High Current Power Inductor
-YSFP2915S Series

■ Features

- Assemblage design,sturdy structure.
- High inductance,high current,low magnetic loss,low ESR,small parasitic capacitance.
- Flat wire winding,achieve alow D.C.Resistance.
- Temperature rise current and saturation current is less influenced by environment.
- Operating temperature range:-40℃ ~ +125℃.

■ Applications

- Low profile,high current power supplies.
- Battery powered devices.
- DC/DC converters in distributed power systems.
- DC/DC converters for field programmable gate array.

■ Product Identification

YSFP □□□□□-□□□ □
(1) (2) (3) (4)

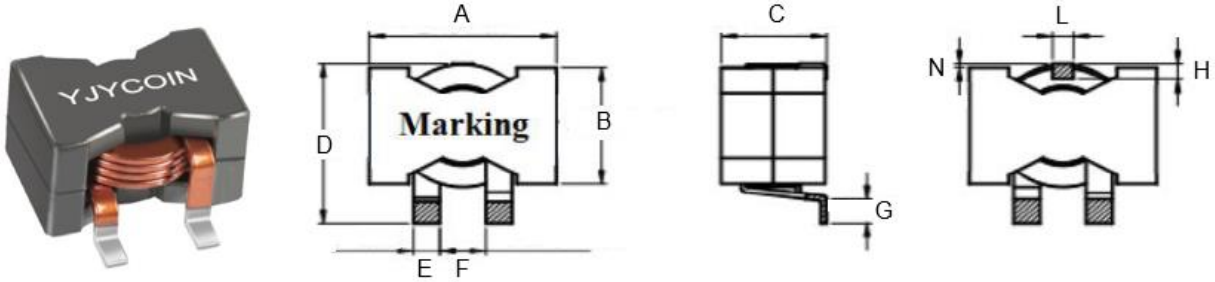
(1)： Type

(2)： Dimensions

(3)： Inductance value

(4)： Inductance Tolerance: M=±20%,K=±10%,J=±5%

■ Shapes and Dimensions (Unit：mm)



TYPE	A Max.	B Max.	C Max.	D Max.	E	F	G Min	H	L	N
YSFP2915S	27.9	19.7	15.4	27.0	4.0±0.3	6.5±0.5	3.8	2.5	3.0	0.5

■ Electrical requirements

Part Number	L (uH)	Test Freq.	DCR Max.(mΩ)	I sat (A)	I rms (A)
YSFP2915S-1R5M	1.5±20%	100KHz/0.25V	1.65	＞100	30
YSFP2915S-2R2M	2.2±20%	100KHz/0.25V	1.65	85	30
YSFP2915S-3R3M	3.3±20%	100KHz/0.25V	1.65	55	30
YSFP2915S-4R7M	4.7±20%	100KHz/0.25V	1.65	37	30
YSFP2915S-6R8M	6.8±20%	100KHz/0.25V	1.65	28	30
YSFP2915S-100M	10±20%	100KHz/0.25V	1.65	18	30
YSFP2915S-150M	15±20%	100KHz/0.25V	1.65	10	30
YSFP2915S-220M	22±20%	100KHz/0.25V	1.65	6	30
YSFP2915S-330M	33±20%	100KHz/0.25V	1.65	3	30

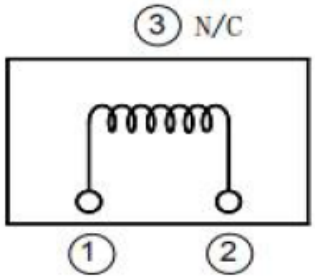
※ All test data is based on 25 ℃ ambient.

※ DC current(A) that will cause an approximate ΔT40℃.

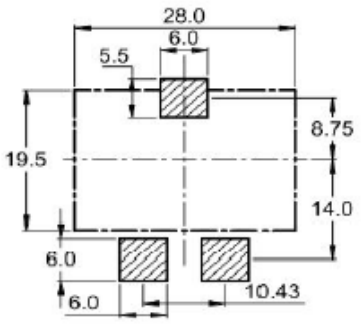
※ DC current(A) that will cause L0 to drop approximately 30% Typ.

※ The part temperature (ambient + temp rise) should not exceed 125℃ under worst case operating conditions. Circuit design,component.PWB trace size and thickness,airflow and other cooling provision all affect the part temperature.Part temperature should be verified in the den application.

