

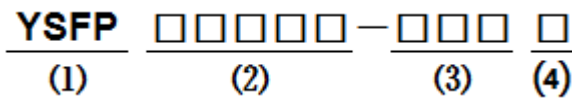
**■ Features**

- Assemblage design, sturdy structure.
- High inductance, high current, low magnetic loss, low ESR, small parasitic capacitance.
- Flat wire winding, achieve a low D.C. Resistance.
- Temperature rise current and saturation current is less influenced by environment.
- Operating temperature range:  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ .

**■ 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**



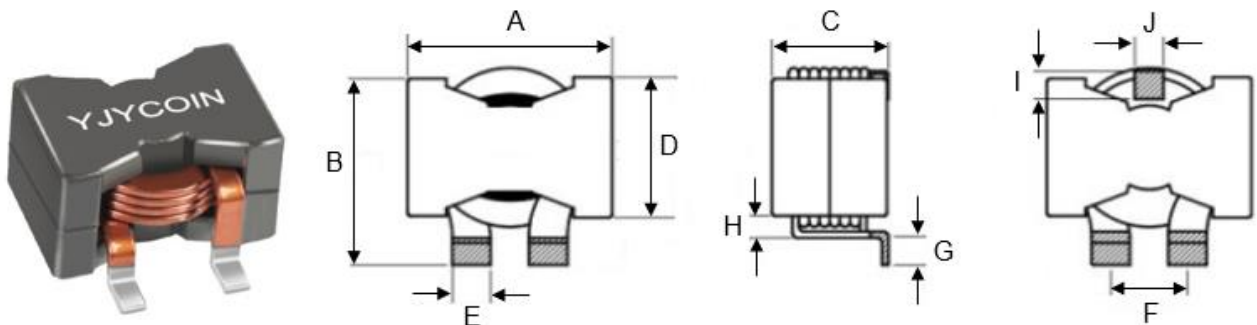
(1) : Type

(2) : Dimensions

(3) : Inductance value

(4) : Inductance Tolerance: M= $\pm 20\%$ , K= $\pm 10\%$ , J= $\pm 5\%$

**■ Shapes and Dimensions (Unit: mm)**



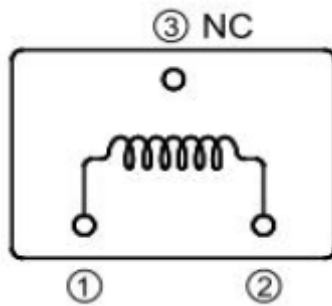
TYPE	A	B Max.	C	D	E	F	G Min.	H Max.	J	I
YSFP3218S	32.0 $\pm$ 1.0	34.0	18.5 $\pm$ 0.5	22.5 $\pm$ 1.0	6.0 $\pm$ 0.3	12.5 $\pm$ 0.5	3.8	4.0	4.5	4.5

**Electrical requirements**

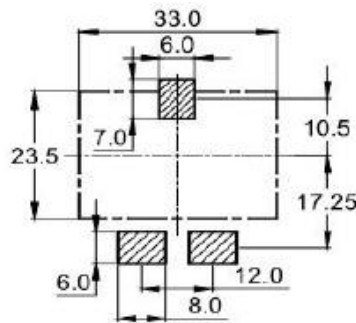
Part Number	L (uH)	Test Freq.	DCR Max.(mΩ)	I sat (A)	I rms (A)
YSFP3218S-6R8M	6.8±20%	100KHz/0.3V	1.2	45	55

- ※ All test data is based on 25 °C ambient.
- ※ DC current(A) that will cause an approximate ΔT40°C.
- ※ DC current(A) that will cause L0 to drop approximately 20% Typ.
- ※ The part temperature (ambient + temp rise) should not exceed 125°C 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**

