

Specification for Approval

Date: 2024/1/1

Customer: _____

BYTEK P/N: FCD2012F-02 SERIES

CUSTOMER P/N: _____

DESCRIPTION: _____

QUANTITY: _____ pcs

REMARK:		
Customer Approval Feedback		

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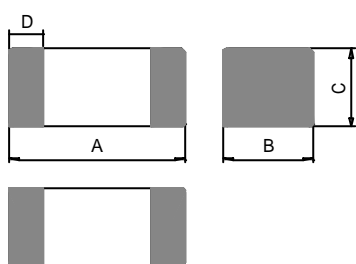
Multilayer Chip Ferrite Inductors

FCD2012F-02 SERIES

1.Features

- 1.Monolithic inorganic material construction.
- 2.Closed magnetic circuit avoids crosstalk.
- 3.S.M.T. type.
- 4.Suitable for flow and reflow soldering.
- 5.Shapes and dimensions follow E.I.A. spec.
- 6.Available in various sizes.
- 7.Excellent solderability and heat resistance.
- 8.High reliability.
- 9.This component is compliant with RoHS legislation and also support lead-free soldering.

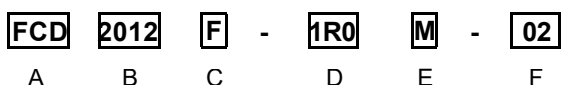
2.Dimensions



Chip Size	
A	2.00±0.20
B	1.25±0.20
C	0.80±0.20
D	0.50±0.30

Units: mm

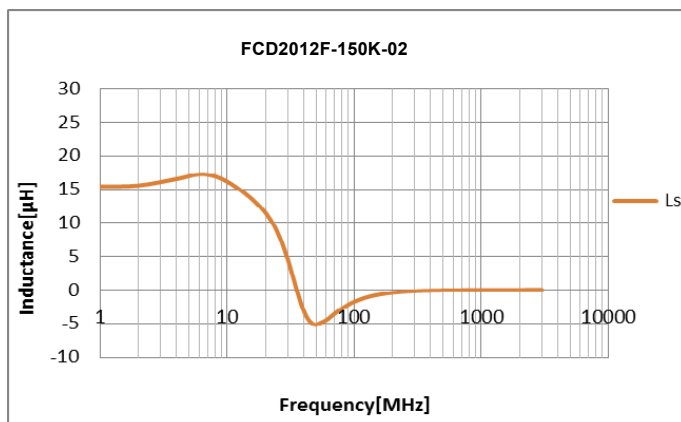
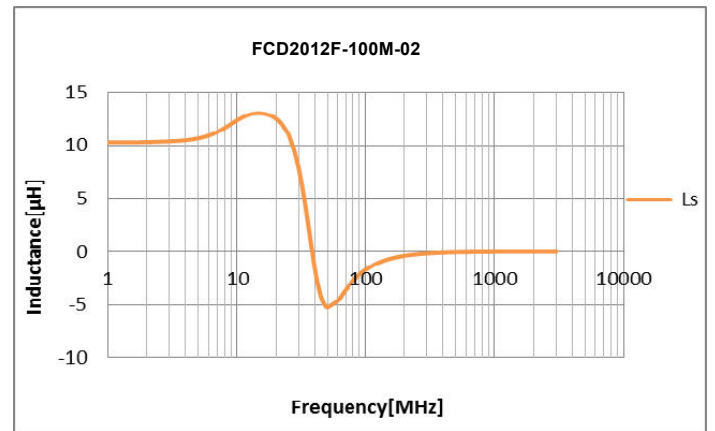
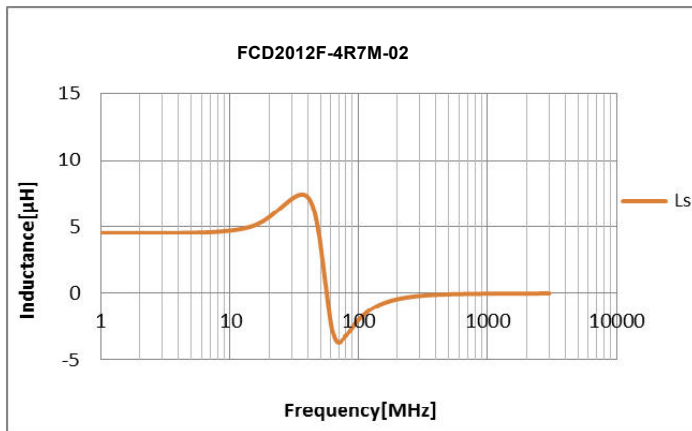
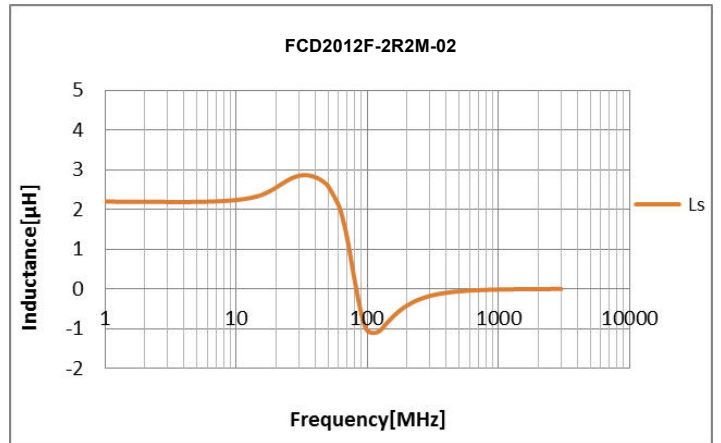
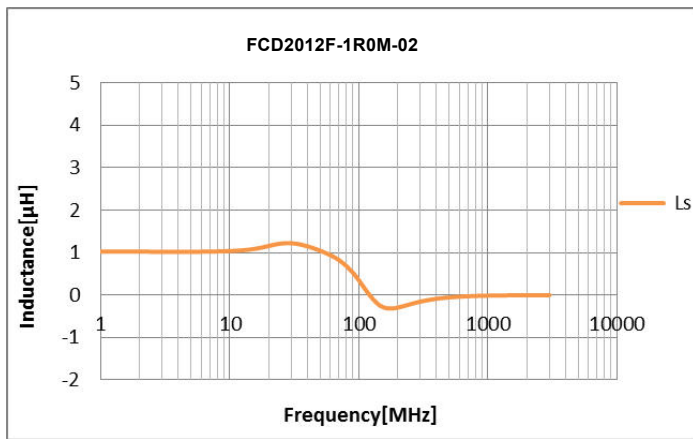
3. Part Numbering



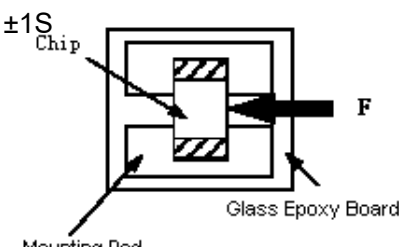
- A: Series
- B: Dimension L x W
- C: Material Lead Free Material
- D: Inductance 1R0=1.0uH
- E: Inductance Tolerance K=± 10%, J=± 5%, M=± 20%
- F: code

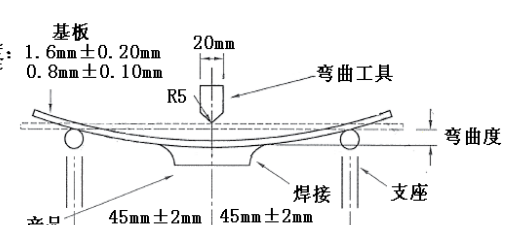
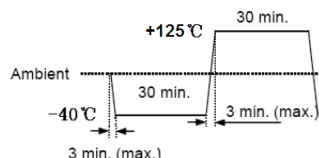
4. Specification