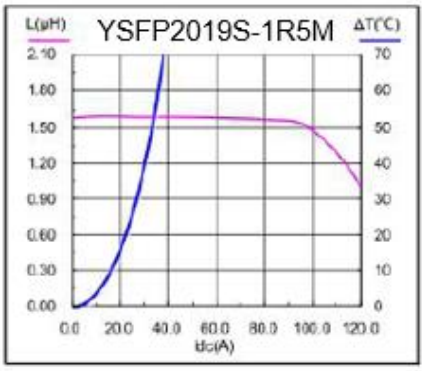
■ Electrical schematics

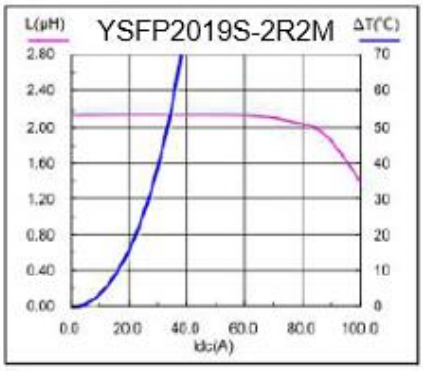


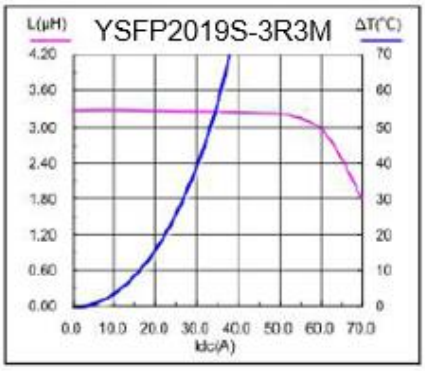
■ Recommended PCB Layout

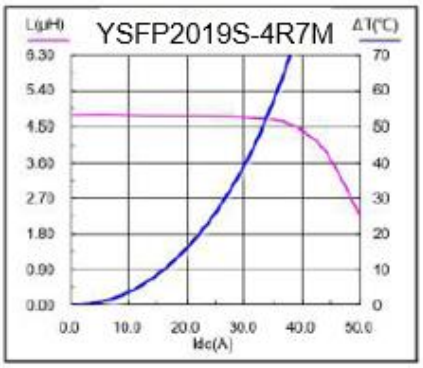


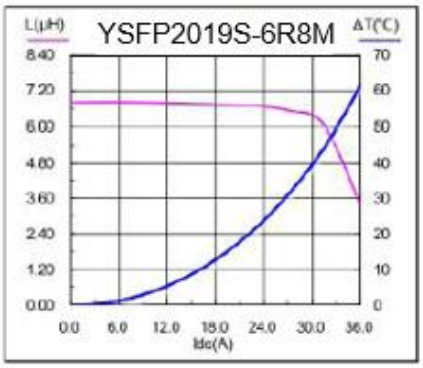
■ Saturation current VS temperature rise current curve