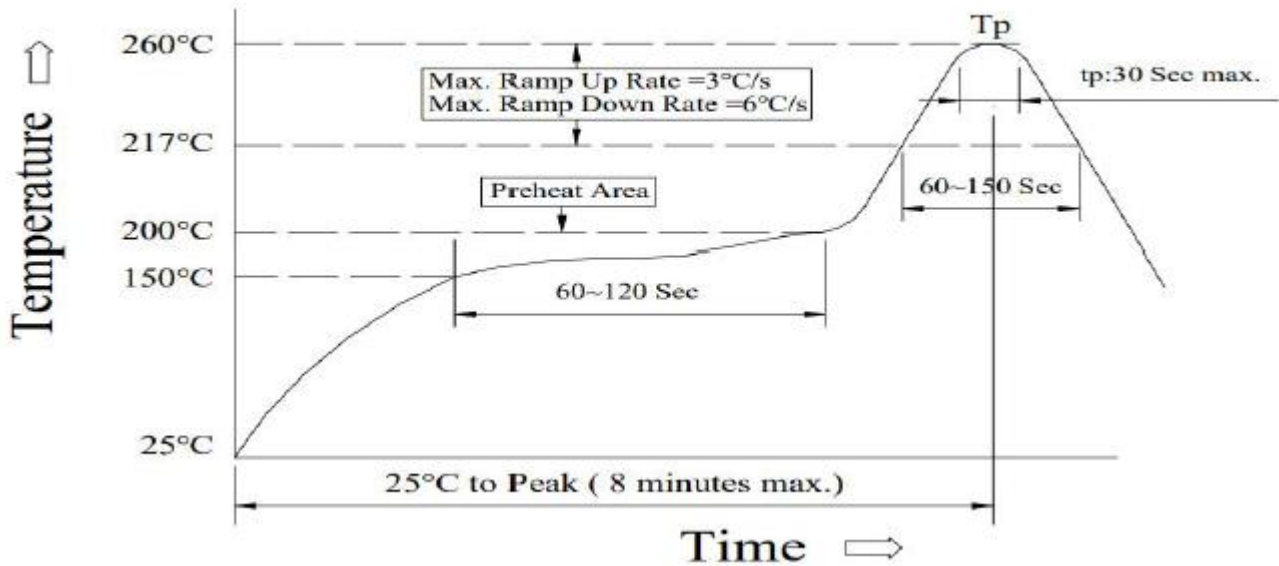


## ■ Reliability

Item	Specification and Requirement	Test Method
Solderability test	Terminals area must have 95% min solder coverage	Solder heat proof: ① Preheating: $160 \pm 10^{\circ}\text{C}$ for 90 seconds ② Retention time: $245 \pm 5^{\circ}\text{C}$ for $2 \pm 0.5$ seconds
Vibration test	Inductance change: Within $\pm 5\%$ Without Mechanical damage such as break	① Vibration frequency: (10Hz to 55Hz to 10Hz) in 60 seconds as a period ② Vibration time: Period cycled for 2 hours in each of 3 mutual perpendicular directions. ③ Amplitude: 1.5mm Max.
Shock test	Inductance change: Within $\pm 5\%$ 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 $\pm 5\%$ Without Mechanical damage such as break	① Repeat 100 cycle as follow ( $-55 \pm 2^{\circ}\text{C}$ 30 $\pm$ 3 minutes), Room temperature, 5 minutes ( $+125 \pm 2^{\circ}\text{C}$ , 30 $\pm$ 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 $\pm 5\%$ Without Mechanical damage such as break	① Environment condition: $85 \pm 2^{\circ}\text{C}$ Applied current: Rated current ② Duration: 1000+4/-0 hours (see Note 1)
Humidity Resistance	Inductance change: Within $\pm 5\%$ Without Mechanical damage such as break	① Environment condition: $60 \pm 2^{\circ}\text{C}$ Humidity: 90-95% Applied current: Rated current ② Duration: 1000+4/-0 hours (see Note 1)
Low temperature life test	Inductance change: Within $\pm 5\%$ Without Mechanical damage such as break	Store temperature $-55 \pm 2^{\circ}\text{C}$ for total 1000+4/-0 hours
High temperature life test	Inductance change: Within $\pm 5\%$ Without Mechanical damage such as break	Store temperature $+125 \pm 2^{\circ}\text{C}$ for total 1000+4/-0 hours

**Reflow Profile**

**Power Choke Coil Type**



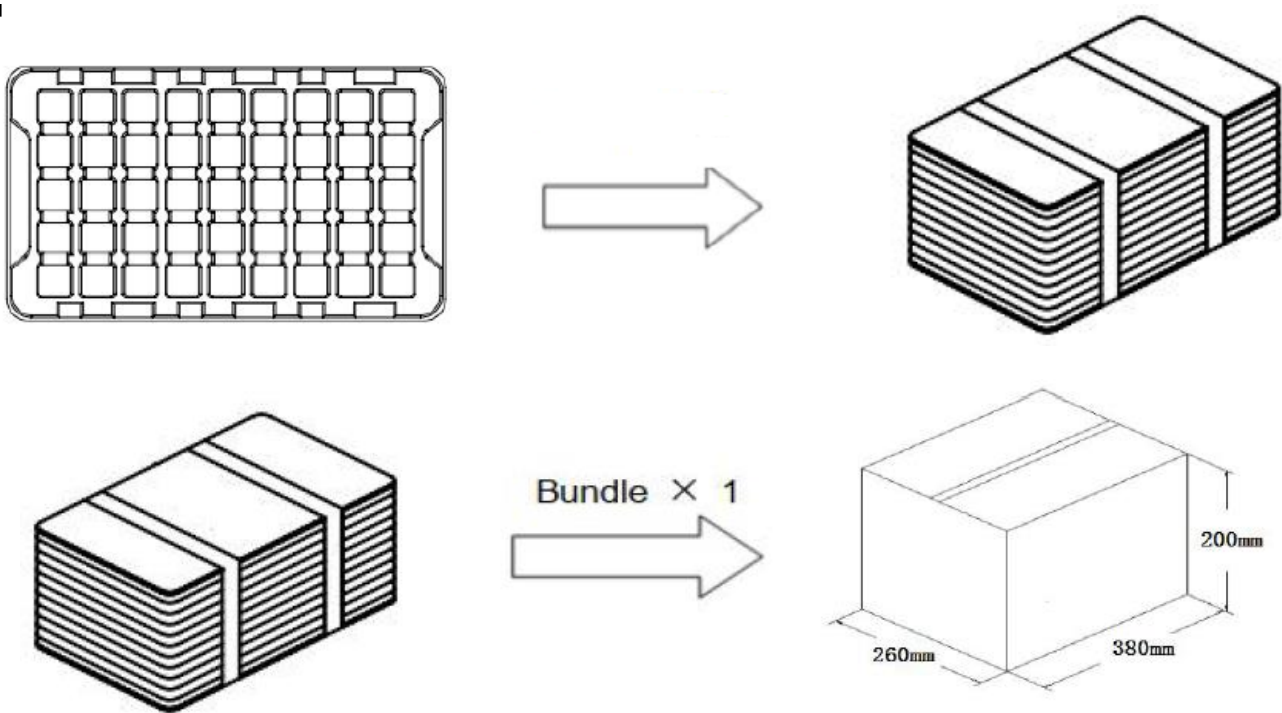
**Reflow Soldering Method**

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

**Soldering iron method**

350±5°C Max.3 seconds.

**■ Packaging**



Product Series	Quantity/Tray	Quantity/Carton
YSFP3218S	32 PCS	128 PCS