

Wire Wound SMD Power Inductor



◆ Features

- 1、Metallization on ferrite core results in excellent shock resistance and damage-free durability;
- 2、Closed magnetic circuit design reduces leakage flux and Electro Magnetic Interference (EMI);
- 3、Low DCR decreases power loss, small and slim take up less PCB real estate;
- 4、Automatic production ensures high quality and consistency;



◆ Applications

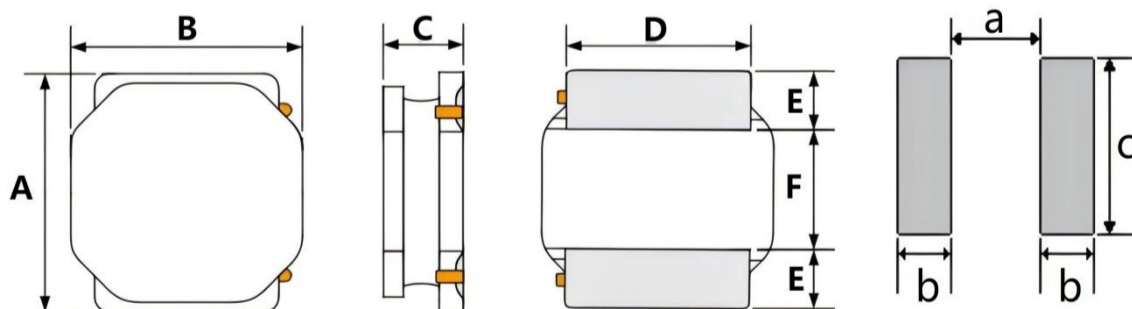
- 1、LED Lighting;
- 2、Mobile devices with multifunction such as adding color TV and camera;
- 3、Flat-screen TVs, blue-ray disc recorders, set top boxes;
- 4、Notebooks, desktop computers, servers, graphic cards;
- 5、Portable gaming devices, personal navigation systems, personal multimedia devices;
- 6、Automotive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

◆ Lead Free Part Numbering

SLW 4018 S 2R2 M S T
(1) (2) (3) (4) (5) (6) (7)

- (1) Series Type
- (2) Dimension: A×B×C
- (3) Material Code
- (4) Inductance: 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.
SLW4018S	4.0±0.2	4.0±0.2	1.8 Max.	3.3±0.2	0.95±0.2	2.1±0.2	1.9	1.1	3.7

◆ Electrical Characteristics

- 1、Operating temperature range (individual chip without packing): $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (Including Self-heating) .
- 2、Storage temperature range (packaging conditions): $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ and RH 70% (Max.).

◆ Construction and material

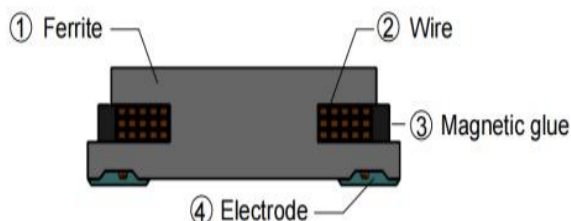


Fig.1 Body Structure

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	Outer Electrodes	Top surface solder coating Sn、Ag、Cu

