

Specification for Approval

Date: 2024/1/1

Customer: _____

BYTEK P/N: FCDH SERIES

CUSTOMER P/N: _____

DESCRIPTION: _____

QUANTITY: _____ pcs

REMARK:		
Customer Approval Feedback		

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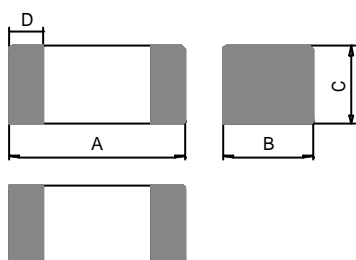
Multilayer Chip Ferrite Chip Inductors

FCDH 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



单位Unit: mm (inch)

Size	A	B	C	E
160808	1.6±0.20 (0.063±0.008)	0.8±0.20 (0.031±0.008)	0.8±0.20 (0.031±0.008)	0.3±0.2 (0.01±0.008)
201209	2.0±0.20 (0.079±0.008)	1.2±0.20 (0.047±0.008)	0.9±0.20 (0.035±0.008)	0.5±0.3 (0.020±0.012)
201609	2.0±0.20 (0.079±0.008)	1.6±0.20 (0.063±0.008)	0.9±0.20 (0.035±0.008)	0.5±0.3(0.020±0.012)
252010	2.5±0.20 (0.098±0.008)	2.0±0.20 (0.079±0.008)	1.0±0.20 (0.039±0.008)	0.5±0.3 (0.020±0.012)

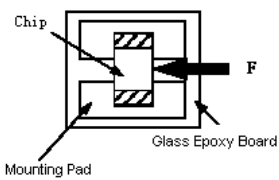
3. Part Numbering

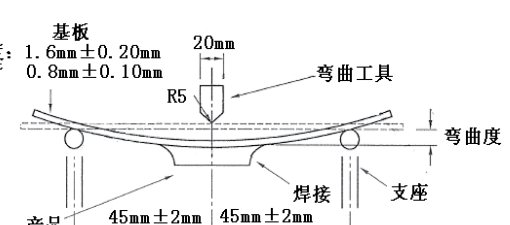
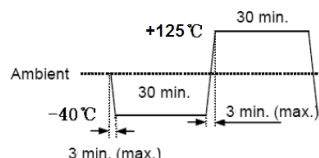
FCDH **201209** **A** - **1R0** **M** - **02**
 A B C D E F

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

Part NO	Tolerance (%)	Inductance (μH)	RDC (Ω)	Test frequency (MHz)	Test voltage (mV)	SRF (MHz) min	Rated current (mA)max
FCDH160808B Series:							
FCDH160808B-R56M-02	±20	0.56	0.12±30%	1	50	100	1050
FCDH160808B-1R0M-02	±20	1.0	0.20±30%	1	50	98	900
FCDH160808B-1R8M-02	±20	1.8	0.24±30%	1	50	95	750
FCDH160808B-2R2M-02	±20	2.2	0.24±30%	1	50	95	750
FCDH160808B-4R7M-02	±20	4.7	0.50±30%	1	50	65	700
FCDH201209B Series:							
FCDH201209B-1R0M-02	±20	1.0	0.11±25%	1	50	75	1150
FCDH201209B-2R2M-02	±20	2.2	0.20±	1	50	50	950
FCDH201209B-3R3M-02	±20	3.3	0.22±25%	1	50	35	800
FCDH201209B-4R7M-02	±20	4.7	0.30±25%	1	50	25	750
FCDH201209B-6R8M-02	±20	6.8	0.30±25%	1	50	25	600
FCDH201609B Series:							
FCDH201609B-1R0M-02	±20	1.0	0.10±25%	1	50	70	1400
FCDH201609B-2R2M-02	±20	2.2	0.16±25%	1	50	50	1200
FCDH201609B-3R3M-02	±20	3.3	0.20±25%	1	50	40	1200
FCDH201609B-4R7M-02	±20	4.7	0.26±25%	1	50	30	1100
FCDH252010B Series:							
FCDH252010B-1R0M-02	±20	1.0	0.06±25%	1	50	70	1600
FCDH252010B-2R2M-02	±20	2.2	0.10±25%	1	50	55	1300
FCDH252010B-3R3M-02	±20	3.3	0.14±25%	1	50	30	1200
FCDH252010B-4R7M-02	±20	4.7	0.18±25%	1	50	25	1100

