



### ◆ 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

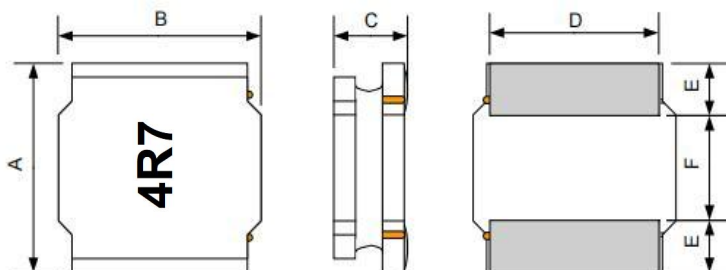
- 1、LED Lighting;
- 2、Mobile devices with multifunction such as adding color TV and camera;
- 3、Flat-screen TVs, blue-ray disc recorders, set top boxes;
- 4、Notebooks, desktop computers, servers, graphic cards;
- 5、Portable gaming devices, personal navigation systems, personal multimedia devices;
- 6、Automotive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

### ◆ Lead Free Part Numbering

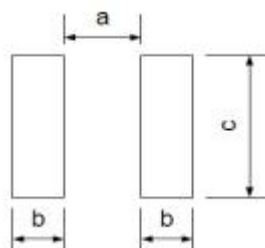
SLW	5040	S	2R2	M	S	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)

- (1) Series Type
- (2) Dimension: L × W × 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



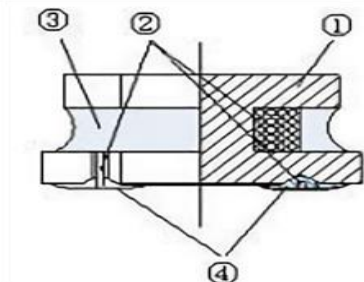
Unit:mm

Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
SLW5040S	5.0±0.2	5.0±0.2	4.0Max.	4.0±0.2	1.25±0.2	2.5±0.2	2.30	1.40	4.2

## ◆ Electrical Characteristics

- 1) Operating temperature range (Including self-heating):  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- 2) Storage temperature range (packaging conditions):  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$  and RH 70% (Max.)

## ◆ Construction and material



Code	Components	Material
①	Core	Ni-Zn Ferrite
②	Wire	Polyurethane system enameled copper wire
③	Magnetic Glue	Epoxy resin and magnetic powder
④	Plating	AgNiSn or FeNiCu + Sn Alloy

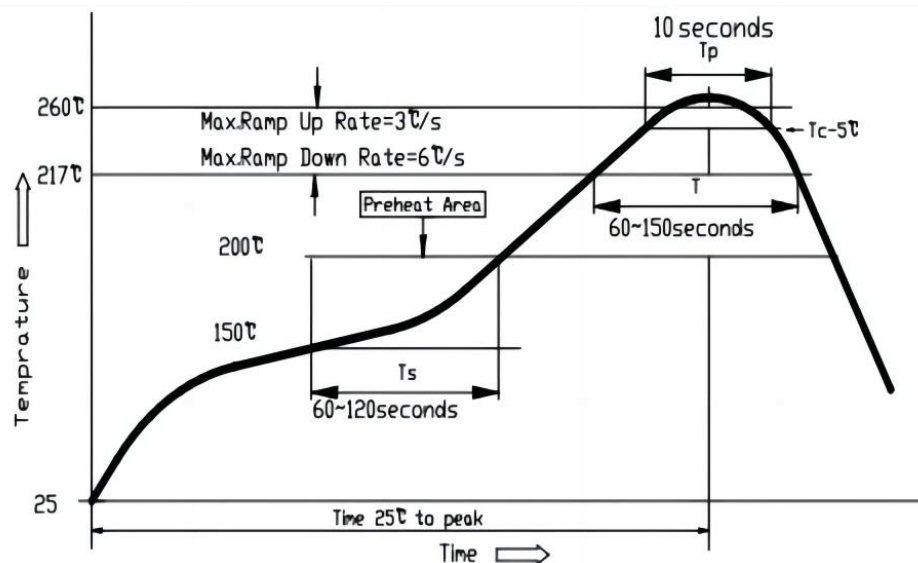
## ◆ SOLDERING CONDITIONS

Applicable soldering process to the products is refl.

