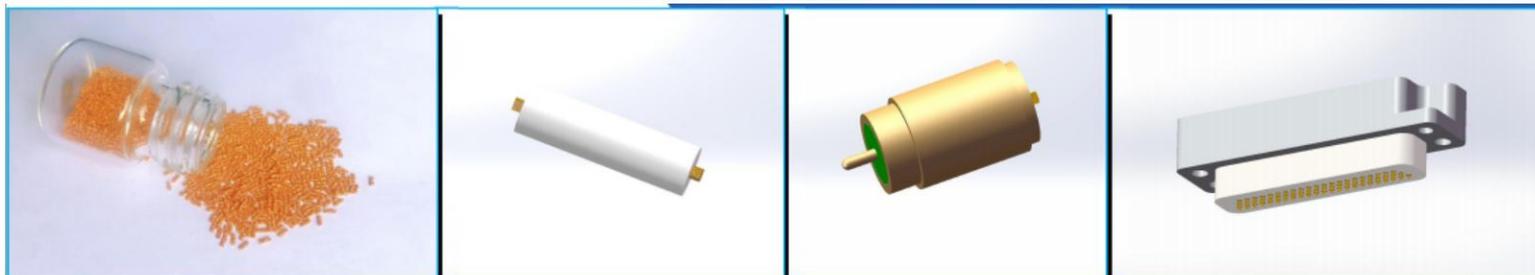




Xi'an Longtrox Scien-Tech Co., Ltd.



Fuzz Button Catalog

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- Application-----3
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■ There is a surging demand of smaller and lighter evolution in modern military and civilian electronic equipment, especially airborne and missile-borne radars and communication systems that require better performance. A highly integrated interconnection solution that works at higher

frequency at lower cost and offer reliability arise the attention .

Under this development trend, the fuzz buttons developed by Longtrox mainly used as interconnection solution for printed boards inside chassis or modules, or printed boards and chips. They can transmit low frequency, radio frequency, high speed and current signals.

RF coaxial fuzz button connector can compensate the offset axially and radiusly between circuit boards to circuit boards

■ Fuzz buttons are made of gold-plated metal wire twisted and formed through a special moulding. It can be compressed to 10%~30% of the length. The contact can be bridged to transmit the both high-frequency signals and low-frequency signals. Multiple signal channels can be integrated on one board.

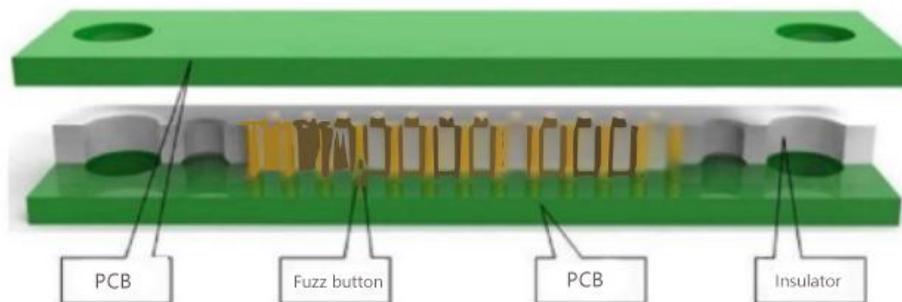


■ Compared to other contact technologies such as pogo pins, pins, spring probes, welding, fuzz button excels especially when parameters such as low signal distortion, high frequency, low insertion force, flatness, shock/vibration resistance and lifespan matter.



Fuzz button interconnection solution is available in a variety of diameters and lengths, with diameters ranging from 0.25mm to 1.27mm and lengths from 0.7mm to 13mm. It is mainly used to meet contact spacing lower to 1mm or even smaller. It is compatible with most the trending package such as GA, BGA, LGA, CGA, QFN and any custom package.

It is ideal for grid array IC sockets and vertical interconnects between stacked PCBs. In terms of the signal transmission, the max frequency is higher than 40Ghz.