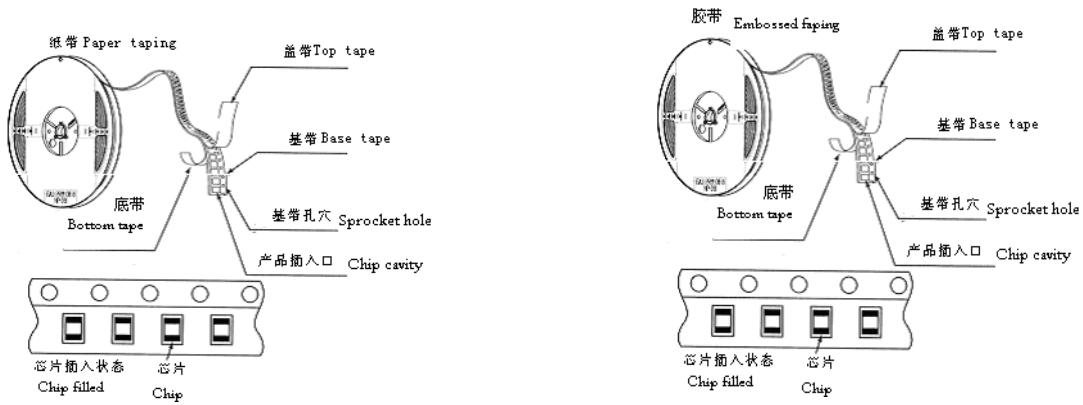
5. Reliability and Test Condition

No.	Items	Requirements	Test Methods and Remarks
1	Operating Temperature Range	-40°C ~ +85°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 : Q value change (ferrite): within ±30%	Preheating temperature: 120 °C to 150 °C Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 260 °C ±5 °C 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: 5N force for 1005 and 1608 series; 10N force for 2012、3216 series; 15N force for 3225、4532 series; Keep time : 10±1S 
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 1 mm/s compression speed, curvature: 2mm, hold time 30 s.</p> 
7	Vibration	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ferrite): within $\pm 30\%$	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.
8	High temperature resistance	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ferrite): within $\pm 30\%$	Testing time: $1000 \begin{matrix} +24h \\ -0 \end{matrix}$ Temperature: $85 \pm 2^\circ\text{C}$
9	Static Humidity	No mechanical damage. Inductance change: within $\pm 20\%$	Humidity: 90% to 95% RH Temperature: $60^\circ\text{C} \pm 2^\circ\text{C} + \begin{matrix} 24 \\ -0 \end{matrix}$ h Testing time: $1000 \begin{matrix} +24h \\ -0 \end{matrix}$
10	High temperature load	No mechanical damage. Inductance change: within $\pm 20\%$	impose current: at room Testing time: $1000 \begin{matrix} +24h \\ -0 \end{matrix}$ Temperature: $85 \pm 2^\circ\text{C}$
11	Temperature Shock	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ferrite): within $\pm 30\%$	Temperature: -40°C for 30 ± 3 min $+85^\circ\text{C}$ for 30 ± 3 min Number of cycles: 32 

