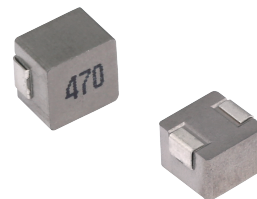


## FEATURES

- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 3MHz
- Operate temperature range ....  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$  (Including self temp. rise)
- RoHS compliant



## APPLICATIONS

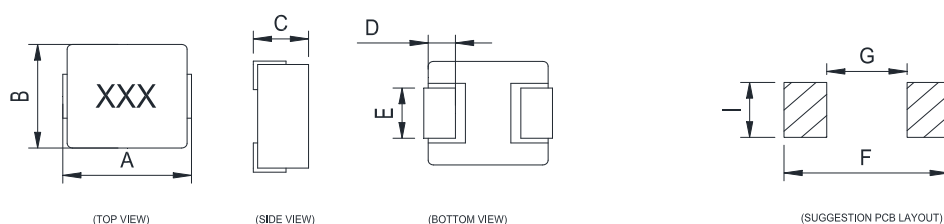
- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

## PRODUCT IDENTIFICATION

FSA0620 -1R0 M T

1    2    3    4    5

- ◆ 1:Product Series:Metal Alloy Molding Power Inductor
- ◆ 2:Dimensions:
- ◆ 3: Initial inductance value: 1R0 = 1.0uH
- ◆ 4:Tolerance of Inductance:M:±20%
- ◆ 5:Packing:Tape Carrier Package

**Dimensions: [mm]**

Series	A	B	C	D	E	F Typ.	G Typ.	I Typ.
FSA0620	7.30Max	6.6±0.2	2.0 Max	1.6±0.3	3.0±0.3	8.40	3.7	3.5

**Electrical Properties:**

PART NO.	Ls	DCR (mΩ) MAX		Isat	Irms	TEST FREQ.
	(uH)0A±20%	Typ	Max	dc(A) Typ	dc(A) Typ	(Hz)
FSA0620-R15MT	0.15	2.1	2.3	20	20	1M/1.0V
FSA0620-R22MT	0.22	3.8	4.3	18	15	1M/1.0V
FSA0620-R33MT	0.33	5.6	6.8	17	13	1M/1.0V
FSA0620-R47MT	0.47	6.7	7.9	16	12	1M/1.0V
FSA0620-R68MT	0.68	6.9	8.2	13	11	1M/1.0V
FSA0620-1R0MT	1.00	11.7	15.2	11.0	6.0	1M/1.0V
FSA0620-1R5MT	1.50	20.5	26.6	9.0	5.0	1M/1.0V
FSA0620-2R2MT	2.20	27.0	35.1	7.5	4.0	1M/1.0V
FSA0620-3R3MT	3.30	43	56	6.0	3.0	1M/1.0V
FSA0620-4R7MT	4.70	56	72	5.0	3.5	1M/1.0V
FSA0620-6R8MT	6.80	99	114	4.0	3.5	1M/1.0V
FSA0620-100MT	10.00	95	125	3.0	2.5	1M/1.0V
FSA0620-150MT	15.00	203	259	3.0	2.0	1M/1.0V
FSA0620-220MT	22.00	256	334	2.5	2.0	1M/1.0V

