

## PRODUCT IDENTIFICATION

### 1. Scope

This specification applies to FXL series of wire wound molded SMD power Inductors

### 2. Product Description and Identification (Part Number)

Description

Wire Wound Molded SMD Type Power Inductor, FXL, XX  $\mu\text{H} \pm X\%$  @XXX KHz/XXXV, XXXm $\Omega$ , XXXmA.



## PRODUCT IDENTIFICATION

FXL    XXXX    -    XXX       M  
①            ②            ③            ④

① Type	
FXL	Wire wound molded SMD power Inductors

② External Dimensions (mm)	
252010~1360	

③ Nominal Inductance	
Example	Nominal Value
1R0	1.0 $\mu\text{H}$
100	10 $\mu\text{H}$
101	100 $\mu\text{H}$

④ Inductance Tolerance	
M	$\pm 20\%$
N	$\pm 30\%$

## ELECTRICAL CHARACTERISTICS

(1) Operating temperature range (Including self-heating): -55°C ~ +125°C.

(2) Storage temperature and humidity range (product with tapping): -10°C ~ +40°C, RH 70% Max.

## FEATURES

- Halogen Free
- 125°C maximum total temperature operation
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- RoHS compliant

## 特征

- 無鹵素
- 125°C最高總溫度運行
- 鐵合金材料
- 磁屏蔽，低電磁干擾
- 高載流能力，低鐵心損耗
- 頻率範圍高達5兆赫
- 符合RoHS標準的

## 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
- Automotive electronics

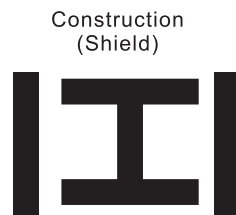
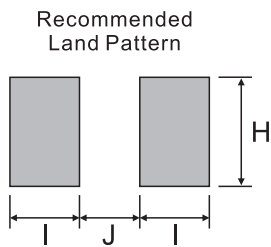
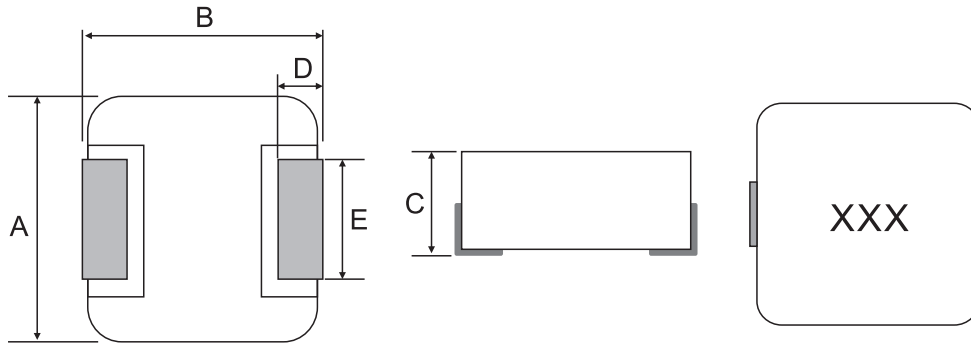
## 用途

- 電壓調節器模塊 (VRM)
- 多相調節器
- 加載點模塊
- 智能手機POL模塊
- SSD模塊
- 筆記本調節器
- 電池供電系統
- 顯卡
- 數據網絡和存儲系統
- 汽車電子

**PRODUCT IDENTIFICATION**

**Shape and Dimensions**

(1) Dimensions and recommended PCB pattern for reflow soldering: See Fig.4-1 and Table 4-1.



