



◆ 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
4. Small and low profile inductor;
5. Take up less PCB real estate and save more power.



◆ Applications

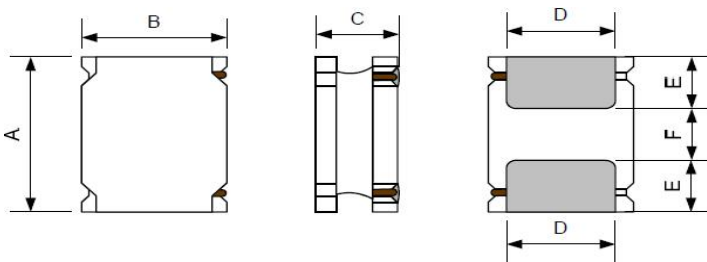
1. Smart phone;
2. Mobile devices with multifunction such as adding color TV and camera;
3. Flat-screen TVs, blue-ray disc recorders, set top boxes;
4. Notebooks, desktop computers, servers, graphic cards;
5. Portable gaming devices, personal navigation systems, personal multimedia devices;
6. Automotive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

◆ Lead Free Part Numbering

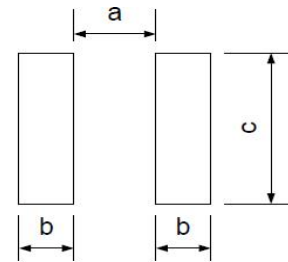
CMLW 4012 P 2R2 M S T  
(1) (2) (3) (4) (5) (6) (7)

- (1) Series Type
- (2) Dimension : L×W×H(4.0×4.0×1.2mm)
- (3) Material Code
- (4) Inductance: R47=0.47μH ;  
2R2=2.2μH; 100=10μH
- (5) Inductance Tolerance: M=±20%, N=±30%
- (6) Company Code
- (7) Packaging : Tape Carrier Package

◆ Dimensions



Recommended Land Pattern



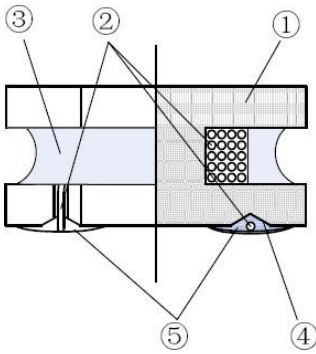
Unit:mm

Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
CMLW4012P	4.0±0.2	4.0±0.2	1.2Max.	3.3±0.2	0.95±0.2	2.10±0.2	1.90	1.10	3.7

◆ Electrical Characteristics

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

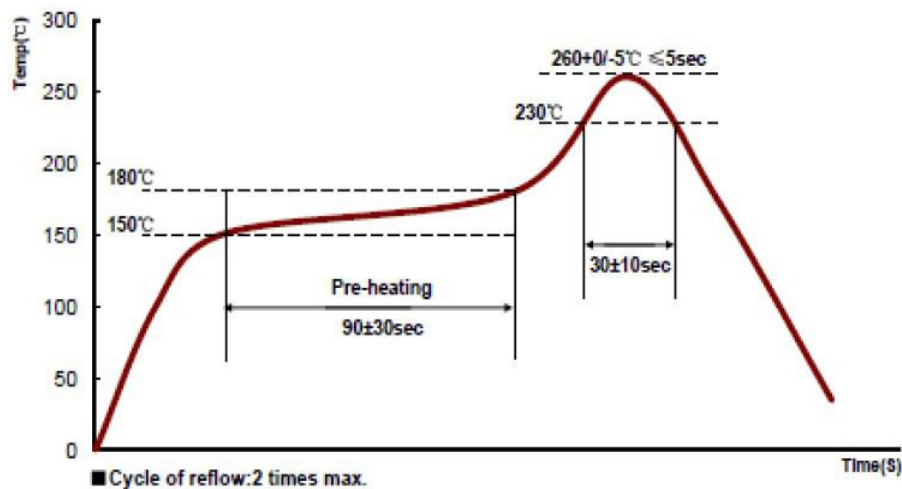
◆ Construction and material



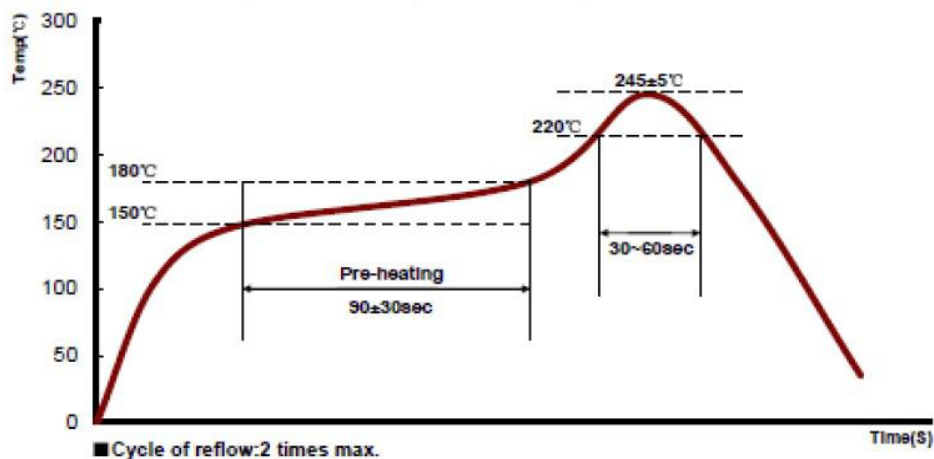
No.	Components	Material
①	Core	Soft magnetic Metal
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	substrate	FeNiCu/Ag or Ag/Ni/Sn
⑤	Top Electrodes	Sn alloy
⑥	Marking	Nitrocellulose

