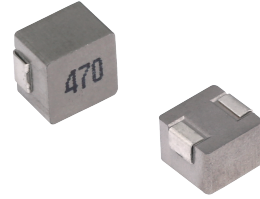


FEATURES

- 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

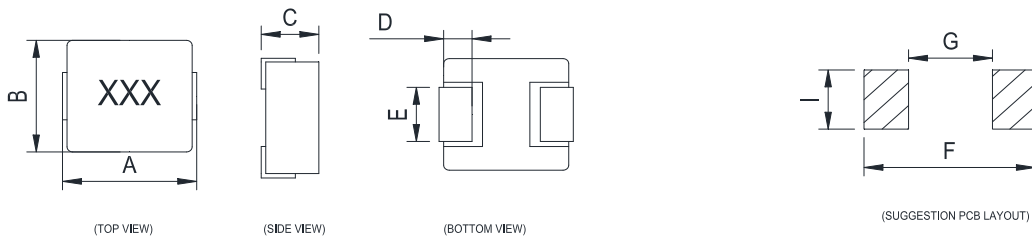
- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

PRODUCT IDENTIFICATION

FSA 0850 - 2R2 M T

① ② ③ ④ ⑤

- ① Series Name: Metal Alloy Molding Power Inductor
- ② Dimensions:
- ③ Initial inductance value: 2R2 = 2.2uH
- ④ Inductance Tolerance: M \pm 20%
- ⑤ Packing : Tape & Reel

Dimensions: [mm]

Series	A	B	C	D	E	I Typ.	G Typ.	F Typ.
FSA0850	9.20Max	8.0±0.30	5.0Max	1.8±0.5	3.0±0.5	3.5	4.5	9.8

Electrical Properties:

Part Number	Inductance	DC Resistance	Saturation Current	Heat Rating Current
	@1MHz, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
FSA0850-R68MT	0.68±20%	4.5	26.0	20.0
FSA0850-1R5MT	1.5±20%	7.0	17.0	16.0
FSA0850-2R2MT	2.2±20%	9.0	15.0	14.0
FSA0850-3R3MT	3.3±20%	12	13.0	8.8
FSA0850-4R7MT	4.7±20%	19	11.0	10.0
FSA0850-6R8MT	6.8±20%	22	10.0	9.0
FSA0850-100MT	10.0±20%	30	8.0	7.0
FSA0850-150MT	15±20%	65	6.0	5.0
FSA0850-220MT	22±20%	80	5.0	4.0
FSA0850-270MT	27±20%	182	4.5	3.0
FSA0850-330MT	33±20%	130	4.0	2.0
FSA0850-470MT	47±20%	247	3.3	2.0
FSA0850-560MT	56±20%	250	3.0	1.8
FSA0850-680MT	68±20%	270	2.8	1.6

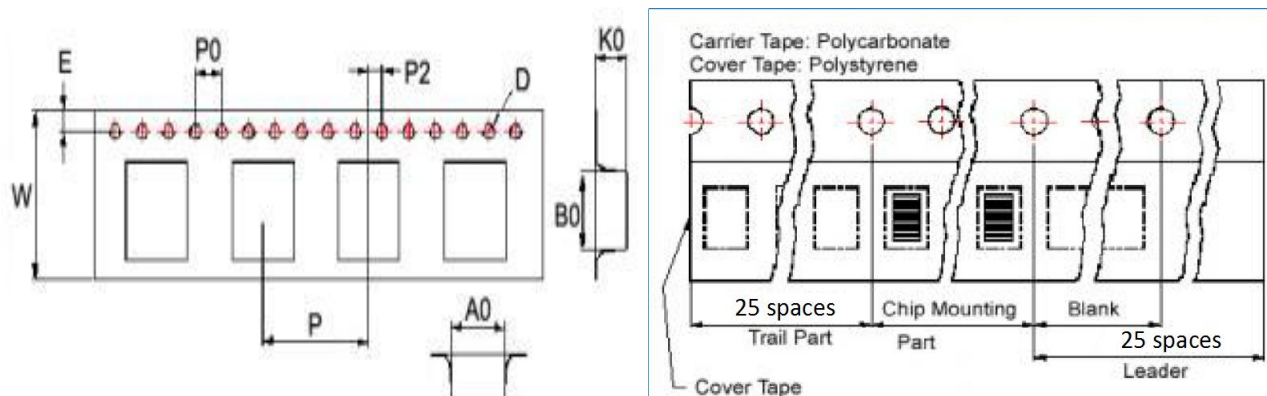
Notes

- ※1: All test data is referenced to 20°C ambient;
- ※2: Irms:DC current (A)that will cause an approximate ΔT of 40℃ (Typical)
- ※3:Isat:DC current (A) that will cause Lo to drop approximately 30%(Typical)
- ※4: Inductance tolerance ±20%.1MHz and 1Vrms.
- ※5: The rated current as listed is either the saturation current or the heating current depending on which value is lower.
- ※6: Absolute maximum voltage 30VDC