Part Number	Inductance(uH)		Rated Current (mA) max.	DCR (Ω) max.	SRF (MHz) min.
	Tolerance	Test Frequency (Hz)			
FCD2012F-1R0M-02	1.0±20%	50mV / 1M	1000	0.14	70
FCD2012F-2R2M-02	2.2±20%	50mV / 1M	950	0.20	45
FCD2012F-4R7M-02	4.7±20%	50mV / 1M	750	0.32	25
FCD2012F-100M-02	10±20%	50mV / 1M	800	0.43	20
FCD2012F-150K-02	15±10%	50mV / 1M	500	0.72	20



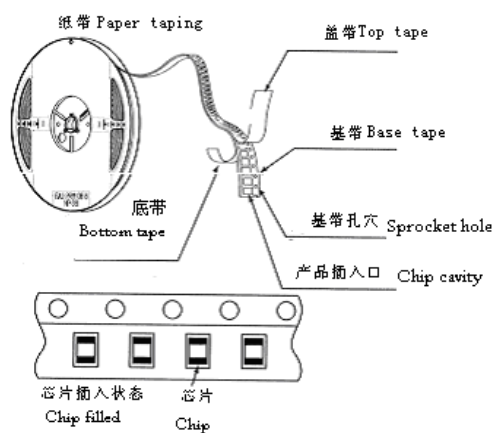
5. Reliability and Test Condition

No.	Items	Requirements	Test Methods and Remarks
1	Operating Temperature Range	-40°C ~ +125°C	including the IRMS for surface of the products
2	Solder ability	At least 95% of terminal electrode should be covered with solder	Preheating temperature: 120 to 150 Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 245±5 Immersion tin depth: 10mm Duration : 5±1s Dip performance to a flux of about: 3 ~ 5 s
3	Resistance to Soldering	At least 95% of terminal electrode should be covered with solder. No mechanical damage. Inductance : U : change within ±20% J : change within ±30%	Preheating temperature: 120 to 150 Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 260 ±5 Immersion tin depth: 10mm Duration : 10±1s Dip performance to a flux of about: 3 ~ 5 s
4	Adhesion of electrode	The termination and body should be no damage.	Applied force: 7N force for 1608 series. Keep time : 10 
5	Low temperature resistance	No mechanical damage. Inductance change: within ±20%	Temperature: -40±2°C +24 Testing time: 1000 ⁻⁰ _h

No.	Items	Requirements	Test Methods and Remarks
6	Bending strength	No mechanical damage	<p>Testing board: glass epoxy-resin substrate For 0.5 mm/s compression speed, curvature: 2mm, hold time 20s±1s .</p> 
7	Vibration	No mechanical damage. Inductance change: within ±20%	<p>Amplitude modulation: 1.5mm Test time: A period of 2h in each of 3 mutually perpendicular directions. Frequency range: 10Hz to 55Hz to 10Hz for 1min.</p>
8	High temperature resistance	No mechanical damage. Inductance change: within ±20%	<p>Testing time: 1000⁺²⁴₀ h Temperature: 125±2°C</p>
9	Static Humidity	No mechanical damage. Inductance change: within ±20%	<p>Humidity: 90% to 95% RH Temperature: 60°C ±2°C Testing time: 1000⁺²⁴₀ h</p>
10	High temperature load	No mechanical damage. Inductance change: within ±20%	<p>impose current: at room</p> <p>Testing time: 1000⁺²⁴₀ h Temperature: 125±2°C</p>
11	Temperature Shock	No mechanical damage. Inductance change: within ±20%	<p>Temperature: -40°C for 30±3min +125°C for 30±3min Number of cycles: 32</p> 