### 1. Soldering Materials

- (1) Solder: Sn-3.0Ag-0.5Cu
- (2) Flux: Use rosin-based flux, but not strongly acidic flux (with chlorine exceeding 0.2wt%). Do not use water soluble flux.

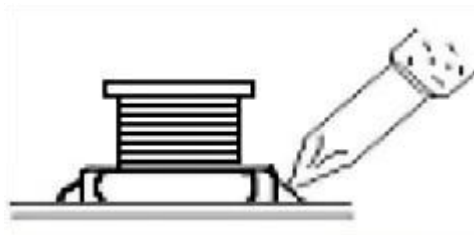
### 2. Reflow Soldering Profile



### 3. Soldering Iron

Reworking with electric soldering iron must preheating at  $150^{\circ}\text{C}$  for 1 minute is required, and do not directly touch the core with the tip of the soldering iron. The reworking soldering conditions are as follows.

- ① Temperature of soldering iron tip:  $350^{\circ}\text{C}$ ;
- ② Soldering iron power output:  $\leq 30\text{W}$ ;
- ③ Diameter of soldering iron end:  $\leq 1.0\text{mm}$ ;
- ④ Soldering time:  $< 3\text{ s}$



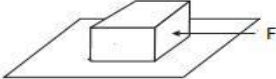
## ◆ Specification

Part Number	Inductance @100KHz,1V (uH)	DC Resistance(Ω)		Saturation Current(A)		Heat Rating Current(A)	
		Max.	Typ.	Max.	Typ.	Max.	Typ.
		DCR		Isat		Irms	
SLW5040S Series							
SLW5040S1R0MST	1.0±20%	0.018	0.014	7.35	8.00	4.90	5.00
SLW5040S1R5MST	1.5±20%	0.020	0.016	6.30	6.80	4.30	4.80
SLW5040S2R2MST	2.2±20%	0.027	0.021	4.90	5.50	3.80	4.20
SLW5040S3R3MST	3.3±20%	0.031	0.025	3.95	4.45	3.40	3.90
SLW5040S4R7MST	4.7±20%	0.041	0.035	3.50	3.90	3.00	3.30
SLW5040S6R8MST	6.8±20%	0.056	0.045	2.90	3.50	2.50	2.80
SLW5040S8R2MST	8.2±20%	0.062	0.059	2.70	3.00	2.30	2.60
SLW5040S100MST	10±20%	0.083	0.069	2.35	2.90	2.10	2.40
SLW5040S150MST	15±20%	0.112	0.096	2.00	2.20	2.00	2.05
SLW5040S220MST	22±20%	0.168	0.151	1.60	1.90	1.50	1.60
SLW5040S330MST	33±20%	0.244	0.213	1.30	1.50	1.20	1.40
SLW5040S470MST	47±20%	0.354	0.313	1.10	1.30	1.00	1.10
SLW5040S680MST	68±20%	0.520	0.430	0.90	1.10	0.80	0.90
SLW5040S101MST	100±20%	0.728	0.505	0.75	0.85	0.70	0.80
SLW5040S151MST	150±20%	0.975	0.840	0.65	0.67	0.60	0.70
SLW5040S221MST	220±20%	1.820	1.460	0.48	0.55	0.40	0.50
SLW5040S331MST	330±20%	2.600	2.340	0.42	0.47	0.40	0.50
SLW5040S471MST	470±20%	3.900	3.150	0.37	0.43	0.35	0.40
SLW5040S681MST	680±20%	5.070	3.830	0.30	0.35	0.25	0.30
SLW5040S102MST	102±20%	7.800	6.030	0.25	0.30	0.20	0.23

