

## High Current, Power Inductors



### FXLA0650-XXXM Power Choke



#### Description

- Halogen Free
- 125°C maximum total temperature operation
- 7.4\*6.6\*3mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5MHz
- 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

#### Environmental Data

- Storage temperature range: -55°C to +125 °C
- Operating temperature range: -55°C to +125°C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Description												
FXLA0650-1R0M				1.0µH				±20 %				
Model				Inductance Value				Inductance Tolerance				
Global Part Number												
F	X	L	A	0	6	5	0	1	R	0	M	
Product Series				Dimensions				Inductance Value			Tol.	

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.
FXLA0650-R22M	0.22	2.40	2.70	20.0	32.0
FXLA0650-R47M	0.47	3.30	4.00	15.0	30.0
FXLA0650-R68M	0.68	4.80	6.00	14.0	27.0
FXLA0650-1R0M	1.00	5.70	6.50	12.0	20.0
FXLA0650-1R2M	1.20	5.80	7.00	11.0	17.0
FXLA0650-1R5M	1.5	6.00	6.80	10.5	15.0
FXLA0650-2R2M	2.2	10.3	12.0	10.0	12.0
FXLA0650-3R3M	3.3	12.5	14.0	9.0	11.0
FXLA0650-4R7M	4.7	22.0	25.0	7.0	10.0
FXLA0650-5R6M	5.6	25.0	31.0	6.6	9.50
FXLA0650-6R8M	6.8	28.0	32.0	6.5	9.00
FXLA0650-8R2M	8.2	31.5	35.0	6.0	8.50
FXLA0650-100M	10.0	32.0	36.0	5.0	7.50
FXLA0650-150M	15.0	67.0	75.0	4.5	7.00
FXLA0650-220M	22	77.5	87.0	4	5.00
FXLA0650-330M	33	148	166	2.5	4.00
FXLA0650-470M	47	195	230	2.2	3.20
FXLA0650-560M	56	249	300	2	2.20
FXLA0650-680M	68	280	330	1.4	1.80

## Notes

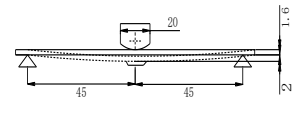
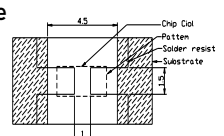
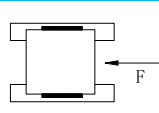
1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25 °C)
4. Isat(A):DC current (A) that will cause L0 to drop approximately 30 %
5. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

## Lead-Free Standard temperature range analysis

Refer to J-STD-020C

Item	Ramp-up	Pre-heating	Reflow	Peak Temp
Temp.scope	R.T~150°C	150°C~200°C	217°C	260±5°C
Time spec	-	60~80sec	60~150sec	20~40sec
Time result	-	75~100sec	90~120sec	20~35sec

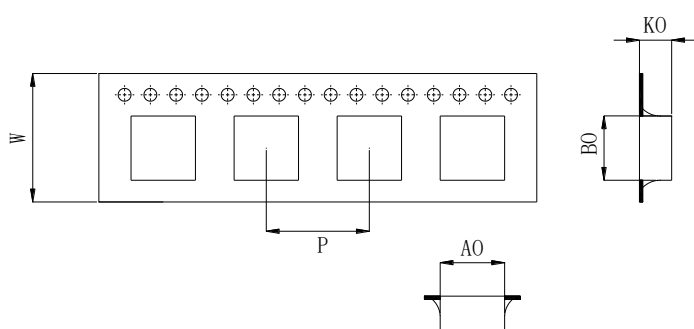
## Reliability

No.	Item	Specification	Test Method
1	Flexure Strength	The forces applied on the right conditions must not damage the terminal electrode and the metal body	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec 
2	Vibration	Appearance: No damage (for microscope of CASTOR MZ-45 20X) Inductance change shall be within ±20%	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
3	Resistance to Soldering Heat	Appearance: No damage More than 75% of the terminal electrode should be covered with solder.	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 260±5°C Immersion Time: 10±1sec
4	Solder ability	The electrodes shall be at least 95% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245±5°C Immersion Time: 5+0/-0.5sec
5	Shear Test	Chip coil shall not be damaged after tested as test method	Substrate: Glass-epoxy substrate Solder: Sn/Ag3.0/Cu0.5 Applied Direction: Force: 10N Hold Duration: 5s±1s 
6	Terminal Strength Test	No split termination 	Test device shall be soldered on the substrate, then apply a force in the direction of the arrow. Force: 5N Keeping Time: 10±1sec
7	Temperature Cycle	Appearance: No damage Inductance: within ±20% of initial value	Repeat 100 cycles as follow: (-40 ± 2 °C; 30 ± 3 min) → (Room temp., 5 min) → (+125 ± 2 °C, 30 ± 3 min) → (Room temp., 5 min) Measured after exposure in the room condition for 24hrs
8	Biased Humidity	Appearance: No damage Inductance: within ±20% of initial value	Temperature: 85±3°C Relative Humidity: 85% / Time: 500hrs Measured after exposure in the room condition for 24hrs

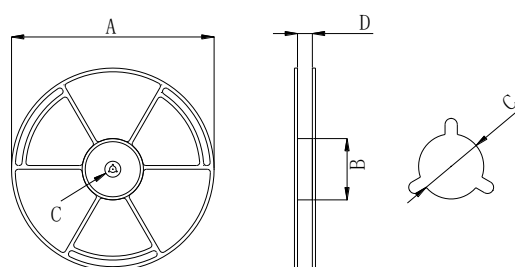
9	High Temperature Resistance	Appearance: No damage Inductance: within $\pm 20\%$ of initial value	Temperature: $125\pm 3^{\circ}\text{C}$ Relative Humidity: 0% / Time: 500hrs Measured after exposure in the room condition for 24hrs
10	Low Temperature Resistance	Appearance: No damage Inductance: within $\pm 20\%$ of initial value	Temperature: $-40\pm 3^{\circ}\text{C}$ Relative Humidity: 0% / Time: 500hrs Measured after exposure in the room condition for 24hrs

## Packaging Specifications

### Tape Dimensions

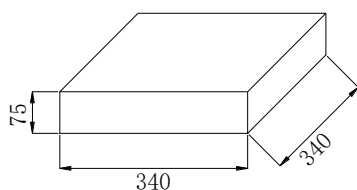


### Reel Dimensions

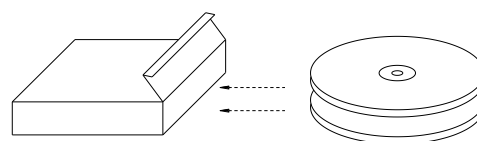


Tape Dimensions(mm)					Reel Dimensions(mm)				Quantity PCS/REEL
A0	B0	K0	P	W	A	B	C	D	
6.9	7.6	6.5	12	16	330	100	13	16	1000

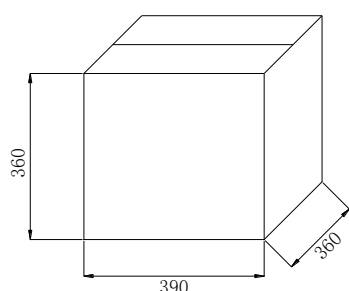
### Inner box



### Reel/Inner box ,Total 3000pcs/Inner box



### Outer box



### Inner box/Outer box ,Total 12000pcs/Outer

