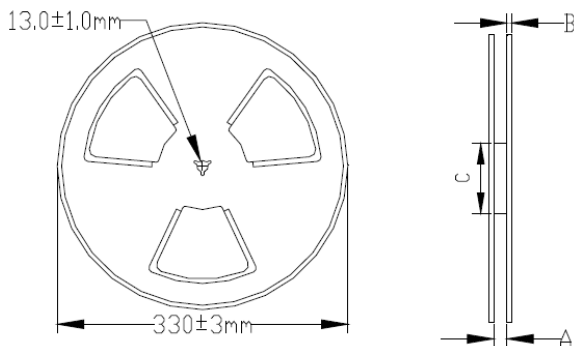
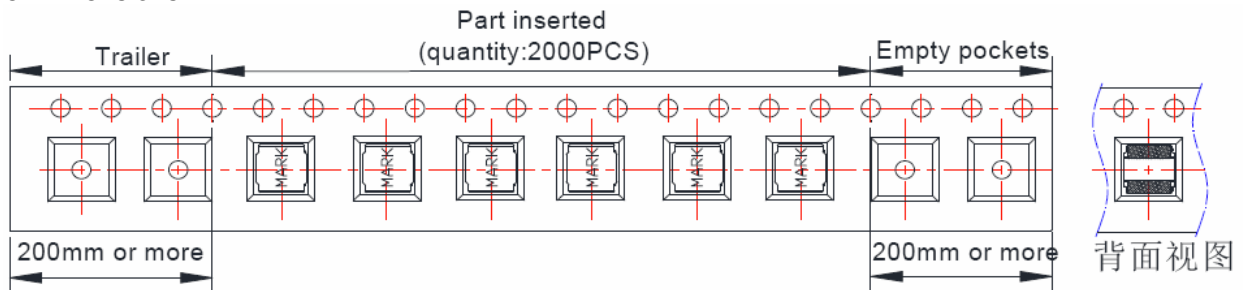


ITEM	W	A0	B0	K0	P	F	E	D0	D1	P0	P2	T
DIM	12.00	4.5	4.5	3.2	8.00	5.50	1.75	1.50	1.50	4.00	2.00	0.30
TOLE	+0.30 -0.10	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	+0.1	±0.1	±0.1	±0.05

#### 2. Taping Dimensions:



#### 3. Reel Dimensions:



Unit: mm

Type	A	B	C
12mm	12.5±1	2.2±1	100±1

#### 4. Packaging Quantity:

Standard Packing Quantity: 2000 pcs/reel