Reliability and Test Condition

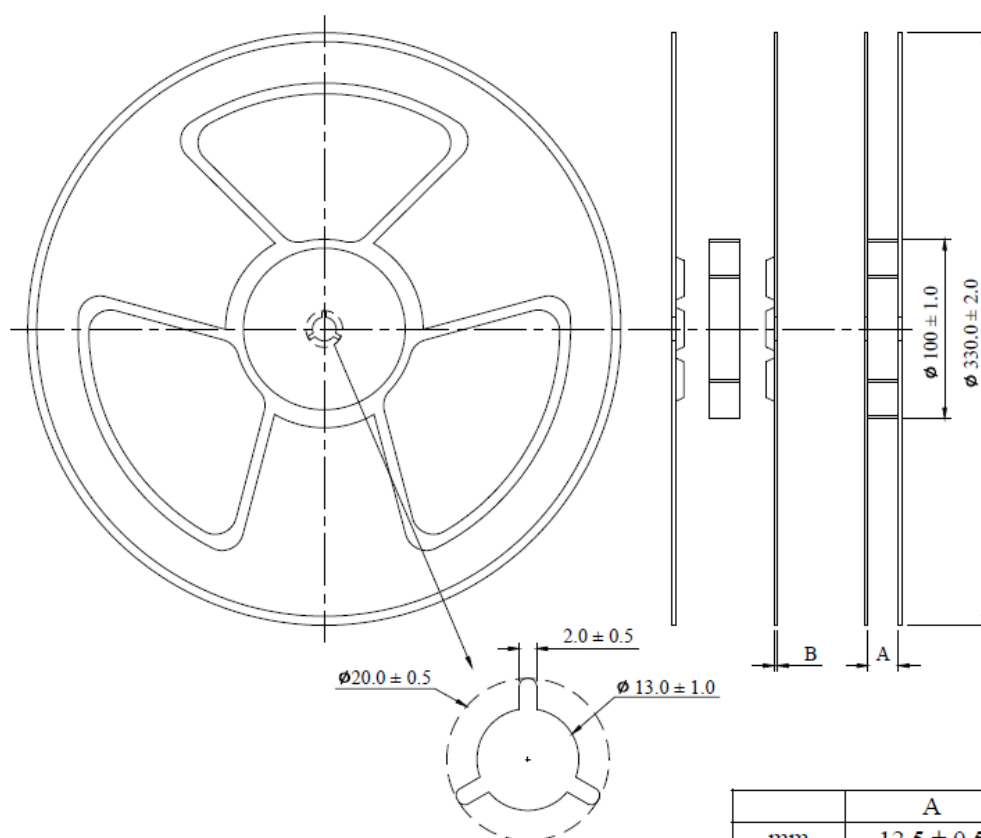
Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	The surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Solder heat proof: 1. Preheating: 160 ± 10 °C 2. Retention time: 245 ± 5 °C for 2 ± 0.5 seconds
Vibration	Inductance change: 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 ± 2 °C; 30 ± 3 min) → (Room temp., 5 min) → ($+125 \pm 2$ °C, 30 ± 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 ± 2 °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 ± 2 °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 ± 2 °C, $1000 + 4 / -0$ hours
High Temperature Store	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	Store temperature: $+125 \pm 2$ °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)
850	8.5	9.5	5.3	1.55	1.75	24	16	4	2

Reel Dimensions



Packing Quantity: 1000pcs/Reel

Recommended Soldering Technologies

(1) Re-flowing Profile

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

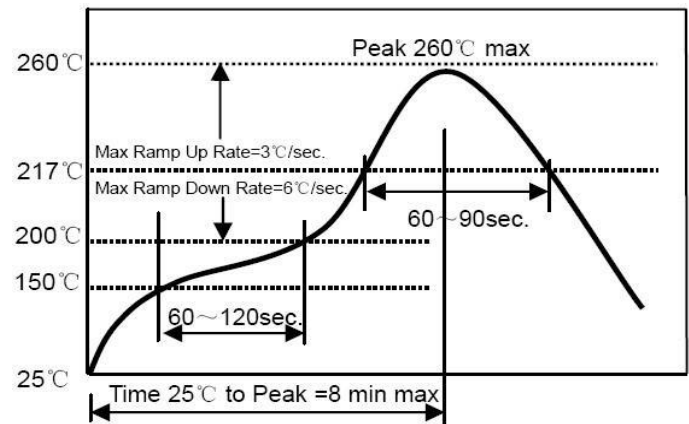
Allowed time above 217°C: 80~120sec.

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

