



◆ **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**

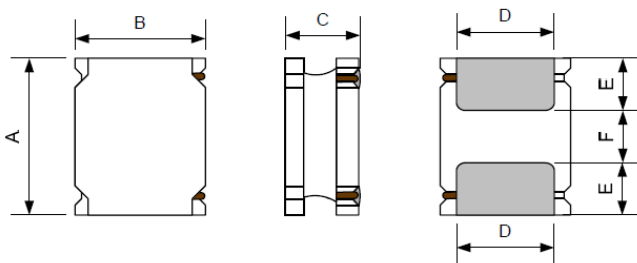
- 1、LED Lighting;
- 2、Mobile devices with multifunction such as adding color TV and camera;
- 3、Flat-screen TVs, blue-ray disc recorders, set top boxes;
- 4、Notebooks, desktop computers, servers, graphic cards;
- 5、Portable gaming devices, personal navigation systems, personal multimedia devices;
- 6、Automotive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

◆ **Lead Free Part Numbering**

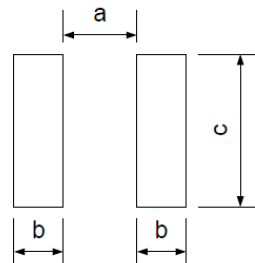
**CMLW 5012 S 100 M S T**  
**(1) (2) (3) (4) (5) (6) (7)**

- (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



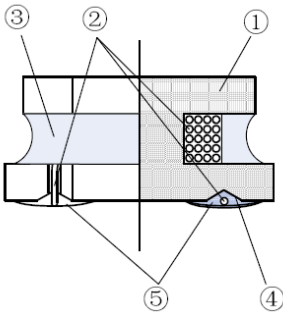
Unit:mm

| Series           | A       | B       | C       | D       | E        | F        | a Typ. | b Typ. | c Typ. |
|------------------|---------|---------|---------|---------|----------|----------|--------|--------|--------|
| <b>CMLW5012S</b> | 5.0±0.2 | 5.0±0.2 | 1.2Max. | 4.0±0.2 | 1.25±0.2 | 2.50±0.2 | 2.3    | 1.4    | 4.2    |

◆ **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<br>@100KHz,1<br>V (μH) | DC Resistance<br>±30% (Ω) | Min.Self-resonaNST<br>Frequency (MHz) | Saturation<br>CurreNST(A) | Heat Rating<br>CurreNST (A) |
|------------------------|-----------------------------------|---------------------------|---------------------------------------|---------------------------|-----------------------------|
|                        |                                   | DCR                       | S.R.F                                 | Isat                      | Irms                        |
| <b>CMLW5012 Series</b> |                                   |                           |                                       |                           |                             |
| CMLW5012S1R0MST        | 1.0±20%                           | 0.057                     | 103                                   | 4.40                      | 2.90                        |
| CMLW5012S1R5MST        | 1.5±20%                           | 0.072                     | 68                                    | 3.70                      | 2.50                        |
| CMLW5012S2R2MST        | 2.2±20%                           | 0.085                     | 50                                    | 3.10                      | 2.10                        |
| CMLW5012S3R3MST        | 3.3±20%                           | 0.126                     | 34                                    | 2.40                      | 1.80                        |
| CMLW5012S4R7MST        | 4.7±20%                           | 0.164                     | 31                                    | 2.20                      | 1.65                        |
| CMLW5012S6R8MST        | 6.8±20%                           | 0.245                     | 22                                    | 1.70                      | 1.30                        |
| CMLW5012S100MST        | 10±20%                            | 0.344                     | 17                                    | 1.40                      | 1.10                        |
| CMLW5012S150MST        | 15±20%                            | 0.436                     | 13                                    | 1.20                      | 0.90                        |

◆ **Note**

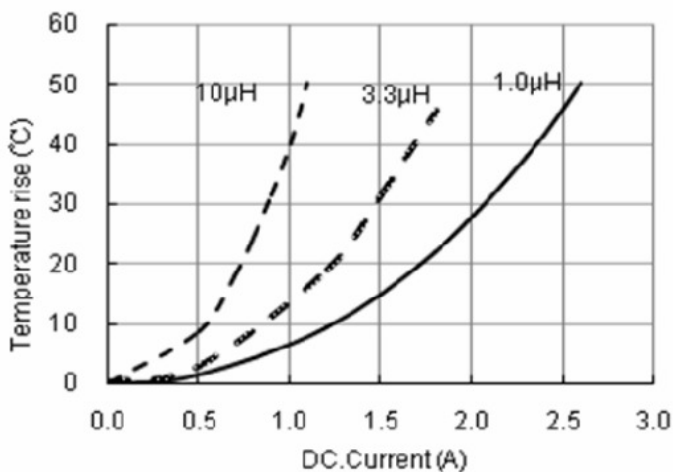
- 1: All test data is referenced to 20°C ambieNST;
- 2: Rated curreNST: Isat or Irms, whichever is smaller;
- 3: Isat: DC curreNST at which the inductance drops approximate 30% from its value without curreNST;
- 4: Irms: DC curreNST that causes the temperature rise (ΔT =40°C) from 20°C ambieNST.

◆ **Standard Packing Quantity: 1000 pcs/reel**

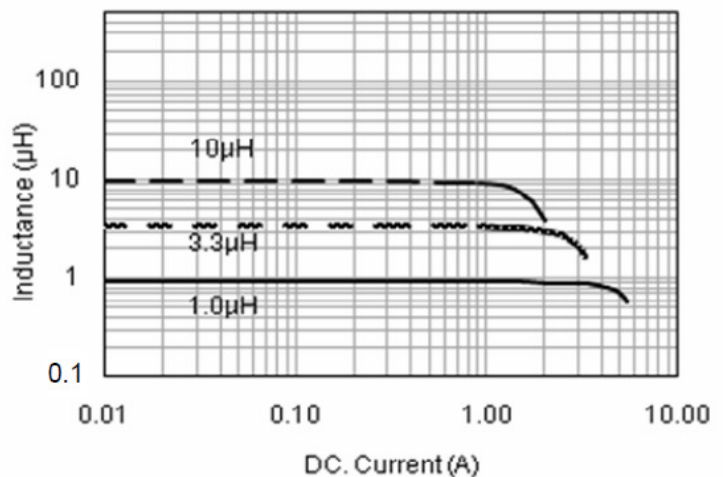
◆ **TYPICAL ELECTRICAL CHARACTERISTICS**

**CMLW5012 Series**

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics



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