## ■ 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)

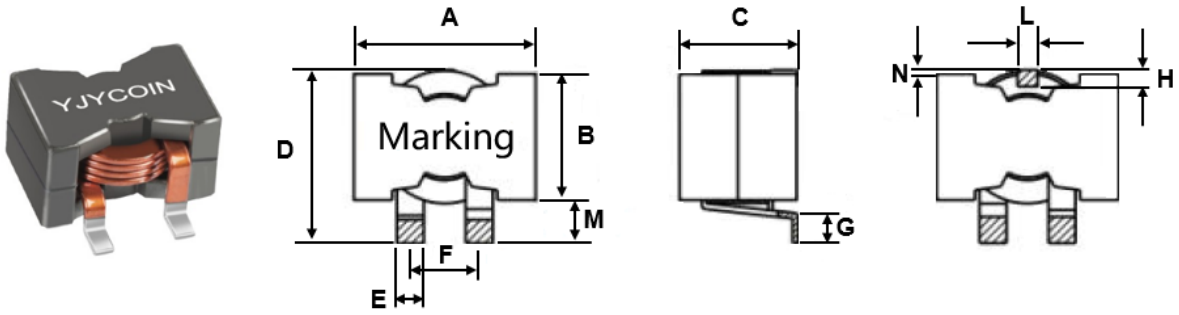
(1)： Type

(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 | D Max. | E | F | G Min. | H | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YSFP2918S | 28.0 | 19.7 | 18.5±0.5 | 27.0 | 4.0±0.3 | 10±0.5 | 3.8 | 3.5 | 3.0 | 6.5±1.0 | 0.5 |

## ■ Electrical requirements

| Part Number | L (uH) | Test Freq. | DCR Max.(mΩ) | I sat (A) | I rms (A) |
|---|---|---|---|---|---|
| YSFP2918S-2R2M | 2.2±20% | 100KHz/0.25V | 2.5 | 100 | 30 |
| YSFP2918S-3R3M | 3.3±20% | 100KHz/0.25V | 2.5 | 93 | 30 |
| YSFP2918S-4R7M | 4.7±20% | 100KHz/0.25V | 2.5 | 63 | 30 |
| YSFP2918S-6R8M | 6.8±20% | 100KHz/0.25V | 2.5 | 46 | 30 |
| YSFP2918S-100M | 10±20% | 100KHz/0.25V | 2.5 | 31 | 30 |
| YSFP2918S-150M | 15±20% | 100KHz/0.25V | 2.5 | 21 | 30 |
| YSFP2918S-220M | 22±20% | 100KHz/0.25V | 2.5 | 14 | 30 |
| YSFP2918S-330M | 33±20% | 100KHz/0.25V | 2.8 | 8.7 | 30 |

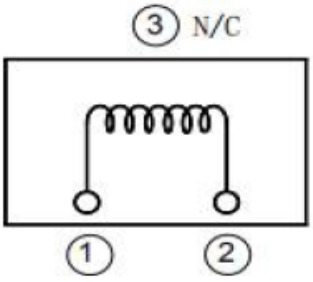
※ All test data is based on 25 ℃ ambient.

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

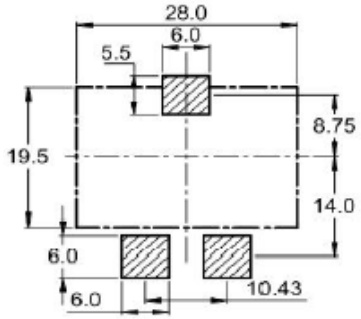
※ DC current(A) that will cause L0 to drop approximately 30% Typ.

※ 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.