◆ REFLOW-PROFILE

Limit Profile



Standard Profile (for EOC Solder paste S70G-HF)



◆ Specification

Part Number	Inductance @100KHz,1V ( $\mu\text{H}$ )	DC Resistance( $\text{m}\Omega$ )		Saturation Current Typ. (A)	Heat Rating Current Typ. (A)
		Max.	Typ.		
		DCR		Isat	Irms
CMLW4012P Series					
CMLW4012PR47MST	0.47 $\pm$ 20%	43	36	7.50	3.70
CMLW4012PR68MST	0.68 $\pm$ 20%	60	46	6.90	3.50
CMLW4012P1R0MST	1.00 $\pm$ 20%	65	51	5.40	3.30
CMLW4012P1R5MST	1.50 $\pm$ 20%	86	64	4.00	3.00
CMLW4012P2R2MST	2.20 $\pm$ 20%	110	110	3.20	2.80
CMLW4012P3R3MST	3.30 $\pm$ 20%	150	120	2.90	2.60
CMLW4012P4R7MST	4.70 $\pm$ 20%	195	135	2.60	2.30
CMLW4012P6R8MST	6.80 $\pm$ 20%	230	185	2.00	1.80
CMLW4012P100MST	10.00 $\pm$ 20%	310	250	1.80	1.60
CMLW4012P150MST	15.00 $\pm$ 20%	500	400	1.50	1.25
CMLW4012P220MST	22.00 $\pm$ 20%	680	530	1.20	1.10

◆ Note

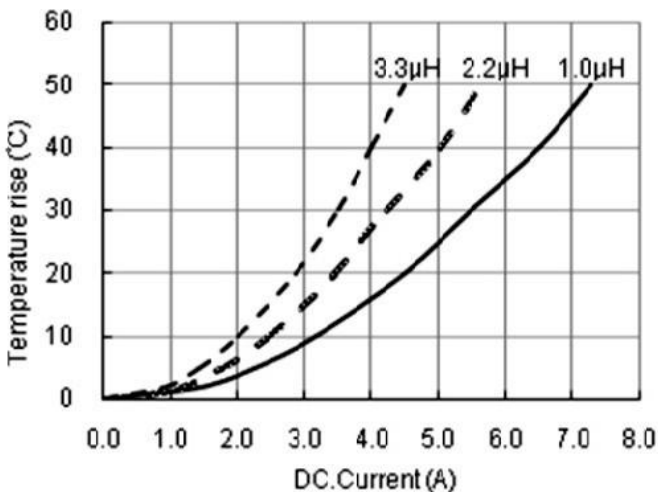
- 1 : All test data is referenced to 20°C ambient; 2 : Rated current: Isat or Irms, whichever is smaller;
- 3 : Isat: DC current at which the inductance drops approximate 30% from its value without current; 4 : Irms: DC current that causes the temperature rise ( $\Delta\text{T} = 40^\circ\text{C}$ )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

◆ Standard Packing Quantity: 4000 pcs/reel

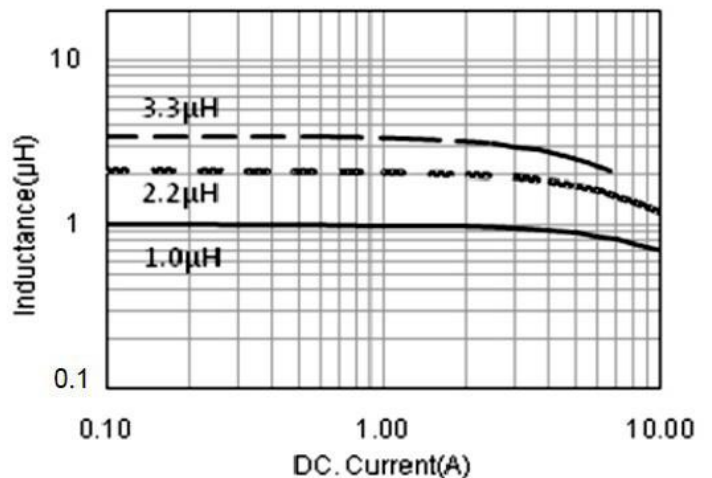
◆ TYPICAL ELECTRICAL CHARACTERISTICS

CMLW4012P Series

Temperature vs.DC Current Characteristics



Inductance vs.DC Current Characteristics



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