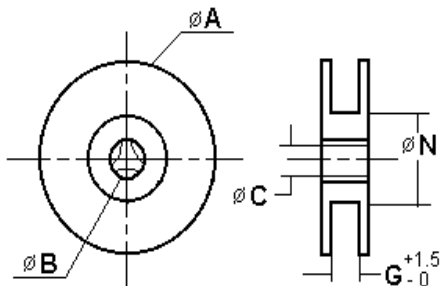
6. Packaging

6-1 Taping drawings

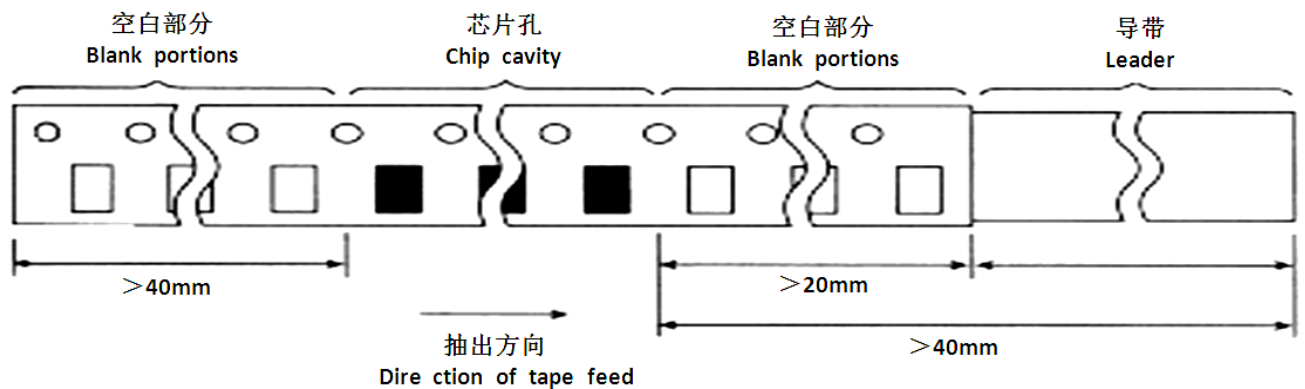


6-2 Reel dimensions (Unit: mm)

序号 No.	A		C	N	G
CF-8	178±2.0	22.0±2.0	12.5±1.5	57±2.0	8

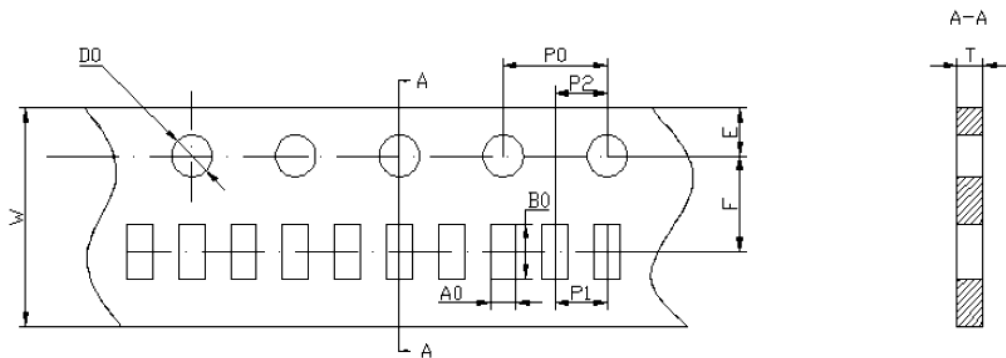


6-3 Leader and blank portion



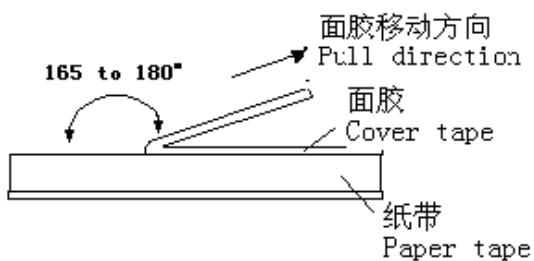
6-4 Taping dimensions (Unit: mm)

Paper tape



Part NO.	A0	B0	W	F	E	P1	P2	P0	D0	T
160808	1.10±0.2	1.90±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
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	252010	201609	201209	160808
REEL	3000	4000	4000	4000
BOX	30000	40000	40000	40000
CASE	180000	240000	240000	240000