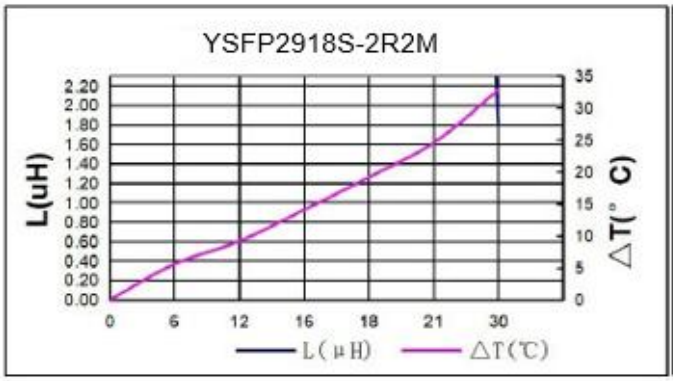
## ■ Electrical schematics

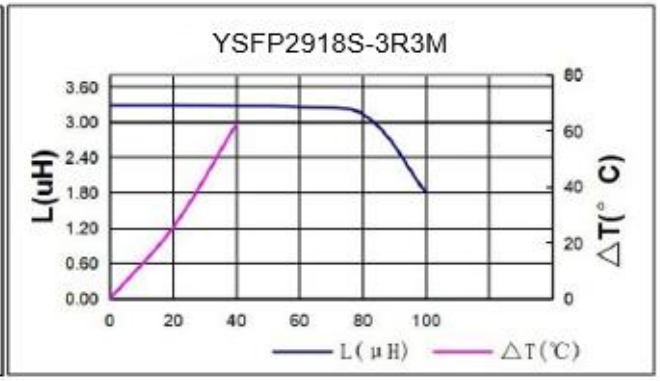


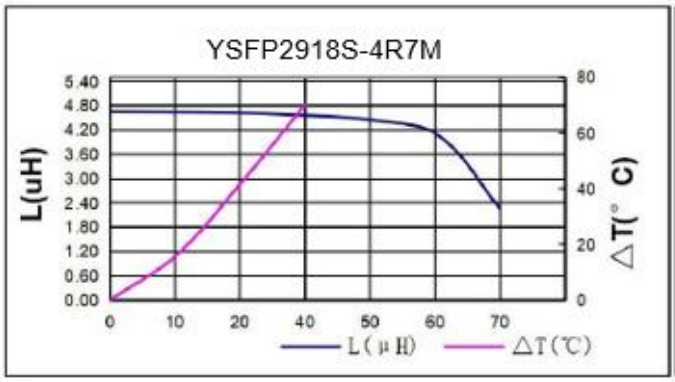

## ■ Recommended PCB Layout

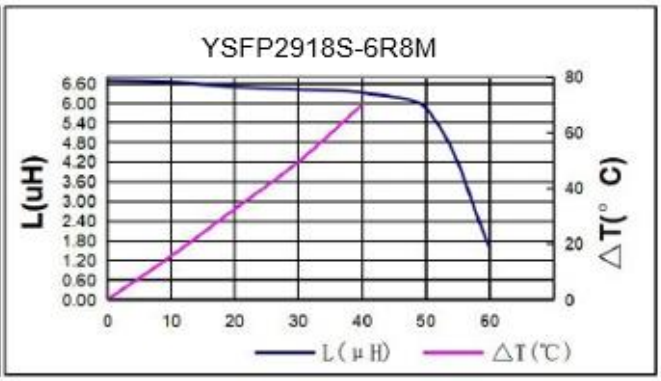


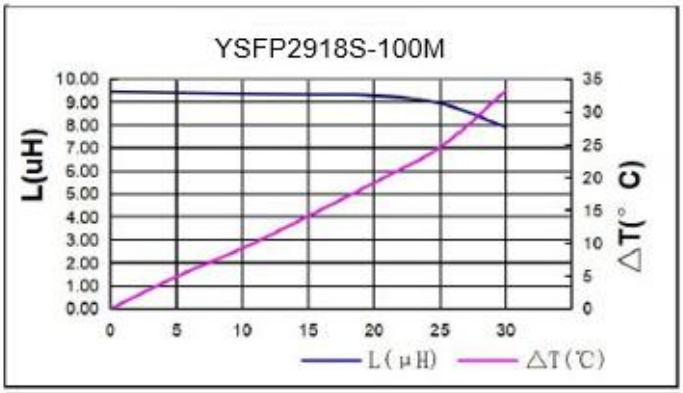
## ■ Saturation current VS temperature rise current curve