◆ SOLDERING CONDITIONS

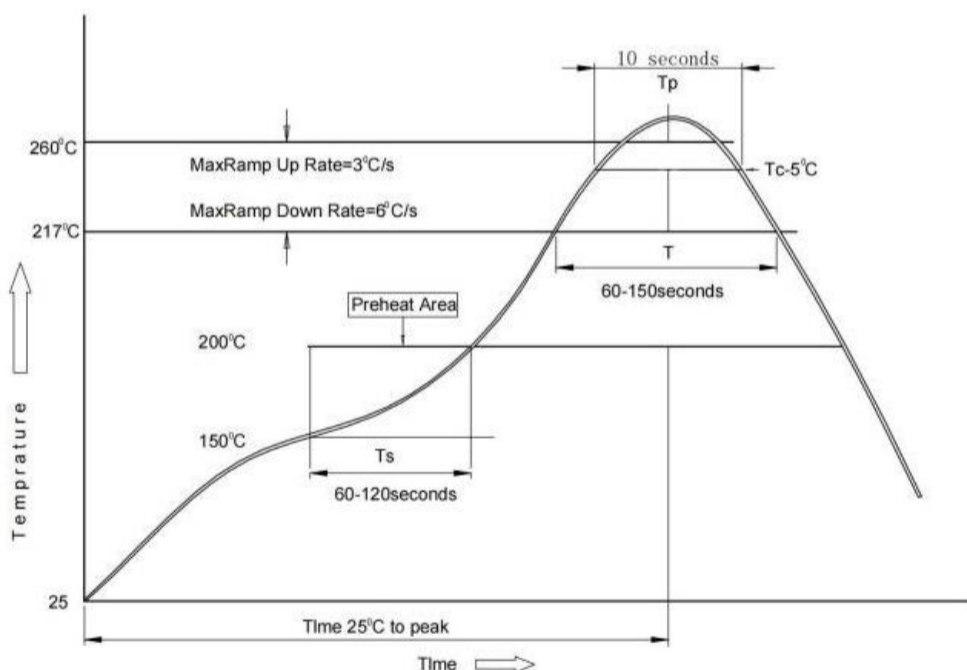
Applicable soldering process to the products is reflow

1、Soldering Materials

(1)Solder:Sn-3.0Ag-0.5Cu

(2)Flux:Use rosin-based flux,but not strongly acidic flux (with xhlorine exceeding 0.2wt%).Do not use water soluble flux.

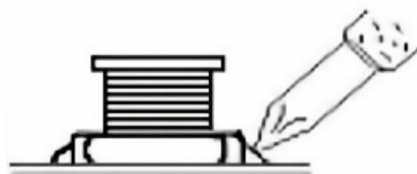
2、Reflow Soldering Profile



3、Soldering Iron

Reworking with electric soldering iron must preheating at 150°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.

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



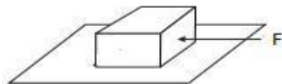
◆ Specification

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	
SLW4018S Series							
SLW4018SR47NST	0.47±30%	0.018	0.014	4.30	5.20	4.00	4.50
SLW4018SR68NST	0.68±30%	0.026	0.020	4.90	5.60	3.30	3.80
SLW4018S1R0MST	1.0±20%	0.033	0.025	4.80	5.20	2.00	3.30
SLW4018S1R5MST	1.5±20%	0.039	0.030	3.35	4.00	1.80	3.20
SLW4018S2R2MST	2.2±20%	0.059	0.045	2.70	3.20	1.65	2.60
SLW4018S3R3MST	3.3±20%	0.091	0.070	2.45	2.90	1.23	2.10
SLW4018S4R7MST	4.7±20%	0.117	0.090	1.70	2.20	1.20	1.80
SLW4018S6R8MST	6.8±20%	0.143	0.110	1.45	2.00	1.06	1.50
SLW4018S100MST	10±20%	0.234	0.180	1.30	1.60	0.84	1.20
SLW4018S150MST	15±20%	0.325	0.250	0.94	1.10	0.65	1.00
SLW4018S220MST	22±20%	0.468	0.360	0.80	0.88	0.59	0.85
SLW4018S330MST	33±20%	0.689	0.530	0.56	0.75	0.49	0.72
SLW4018S470MST	47±20%	0.845	0.650	0.57	0.70	0.42	0.65
SLW4018S680MST	68±20%	1.300	1.000	0.47	0.51	0.32	0.52
SLW4018S101MST	100±20%	2.275	1.750	0.40	0.44	0.25	0.41
SLW4018S151MST	150±20%	3.250	2.500	0.31	0.34	0.22	0.36
SLW4018S221MST	220±20%	5.200	4.00	0.27	0.30	0.17	0.27