## ◆ Note

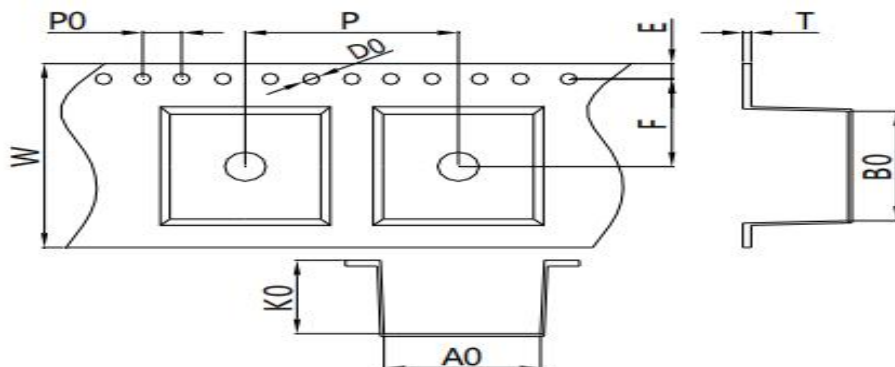
- 1: All test data is referenced to 20°C ambient;
- 2: Rated current: Isat or Irms, whichever is smaller;
- 3: Isat: DC current at which the inductance drops approximate 30% from its value without current;
- 4: Irms: DC current that causes the temperature rise ( $\Delta T = 40^\circ\text{C}$ ) from 20°C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

## ◆ RELIABILITY TEST

TEST ITEM	SPECIFICATION	TEST CONDITION
High temperature Storage test	1. No significant defects in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$	Temperature: $12^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (N: Follow the product specification for the setting.) Time : $96 \pm 2$ hours Place the samples for one hour at room temperature and test them within two hours
Low temperature Storage test	1. No significant defects in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$	Temperature: $-40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (M: Follow the product specification for the setting) Time : $96 \pm 2$ hours Place the samples for one hour at room temperature and test them within two hours.
Humidity test	1. No significant defects in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$	Temperature: $40 \pm 2^{\circ}\text{C}$ , Humidity: $93 \pm 3\% \text{RH}$ Time : $96 \pm 2$ hours Place the samples for one hour at room temperature and test them within two hours
Solderability test	Terminals must have 95% minimum solder coverage	1. Dip pads in flux then dip in solder pot at $245 \pm 5^{\circ}\text{C}$ for 5 second. 2. Solder: lead free 3. Flux: rosin flux
Heat endurance of flow soldering	1. No significant defects in appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta DCR/DCR \leq 10\%$	1. Refer to the above reflow curve and go through the reflow for twice. 2. The peak temperature : $260 \pm 0/-5^{\circ}\text{C}$
Vibration test	1. No significant defects in appearance. 2. No short and no open.	Apply frequency 10~55~10Hz and amplitude 1.5mm, 1 min/cycle in X Y and Z direction for 2 hours each. (total 6 hours)
Terminal strength push test	1. Applied force: 10N Duration: 10sec 2. Solder paste thickness: 0.12mm 3. Meet the above requirements without any loose terminal	solder the test samples to the PCB through $245^{\circ}\text{C}$ reflow, apply a standard force on the side of the test samples for 10 seconds. 

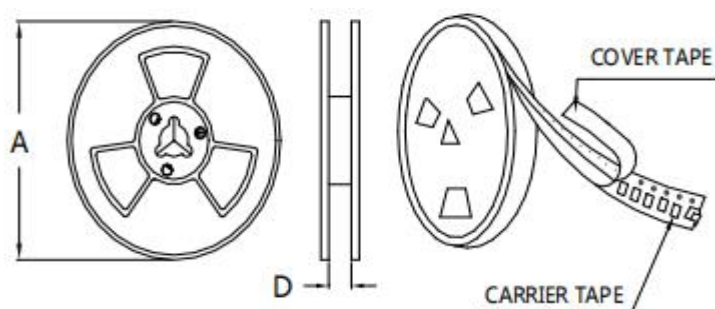
## ◆ Packaging and Marking:

### 1. Carrier Tape Dimensions:



Item	W	A0	B0	K0	P	T	E	F	D0	P0
DIM(mm)	12 ± 0.2	5.5 ± 0.3	5.5 ± 0.3	4.4 ± 0.2	8.0 ± 0.3	0.4 ± 0.1	1.75 ± 0.1	5.5 ± 0.2	1.5 ± 0.1	4.0 ± 0.2

### 2. Reel Dimensions:



A	D
330	12.5

### 3. Packaging Quantity:

Standard Packing Quantity: 1500pcs/reel