Unit: mm

Series	A	B	C	D	E	I Typ.	J Typ.	H Typ.
FXL201610	1.6±0.2	2.0±0.2	1.0MAX	0.5±0.2	1.4±0.2	0.8	0.8	2.0
FXL252010	2.0±0.2	2.5±0.2	1.0MAX	0.6±0.2	1.8±0.2	0.9	1.0	2.2
FXL252012	2.0±0.2	2.5±0.2	1.2MAX	0.6±0.2	1.8±0.2	0.9	1.0	2.2
FXL0412	4.2±0.25	4.4±0.35	1.0±0.2	0.8±0.3	2.0±0.3	1.5	0.9	2.5
FXL0420	4.2±0.25	4.4±0.35	1.8±0.2	0.8±0.3	2.0±0.3	1.5	2.2	2.5
FXL0518	5.2±0.2	5.4±0.3	1.6±0.2	1.20±0.2	2.2±0.3	1.9	2.2	2.5
FXL0530	5.2±0.2	5.4±0.3	2.8±0.2	1.20±0.2	2.2±0.3	1.9	2.2	2.5
FXL0618	6.6±0.2	7.0±0.3	1.6±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
FXL0624	6.6±0.2	7.0±0.3	2.2±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
FXL0630	6.6±0.2	7.0±0.3	2.8±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
FXL0650	6.6±0.2	7.0±0.3	4.8±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
FXL1040	10.0±0.3	11.5Max	3.8±0.2	2.0±0.5	3.0±0.5	4.1	5.4	4.1
FXL1350	12.6±0.3	13.45±0.35	4.8±0.2	2.0±0.5	5.0±0.5	3.25	8	5
FXL1360	12.6±0.3	13.45±0.35	5.8±0.2	2.0±0.5	5.0±0.5	3.25	8	5

see remarks

## PRODUCT IDENTIFICATION

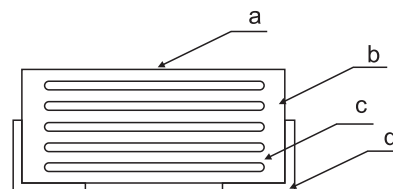
### Remarks:

Code	Dimensions	
	R36/R50/R68	3R3/100/150
	1R0/1R5/2R2	220/330/470
E	3.85±0.5	5.0±0.5

Structure and Components: See Table 4-2

[Table 4-2]

Symbol	Components	Material
a	MARKING	Ink(black)
b	CORE	Alloy Sponge Powder
c	WIRE	Polyurethane copper wire
d	Terminal	Copper plated with Sn



## SPECIFICATIONS

### FXL201610 Series

Part No.	OCL(μH) ±20%	FLL min.2 (μH)	DCR (mΩ) @ 20°C		Irms3 Typ.(Amps)	Isat4 @ 25°C Typ
			TYP.	MAX.		
FXL201610-R24-M	0.24	0.120	19.00	25.0	4.7	4.5
FXL201610-R47-M	0.47	0.235	32.00	38.0	3.5	3.1
FXL201610-1R0-M	1.00	0.500	75.00	83.0	2.3	2.1
FXL201610-2R2-M	2.20	1.100	170.0	181.0	1.5	1.3

### FXL252010 Series

Part No.	OCL(μH) ±20%	FLL min.2 (μH)	DCR (mΩ) @ 20°C		Irms3 Typ.(Amps)	Isat4 @ 25°C Typ
			TYP.	MAX.		
FXL252010-R33-M	0.33	0.231	17.0	23.0	6.1	4.8
FXL252010-R47-M	0.47	0.329	27.0	34.0	5.1	4.2
FXL252010-1R0-M	1.0	0.70	47.0	54.0	3.9	2.8
FXL252010-2R2-M	2.2	1.54	90.0	110.0	2.7	2.1

### FXL252012 Series

Part No.	OCL(μH) ±20%	FLL min.2 (μH)	DCR (mΩ) @ 20°C		Irms3 Typ.(Amps)	Isat4 @ 25°C Typ
			TYP.	MAX.		
FXL252012-R33-M	0.33	0.165	14	17	7.0	4.3
FXL252012-R47-M	0.47	0.235	20	25	6.3	3.8
FXL252012-1R0-M	1.0	0.500	43	53	4.1	3.0
FXL252012-2R2-M	2.2	1.100	84	98	3.0	1.8