Notes

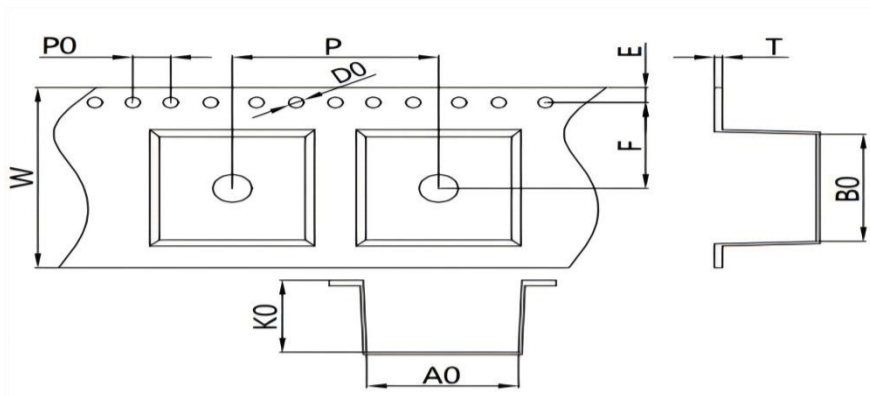
1. All test data is referenced to 25 °C ambient.
2. Isat: DC current at which the inductance drops approximate 30% from its value without current.
3. Irms :DC current that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25 °C).

◆ 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: $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (N: Follow the product specification for the setting.) Time : 96 ± 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 ± 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 ± 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 : $260 + 0/-5^{\circ}\text{C}$
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 terminals	older the test samples to the PCB through 245°C reflow, apply a standard force on the side of the test samples for 10 seconds. 

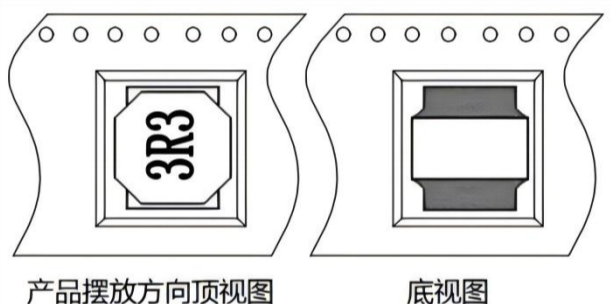
◆ Packaging and Marking:

1.Tape Packaging Dimensions

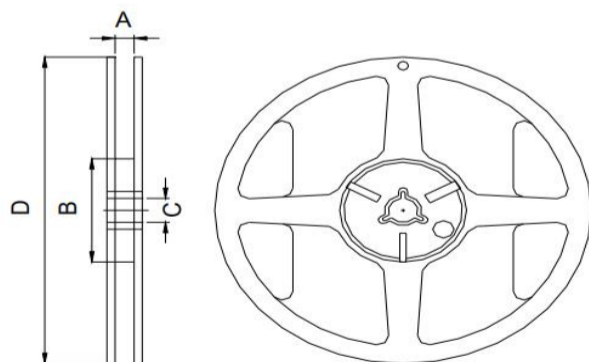


Type	W	P	A0	B0	K0	T	E	F	P0	D0
SLW4018S	12.0 ±0.30	8.00 ±0.30	4.40 ±0.30	4.40 ±0.30	2.00 ±0.20	0.30 ±0.10	1.75 ±0.10	5.50 ±0.10	4.00 ±0.20	1.50 ±0.10

2.Leader and blank portion



3.Reel Dimensions (Unit: mm)



A(mm)	12.5
B(mm)	100
C(mm)	13.0
D(mm)	330±2.0

4.Packaging Quantity

Type	Standard Quantity		
	Reel	Inner box	Carton box
SLW4018S	3000 pcs / reel	4Reel / box (12000 pcs)	3 Inner boxes, (36000 pcs)