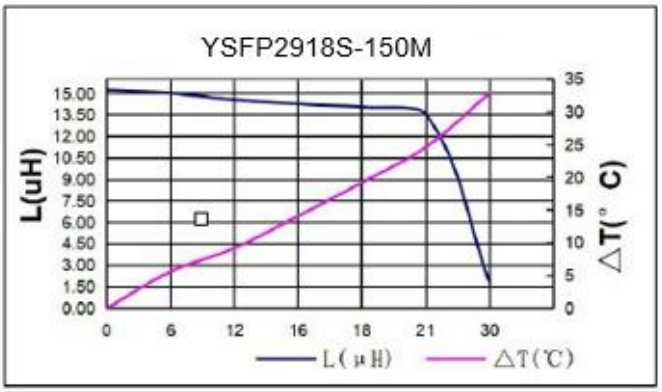


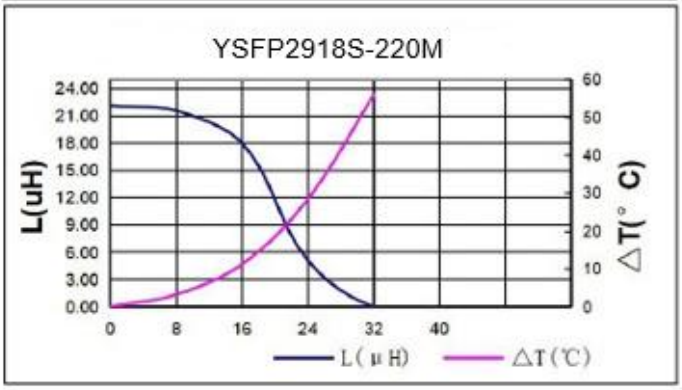



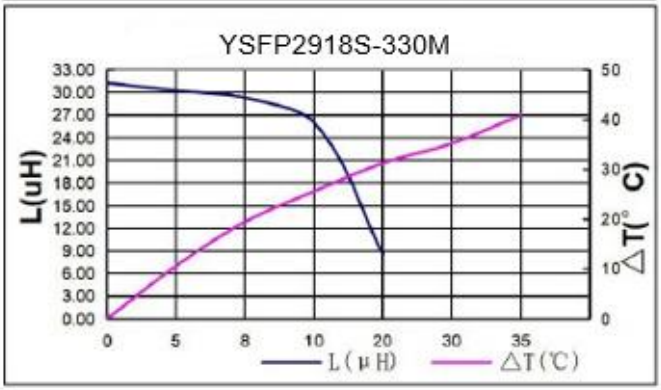



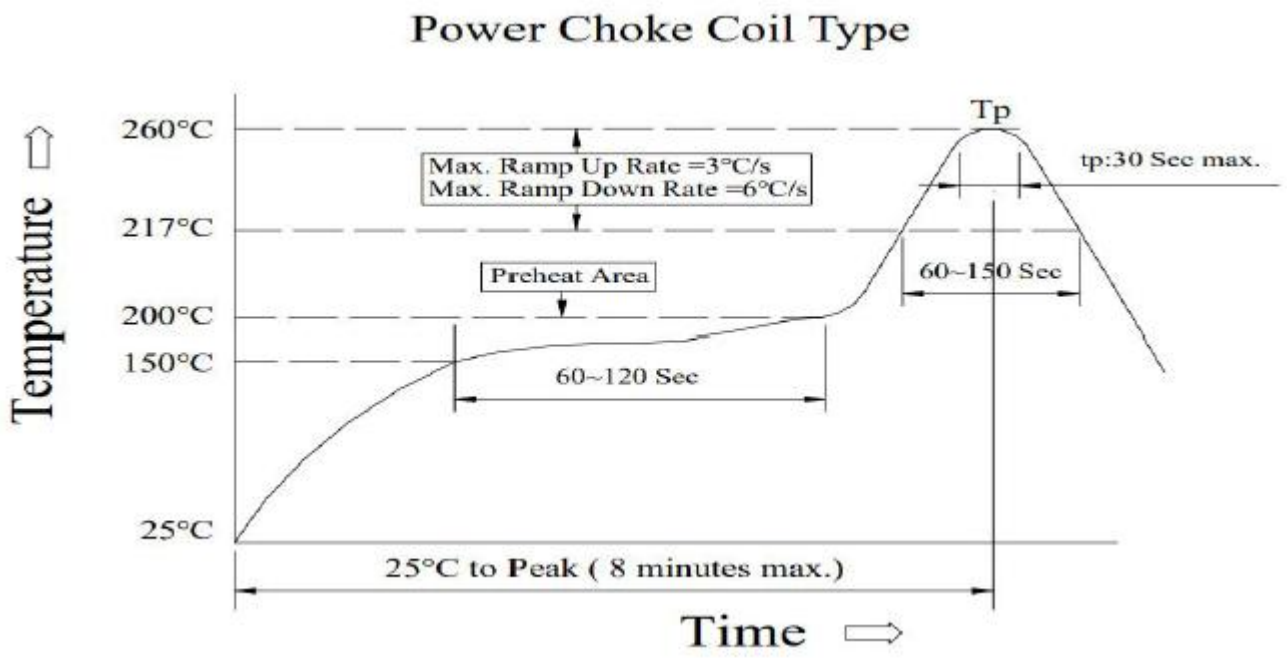



## ■ Reliability

| Item | Specification and Requirement | Test Method |
|---|---|---|
| Solder a bility test | Terminals area must have 95% min solder coverage | Solder heat proof:<br>①Preheating:160±10℃ for 90 seconds<br>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<br>② Vibration time: Reriod cycled for 2 hours in each of 3 mutual perpendicular directions.<br>③ Amplitude:1.5mm Max. |
| Shock test | Inductance change: Within±5% Without Mechanical damage such as break | ① Peak value:100G.<br>② Duration of pulse:11ms.<br>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)<br>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℃<br>Applied current:Rated current<br>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℃<br>Humidity:90-95%<br>Applied current:Rated current<br>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