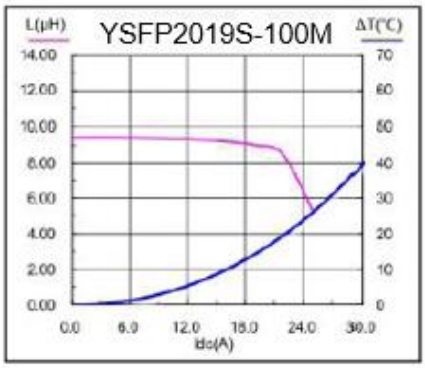


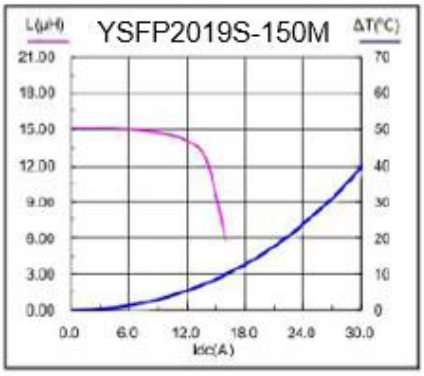


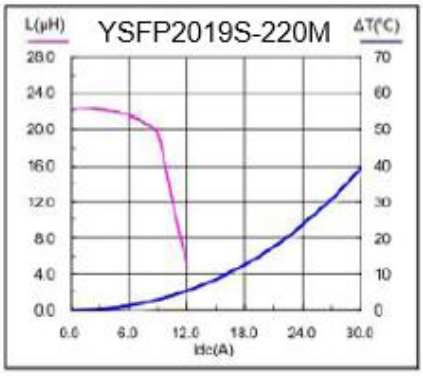


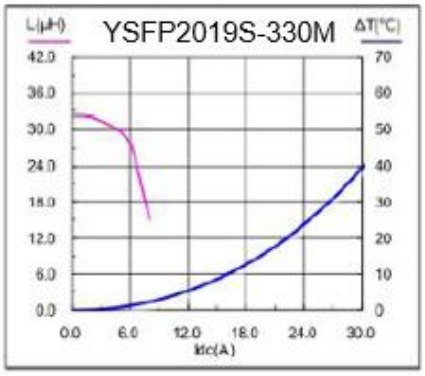








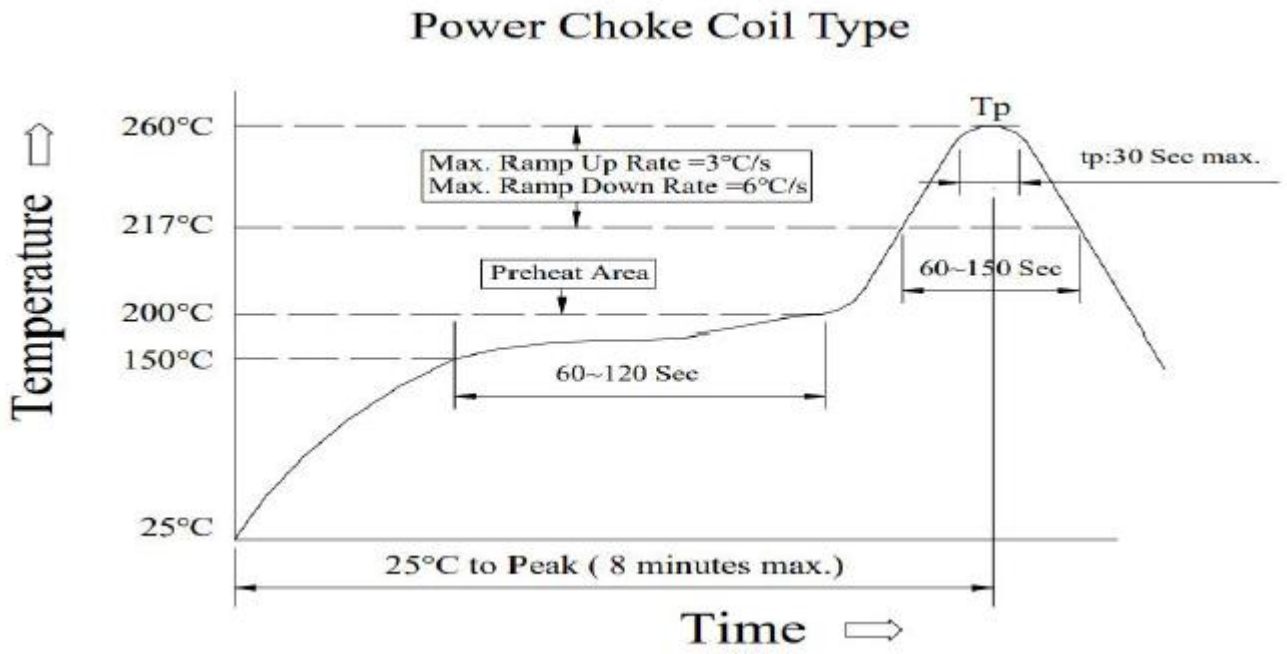




■ Reliability

Item	Specification and Requirement	Test Method
Solder a bility test	Terminals area must have 95% min solder coverage	Solder heat proof: ①Preheating:160±10℃ for 90 seconds ②Retention time:245±5℃ for 2±0.5 seconds
Vibration test	Inductance change:Within±5% Without Mechanical damage such as break	① Vibration frequency:(10Hz to 55Hz to 10Hz) in 60 seconds as a period ② Vibration time: Reriod cycled for 2 hours in each of 3 mutual perpendicular directions. ③ Amplitude:1.5mm Max.
Shock test	Inductance change: Within±5% Without Mechanical damage such as break	① Peak value:100G. ② Duration of pulse:11ms. ③ Times in each positive and negative direction of 3 mutual perpendicular directions
Thermal shock	Inductance change: Within±5% Without Mechanical damage such as break	① Repeat 100 cycle as follow (-55±2℃ 30±3 minutes),Room temperature,5 minutes (+125±2℃，30±3 minutes) ② Recovery:48+4/-0 hours of recovery Under the standard condition after the test. (see Note 1)