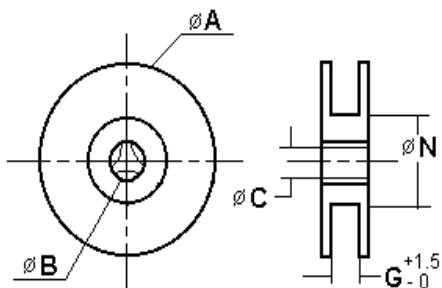
6. Packaging

6-1 Taping drawings

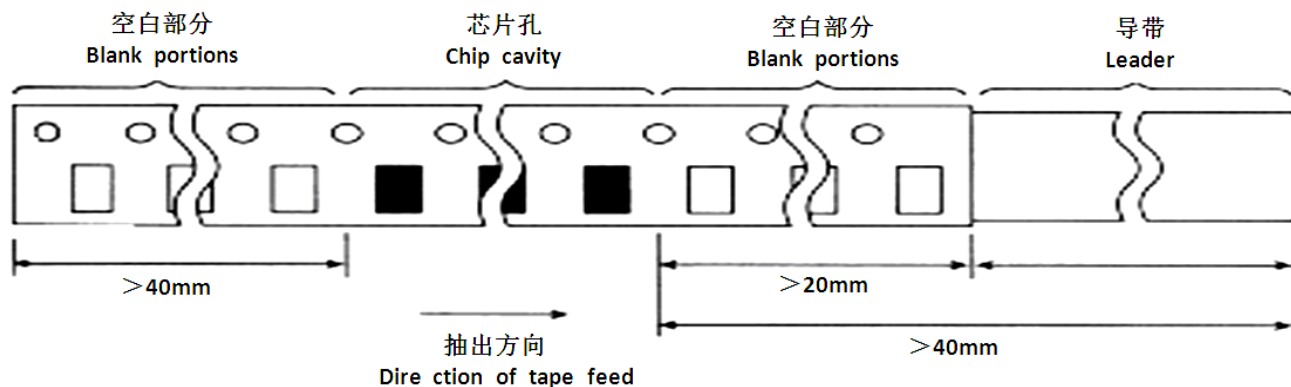


6-2 Reel dimensions (Unit: mm)

Size	A	B	C	N	G
CF-8	178±2.0	22.0±2.0	12.5±1.5	57±2.0	8

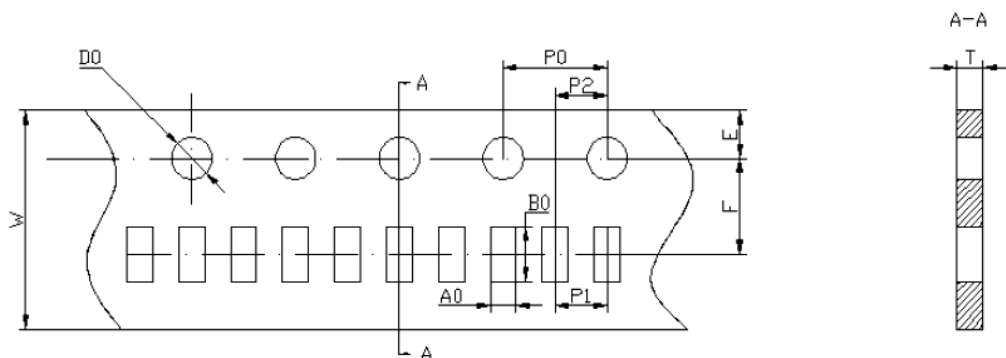


6-3 Leader and blank portion



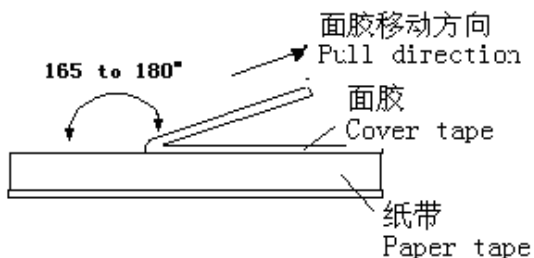
6-4 Taping dimensions (Unit: mm)

Paper tape



Size	A0	B0	W	F	E	P1	P2	P0	D0	T
201209	1.50±0.2	2.30±0.2	8.0±0.2	3.5±0.1	1.75±0.2	4.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.95±0.1

6-5 Peeling off force



Peeling force should be 0.1~0.7N pulling in the direction of arrow.

Speed of peeling off: 300mm/min.

The cover bond should not be damaged and bond the tape when it peeled off.

6-6.Packaging number (Unit: Pcs)

Size	201209
REEL	4,000
BOX	40,000
CASE	240,000