## SPECIFICATIONS

### FXL0412 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0(μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20%, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL0412-R15-M	0.15	8.00	9.00	7.50	15.0
FXL0412-R22-M	0.22	9.50	11.0	7.00	11.0
FXL0412-R33-M	0.33	17.0	19.0	6.50	8.4
FXL0412-R47-M	0.47	19.0	21.0	6.00	6.8
FXL0412-R68-M	0.68	32.0	36.0	4.70	6.0
FXL0412-1R0-M	1.00	43.0	47.0	4.50	5.5
FXL0412-1R5-M	1.50	68.0	75.0	3.25	4.0
FXL0412-2R2-M	2.20	79.4	83.5	2.75	3.5
FXL0412-4R7-M	4.70	175.0	195.0	1.80	2.8

### FXL0420 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL0420-R10-M	0.10	3.50	4.00	13.0	22.0
FXL0420-R22-M	0.22	6.00	6.60	9.50	12.5
FXL0420-R33-M	0.33	9.00	11.0	10.0	12.0
FXL0420-R47-M	0.47	12.5	14.0	7.50	9.50
FXL0420-R56-M	0.56	14.0	16.0	7.00	10.0
FXL0420-R68-M	0.68	16.0	18.0	7.00	9.00
FXL0420-1R0-M	1.00	24.0	27.0	6.00	7.00
FXL0420-1R2-M	1.20	24.0	27.0	6.00	7.00
FXL0420-1R5-M	1.50	38.0	46.0	5.00	6.00
FXL0420-2R2-M	2.20	52.0	58.0	4.50	5.00
FXL0420-3R3-M	3.30	74.0	87.0	3.30	4.00
FXL0420-4R7-M	4.70	92.0	105.0	2.80	3.00
FXL0420-6R8-M	6.80	160.0	175.0	2.40	2.50
FXL0420-100-M	10.0	256.0	282.0	1.60	2.20

## SPECIFICATIONS

### FXL0518 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20%, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL0518-R47-M	0.47	7.7	9.0	10.5	15.5
FXL0518-R56-M	0.56	8.0	10.0	9.5	15.0
FXL0518-1R0-M	1.0	15.0	17.0	8.0	9.0
FXL0518-1R5-M	1.5	21.0	26.0	7.5	9.0
FXL0518-2R2-M	2.2	30.0	35.0	5.0	6.5
FXL0518-3R3-M	3.3	52.0	58.0	4.5	5.0
FXL0518-4R7-M	4.7	78.0	85.0	3.5	4.0
FXL0518-6R8-M	6.8	107.0	120.0	2.8	3.4
FXL0518-100-M	10.0	140.0	155.0	2.5	3.0

### FXL0530 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL0530-R10-M	0.10	2.40	3.0	25.0	33.0
FXL0530-R20-M	0.20	3.50	3.9	14.0	14.5
FXL0530-R47-M	0.47	7.40	8.5	11.0	12.0
FXL0530-R68-M	0.68	11.0	12.0	9.00	11.5
FXL0530-1R0-M	1.00	13.0	14.0	8.50	11.0
FXL0530-1R2-M	1.20	15.0	16.0	8.50	11.0
FXL0530-1R5-M	1.50	20.0	25.0	8.20	8.50
FXL0530-2R2-M	2.20	25.0	29.0	7.00	7.50
FXL0530-3R3-M	3.30	32.0	38.0	5.50	6.00
FXL0530-4R7-M	4.70	50.0	60.0	4.50	5.00
FXL0530-6R8-M	6.80	75.0	90.0	3.50	4.00
FXL0530-100-M	10.0	110.0	125.0	3.20	3.50

## SPECIFICATIONS

### FXL0618 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL0618-R47-M	0.47	8.00	8.40	11.5	18.0
FXL0618-R68-M	0.68	10.0	12.0	9.5	17.0
FXL0618-1R0-M	1.00	13.0	16.0	8.5	14.0
FXL0618-1R5-M	1.50	20.0	26.0	8.0	12.0
FXL0618-2R2-M	2.20	28.0	35.0	7.0	8.00
FXL0618-3R3-M	3.30	43.0	50.0	4.5	6.50
FXL0618-4R7-M	4.70	56.0	62.0	4.0	5.00
FXL0618-6R8-M	6.80	101.0	110.0	3.0	4.50

