

## Wire Wound SMD Power Inductor



### ◆ 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

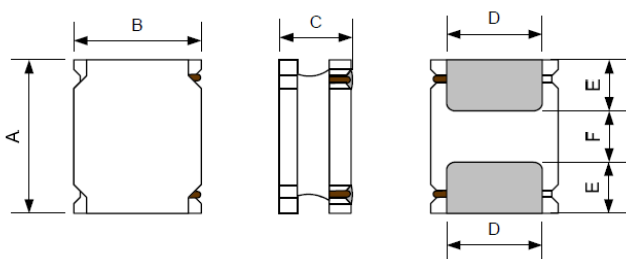
- 1、LED Lighting;
- 2、Mobile devices with multifunction such as adding color TV and camera;
- 3、Flat-screen TVs, blue-ray disc recorders, set top boxes;
- 4、Notebooks, desktop computers, servers, graphic cards;
- 5、Portable gaming devices, personal navigation systems, personal multimedia devices;
- 6、Automotive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

### ◆ Lead Free Part Numbering

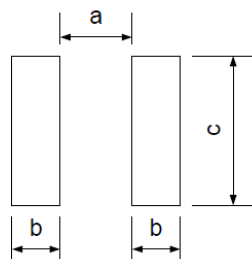
**SLW 5040 S 100 M S T**  
**(1) (2) (3) (4) (5) (6) (7)**

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

### ◆ Dimensions



Recommended Land Pattern



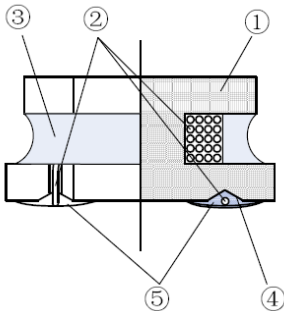
Unit:mm

| Series   | A             | B             | C       | D             | E              | F              | a Typ. | b Typ. | c Typ. |
|----------|---------------|---------------|---------|---------------|----------------|----------------|--------|--------|--------|
| SLW5040S | 5.0 $\pm$ 0.2 | 5.0 $\pm$ 0.2 | 4.0Max. | 4.0 $\pm$ 0.2 | 1.25 $\pm$ 0.2 | 2.50 $\pm$ 0.2 | 2.1    | 1.5    | 4.4    |

## ◆ Electrical Characteristics

- 1) Operating temperature range (Including self-heating):  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- 2) Storage temperature range (packaging conditions):  $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$  and RH 70% (Max.)