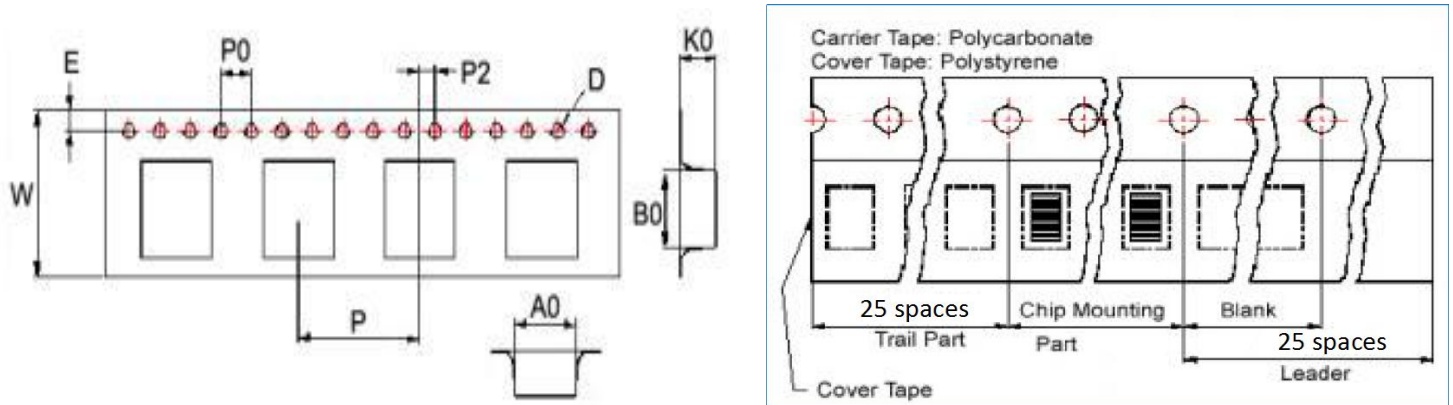
**Notes**

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

## Reliability and Test Condition

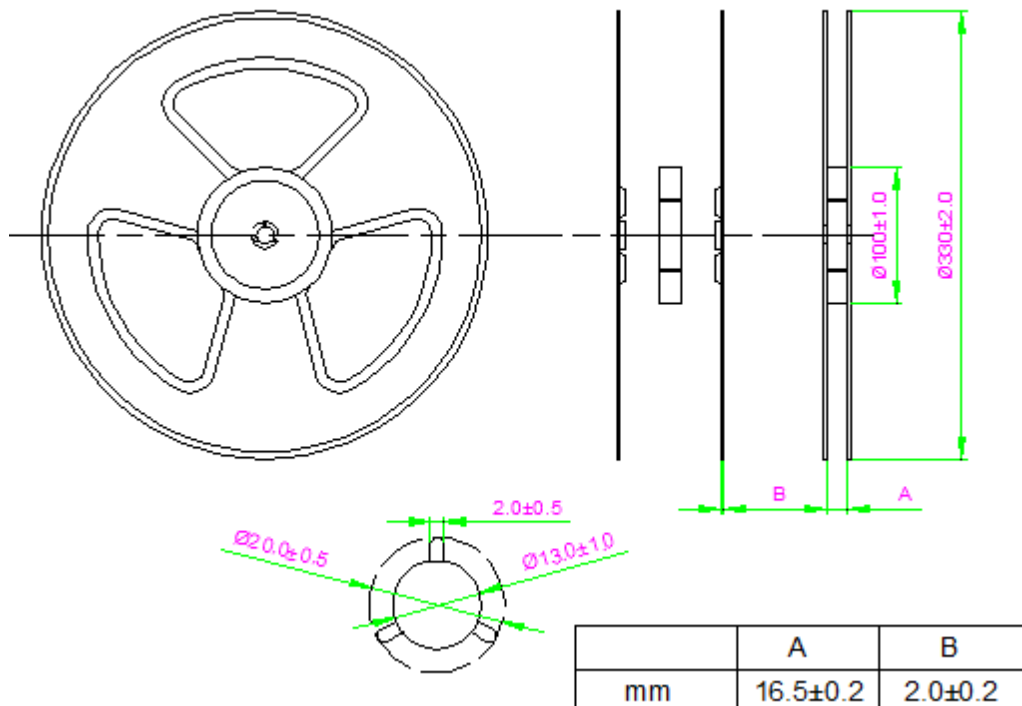
Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	The surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Solder heat proof: 1. Preheating: $160 \pm 10^{\circ}\text{C}$ 2. Retention time: $245 \pm 5^{\circ}\text{C}$ for $2 \pm 0.5$ seconds
Vibration	Inductance change: Within $\pm 10\%$ Without mechanical damage such as break	1. Vibration frequency: (10 Hz to 55 Hz 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: 1.5 mm max.
Shock	Inductance change: Within $\pm 10\%$ Without mechanical damage such as break	1. Peak value: 100 G 2. Duration of pulse: 11ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions
Endurance Reliability		
Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Repeat 100 cycles as follow: ( $-55 \pm 2^{\circ}\text{C}$ ; $30 \pm 3$ min) → (Room temp., 5 min) → ( $+125 \pm 2^{\circ}\text{C}$ , $30 \pm 3$ min) → (Room temp., 5 min) 2. Recovery: $48 + 4 / -0$ hours of recovery under the standard condition after the test.
High Temperature Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Environment condition: $85 \pm 2^{\circ}\text{C}$ Applied Current: Rated current 2. Duration: $1000 + 4 / -0$ hours
Humidity Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Environment condition: $60 \pm 2^{\circ}\text{C}$ Humidity: 90–95% Applied Current: Rated current 2. Duration: $1000 + 4 / -0$ hours
Low Temperature Store	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	Store temperature: $-55 \pm 2^{\circ}\text{C}$ , $1000 + 4 / -0$ hours
High Temperature Store	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	Store temperature: $+125 \pm 2^{\circ}\text{C}$ , $1000 + 4 / -0$ hours

## Tape Packaging Dimensions



Size	Ao(mm)	Bo(mm)	Ko(mm)	D(mm)	E(mm)	W(mm)	P(mm)	PO(mm)	P2(mm)
0620	10.6	11.7	2.2	1.55	1.75	16	12	4	2

## Reel Dimensions



Packing Quantity:2000pcs/Reel

## Recommended Soldering Technologies

### (1) Re-flowing Profile

Preheat condition: 150 ~200°C/60~180sec.

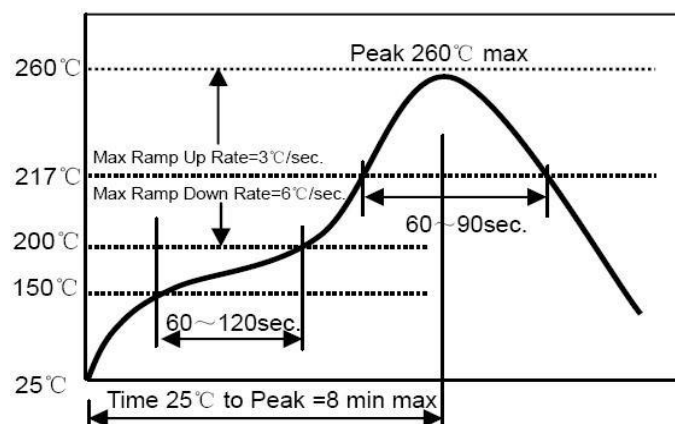
Allowed time above 217°C: 80~120sec.

Max temp: 260°C

Max time at max temp: 10 sec.

Solder paste: Sn/3.0Ag/0.5Cu

Allowed Reflow time: 2x max



### (2) Iron Soldering Profile

Iron soldering power: Max.

30W Pre-heating: 150°C/60sec.

Soldering time: 3sec. Max.

Solder paste: Sn/3.0Ag/0.5Cu

Max.1 times for iron soldering