### FXL0624 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL0624-R22-M	0.22	2.50	3.00	21.0	34.0
FXL0624-R33-M	0.33	3.50	4.10	18.0	24.5
FXL0624-R47-M	0.47	4.50	5.10	15.0	22.0
FXL0624-R56-M	0.56	5.50	6.50	13.0	17.0
FXL0624-R68-M	0.68	6.20	7.00	12.0	16.0
FXL0624-1R0-M	1.00	11.0	13.5	9.00	16.0
FXL0624-1R5-M	1.50	17.0	20.0	9.00	15.0
FXL0624-2R2-M	2.20	23.0	28.0	7.00	14.0
FXL0624-3R3-M	3.30	31.0	39.0	5.50	10.0
FXL0624-4R7-M	4.70	41.0	50.0	5.00	7.50
FXL0624-6R8-M	6.80	57.0	70.0	4.00	6.00
FXL0624-100-M	10.0	92.0	101.0	3.10	4.00
FXL0624-150-M	15.0	145.0	160.0	2.50	3.30

## SPECIFICATIONS

### FXL0630 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL0630-R22-M	0.22	2.50	3.00	24.0	34.0
FXL0630-R24-M	0.24	2.60	3.10	23.0	26.0
FXL0630-R33-M	0.33	3.00	3.50	21.0	25.0
FXL0630-R47-M	0.47	3.50	4.10	18.0	20.0
FXL0630-R56-M	0.56	3.90	4.50	16.5	18.0
FXL0630-R68-M	0.68	4.80	5.30	16.0	17.0
FXL0630-R82-M	0.82	5.40	6.00	14.0	16.0
FXL0630-1R0-M	1.00	6.70	7.40	12.0	15.0
FXL0630-1R5-M	1.50	10.6	12.1	12.0	14.0
FXL0630-2R2-M	2.20	13.5	15.0	9.50	10.0
FXL0630-3R3-M	3.30	18.0	22.0	8.50	9.50
FXL0630-4R7-M	4.70	28.0	33.0	6.00	6.50
FXL0630-5R6-M	5.60	28.0	42.0	5.50	6.50
FXL0630-6R8-M	6.80	42.5	48.0	5.00	6.00
FXL0630-8R2-M	8.20	54.0	60.0	5.00	6.00
FXL0630-100-M	10.0	62.0	67.0	4.50	5.50
FXL0630-150-M	15.0	104.0	115.0	3.00	4.50
FXL0630-220-M	22.0	180.0	200.0	2.30	3.00
FXL0630-330-M	33.0	280.0	310.0	2.00	2.50
FXL0630-470-M	47.0	290.0	385.0	1.50	2.00

### FXL0650 Series

Part No.	Inductance	DC Resistance		Heating Rating Current*4	Saturation Current*3
	L0 (μH)	DCR (mΩ)		Isat (A)	Idc (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL0650-R47-M	0.47	3.5	3.9	20.00	21.00
FXL0650-R68-M	0.68	4.2	4.5	16.50	18.00
FXL0650-1R0-M	1.00	5.8	6.6	12.00	16.00
FXL0650-1R5-M	1.50	9.0	10	9.50	13.00
FXL0650-2R2-M	2.20	11	12.5	9.00	11.00
FXL0650-3R3-M	3.30	20	22	8.50	10.00
FXL0650-4R7-M	4.70	24	29	6.00	8.00
FXL0650-6R8-M	6.80	37	41	5.80	6.30
FXL0650-8R2-M	8.20	42	48	5.50	5.50
FXL0650-100-M	10.0	52	60	4.50	5.30
FXL0650-150-M	15.0	79	90	3.10	4.00
FXL0650-220-M	22.0	115	140	2.60	3.50
FXL0650-330-M	33.0	165	190	2.30	3.00
FXL0650-470-M	47.0	198	230	2.00	2.60