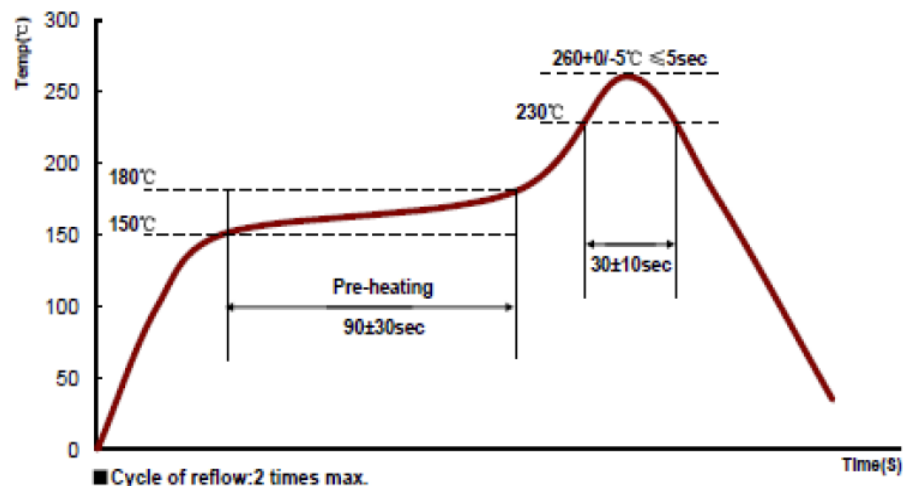
## ◆ Construction and material



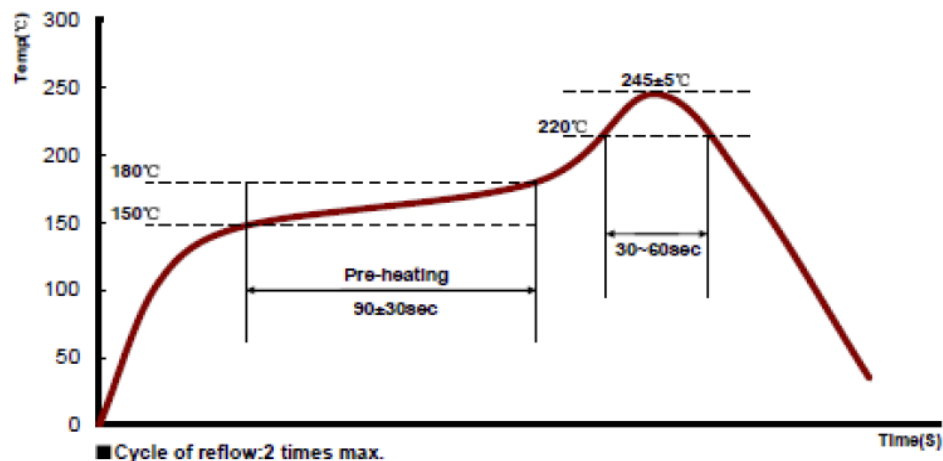
| Code | Part Name          | Material Name                            |
|------|--------------------|--|
| ①    | Ferrite Core       | Ni-Zn Ferrite                            |
| ②    | Wire               | Polyurethane system enameled copper wire |
| ③    | Magnetic Glue      | Epoxy resin and magnetic 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, 1V<br>( $\mu$ H) | DC Resistance<br>$\pm 30\%$ ( $\Omega$ ) | Min.Self-resonant<br>Frequency (MHz) | Saturation<br>Current(A) | Heat Rating<br>Current (A) |
|-----------------------|---|--|--------------------------------------|--------------------------|----------------------------|
|                       |   | DCR                                      | S.R.F                                | Isat                     | Irms                       |
| <b>SLW5040 Series</b> |   |  |                                      |                          |                            |
| SLW5040S1R0MST        | 1.0 $\pm 20\%$                          | 0.012                                    | 117                                  | 7.35                     | 4.90                       |
| SLW5040S1R5MST        | 1.5 $\pm 20\%$                          | 0.013                                    | 86                                   | 7.30                     | 4.45                       |
| SLW5040S2R2MST        | 2.2 $\pm 20\%$                          | 0.017                                    | 42                                   | 6.50                     | 3.95                       |
| SLW5040S3R3MST        | 3.3 $\pm 20\%$                          | 0.025                                    | 32                                   | 5.10                     | 3.40                       |
| SLW5040S4R7MST        | 4.7 $\pm 20\%$                          | 0.029                                    | 28                                   | 4.40                     | 3.10                       |
| SLW5040S5R6MST        | 5.6 $\pm 20\%$                          | 0.035                                    | 27                                   | 3.70                     | 2.80                       |
| SLW5040S6R8MST        | 6.8 $\pm 20\%$                          | 0.043                                    | 21                                   | 3.80                     | 2.40                       |
| SLW5040S8R2MST        | 8.2 $\pm 20\%$                          | 0.048                                    | 20                                   | 2.70                     | 2.30                       |
| SLW5040S100MST        | 10 $\pm 20\%$                           | 0.055                                    | 18                                   | 2.90                     | 2.10                       |
| SLW5040S150MST        | 15 $\pm 20\%$                           | 0.089                                    | 13                                   | 2.30                     | 1.60                       |
| SLW5040S220MST        | 22 $\pm 20\%$                           | 0.126                                    | 9                                    | 1.90                     | 1.40                       |
| SLW5040S330MST        | 33 $\pm 20\%$                           | 0.192                                    | 7                                    | 1.60                     | 1.20                       |
| SLW5040S470MST        | 47 $\pm 20\%$                           | 0.283                                    | 6                                    | 1.30                     | 0.94                       |
| SLW5040S680MST        | 68 $\pm 20\%$                           | 0.520                                    | 5                                    | 1.10                     | 0.90                       |
| SLW5040S101MST        | 100 $\pm 20\%$                          | 0.728                                    | 4                                    | 0.80                     | 0.75                       |
| SLW5040S151MST        | 150 $\pm 20\%$                          | 0.915                                    | 2                                    | 0.60                     | 0.50                       |
| SLW5040S221MST        | 220 $\pm 20\%$                          | 1.550                                    | 2                                    | 0.55                     | 0.45                       |
| SLW5040S331MST        | 330 $\pm 20\%$                          | 3.020                                    | 2                                    | 0.45                     | 0.38                       |
| SLW5040S471MST        | 470 $\pm 20\%$                          | 3.600                                    | 1                                    | 0.40                     | 0.35                       |
| SLW5040S561MST        | 560 $\pm 20\%$                          | 4.160                                    | 1                                    | 0.35                     | 0.33                       |
| SLW5040S102MST        | 1000 $\pm 20\%$                         | 8.640                                    | 1                                    | 0.30                     | 0.25                       |

### ◆ Note

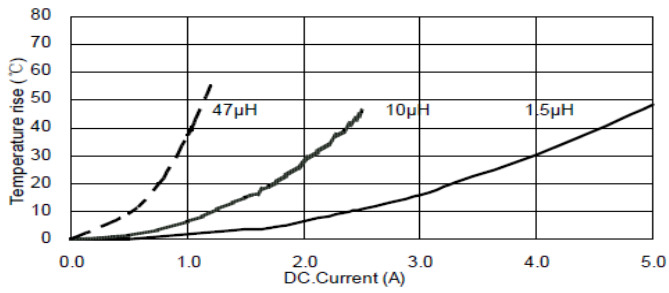
- 1: All test data is referenced to 20°C ambient;
- 2: Rated current: Isat or Irms, whichever is smaller;
- 3: Isat: DC current at which the inductance drops approximate 30% from its value without current;
- 4: Irms: DC current that causes the temperature rise ( $\Delta T = 40^\circ\text{C}$ ) from 20°C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

◆ Standard Packing Quantity: 1500 pcs/reel

◆ TYPICAL ELECTRICAL CHARACTERISTICS

### SLW5040S Series

Temperature vs. DC Current Characteristics



Inductance vs. DC Current Characteristics