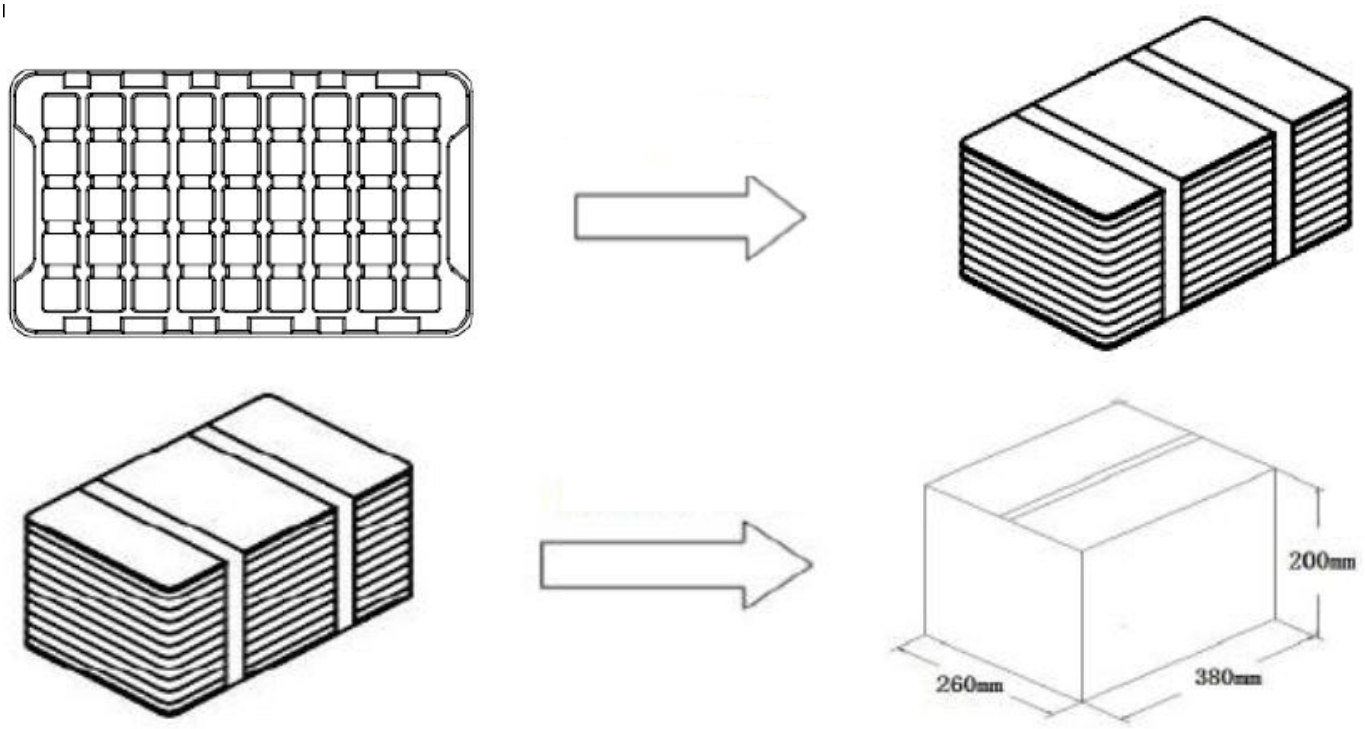

## ■ Reflow Soldering Method

| | |
|---|---|
| Reflow Soldering | Tp:255 ~ 260℃ Max. 30 seconds(tp) |
| | 217℃ 60 ~ 150 seconds |
| Pre-Heat | 150 ~ 200℃ 60 ~ 120 seconds |
| Time 25℃ to peak temperature | 8 minutes Max. |

## ■ Soldering iron method

350±5℃ Max.3 seconds.

## ■ Packaging




| Product Series | Quantity/Tray | Quantity/Carton |
|---|---|---|
| YSFP2918S | 40 PCS | 280 PCS |