## SPECIFICATIONS

### FXL1040 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		I <sub>dc</sub> (A)	I <sub>sat</sub> (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL1040-R15-M	0.15	0.50	0.65	45.0	75.0
FXL1040-R22-M	0.22	0.90	1.00	35.0	60.0
FXL1040-R30-M	0.30	0.95	1.10	35.0	50.0
FXL1040-R36-M	0.36	1.05	1.20	30.0	50.0
FXL1040-R47-M	0.47	1.50	1.70	30.0	40.0
FXL1040-R56-M	0.56	1.60	1.80	25.0	33.0
FXL1040-R68-M	0.68	2.10	2.40	23.0	30.0
FXL1040-R80-M	0.80	2.60	2.70	23.0	29.0
FXL1040-1R0-M	1.00	3.00	3.30	19.0	28.0
FXL1040-1R5-M	1.50	3.80	4.20	16.0	26.0
FXL1040-2R2-M	2.20	6.00	7.00	12.0	18.0
FXL1040-3R3-M	3.30	10.0	11.8	11.0	16.0
FXL1040-4R7-M	4.70	17.0	20.0	9.00	15.0
FXL1040-6R8-M	6.80	22.0	25.0	8.50	12.0
FXL1040-8R2-M	8.20	25.0	27.0	8.00	9.00
FXL1040-100-M	10.0	27.0	30.0	7.80	8.50
FXL1040-150-M	15.0	40.0	45.0	6.50	7.00
FXL1040-220-M	22.0	58.0	66.0	5.00	5.50
FXL1040-330-M	33.0	85.0	92.0	4.40	5.00
FXL1040-470-M	47.0	130.0	145.0	3.30	3.50
FXL1040-680-M	68.0	178.0	195.0	2.50	3.00



## SPECIFICATIONS

### FXL1350 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL1350-R22-M	0.22	0.50	0.70	50.0	75.0
FXL1350-R36-M	0.36	0.74	0.85	42.0	50.0
FXL1330-R50-M	0.50	1.10	1.15	38.0	48.0
FXL1350-R68-M	0.68	1.35	1.55	33.0	46.0
FXL1350-R82-M	0.82	1.45	1.67	30.0	39.0
FXL1350-1R0-M	1.00	1.90	2.20	26.0	35.0
FXL1350-1R5-M	1.50	2.80	3.20	23.0	33.0
FXL1350-2R2-M	2.20	4.00	5.00	15.0	24.0
FXL1350-3R3-M	3.30	5.90	7.00	14.0	22.0
FXL1350-4R7-M	4.70	8.20	9.00	13.0	21.0
FXL1350-6R8-M	6.80	14.5	18.0	12.0	16.0
FXL1350-100-M	10.0	19.0	22.0	9.00	12.0
FXL1350-220-M	22.0	51.0	58.0	4.50	6.50
FXL1350-330-M	33.0	75.0	84.0	3.50	6.00
FXL1350-470-M	47.0	116.0	130.0	3.00	5.00

## SPECIFICATIONS

### FXL1360 Series

Part No.	Inductance	DC Resistance		Heating Rating Current	Saturation Current
	L0 (μH)	DCR (mΩ)		Idc (A)	Isat (A)
	±20 %, 100 KHz, 1V	TYP.	MAX.	TYP.	TYP.
FXL1360-4R7-M	4.70	8.50	9.00	20.0	24.0
FXL1360-5R6-M	5.60	9.50	11.0	18.0	22.5
FXL1360-8R2-M	8.20	13.6	16.0	11.0	13.5
FXL1360-100-M	10.0	18.0	20.7	10.0	12.5
FXL1360-120-M	12.0	20.0	23.0	7.00	10.0
FXL1360-150-M	15.0	25.0	29.0	6.00	9.00
FXL1360-180-M	18.0	30.0	35.0	5.00	8.00
FXL1360-220-M	22.0	34.0	39.5	5.00	7.50
FXL1360-270-M	27.0	49.0	56.0	4.00	6.50
FXL1360-330-M	33.0	65.0	75.0	4.00	6.00
FXL1360-470-M	47.0	80.0	90.0	3.50	5.50
FXL1360-680-M	68.0	120	140	3.00	4.50
FXL1360-101-M	100.0	180	200	2.50	3.50
FXL1360-121-M	120.0	210	235	2.30	3.20
FXL1360-151-M	150.0	300	350	2.00	2.70