High temperature life test	Inductance change: Within±5% Without Mechanical damage such as break	① Environment condition:85±2℃ Applied current:Rated current ② Duration:1000+4/-0 hours(see Note 1)
Humidity Resistance	Inductance change: Within±5% Without Mechanical damage such as break	① Environment condition:60±2℃ Humidity:90-95% Applied current:Rated current ② Duration:1000+4/-0 hours(see Note 1)
Low temperature life test	Inductance change: Within±5% Without Mechanical damage such as break	Store temperature -55±±2℃ for total 1000+4/-0 hours
High temperature life test	Inductance change: Within±5% Without Mechanical damage such as break	Store temperature +125±2℃for total 1000+4/-0 hours

■ Reflow Profile



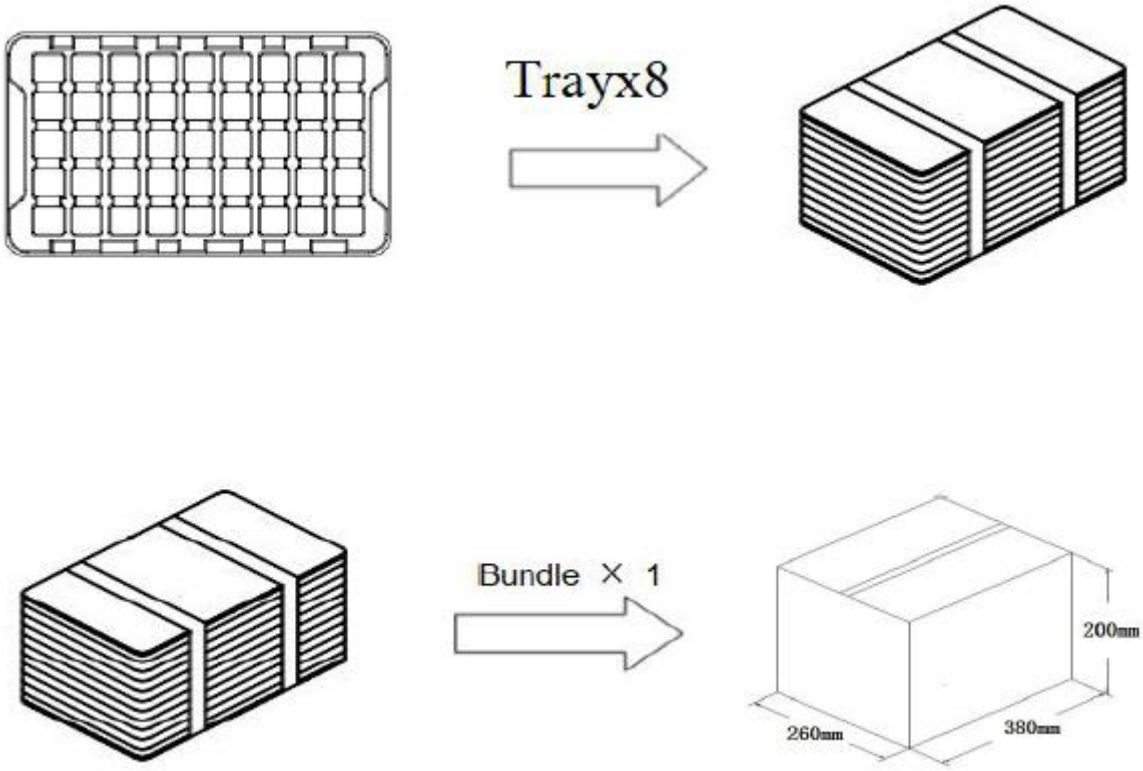
■ Reflow Soldering Method

Reflow Soldering	Tp:255 ~ 260℃	Max. 30 seconds(tp)
	217℃	60 ~ 150 seconds
Pre-Heat	150 ~ 200℃	60 ~ 150 seconds
Time 25℃ to peak temperature	8 minutes Max.	

■ Soldering iron method

350±5℃ Max.3 seconds.

■ Packaging



Product Series	Quantity/Tray	Quantity/Carton
YSFP2915S	40 PCS	320 PCS