Product Features

- ◆ low connection height (flat connection), small size and light weight;
- ◆ low profile, array type, dense contacts;
- ◆ board-to-board vertical interconnection, surface mountable, end-face contact;
- ◆ surface-mounted transmission line connected to center pin, large position tolerance r;
- ◆ wide frequency range, excellent electrical performance, simple and reliable structure;
- ◆ transmitting low frequency, radio frequency, high speed and current signals.
- ◆ simple structure, high reliability, elastic contact, solderless interconnection, zero plug-in and pull-out force, and long lifespan.
- ◆ easy to install, disassemble and maintain;
- ◆ wide range application , adapting to extreme environments;

Installation

- ◆ only one side is welded and fixed;
- ◆ both sides are fixed by crimping;
- ◆ both sides are fixed by welding;
- ◆ only one side is fixed with screws;
- ◆ both sides are fixed by welding;
- ◆ one side is fixed and the other side is integrated with SMA or other connectors

Application

Fuzz buttons are widely used in weapons, satellites, space, aircraft, radar arrays, supercomputers, automobiles and other wireless communication fields. Especially in some applications with robust requirements such as military communication base stations, this connector is the prior choice.



Antenna



Chip



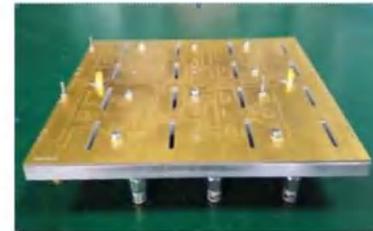
Auto



Robot



Shipborne



Microwave module



Phased radar



Super computer



Unmanned Aerial Vehicle



Satellite



Wireless communication



Missile

■ Specification



NO.1
 $\phi = 0.254\text{mm}$



NO.2
 $\phi = 0.300\text{mm}$



NO.3
 $\phi = 0.381\text{mm}$



NO.4
 $\phi = 0.508\text{mm}$



NO.5
 $\phi = 0.635\text{mm}$



NO.6
 $\phi = 0.762\text{mm}$



NO.7
 $\phi = 1.016\text{mm}$

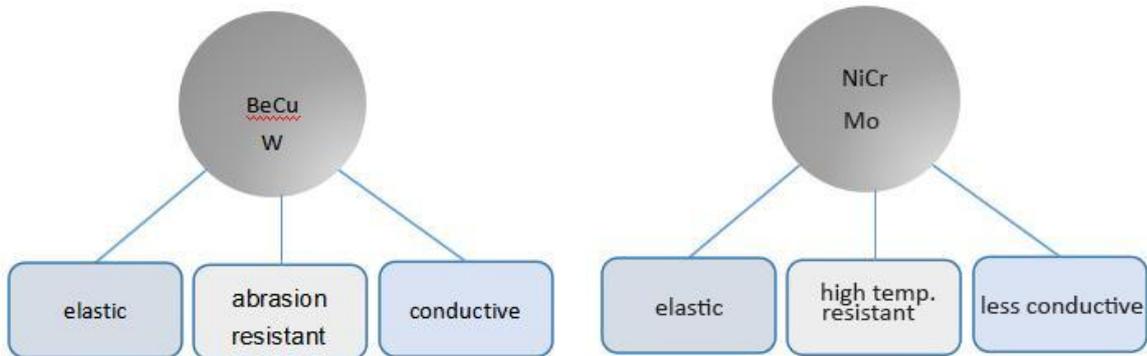


NO.8
 $\phi = 1.270\text{mm}$

■ Dimension & Length

No.	Dimension/mm	Length/mm
1	0.254	0.5~2.5
2	0.300	0.8~3.0
3	0.381	0.8~3.8
4	0.508	1.0~5.1
5	0.635	1.0~6.4
6	0.762	1.3~7.6
7	1.016	1.5~4.0
8	1.270	1.5~4.0

Material & Property



1. P: Gold-plated beryllium copper alloy (Au/BeCu);
 2. M: Gold-plated molybdenum (Au/Mo);
 3. W: Gold-plated tungsten (Au/W);
 4. N: Gold-plated nickel-chromium (Au/NiCr).
- Frequency Range: DC~26.5G/DC~40G/DC~67G

Fill rate

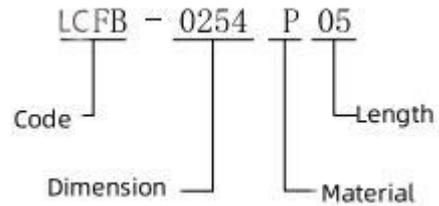
1. Filling rate: 40%±3%;
 2. Tolerance: diameter ±5%, length +10%.
- Custom material and dimension are also available.

■Current Load

No	Dimension/mm	Current
1	0.254	0.5A
2	0.300	1.0A
3	0.381	1.0A
4	0.508	3.0A
5	0.635	3.0A
6	0.762	5.0A
7	1.016	7.5A
8	1.270	10.0A

Product Specification

Model Coding



0.254					
PN	Dimension(mm)	Length(mm)	PN	Dimension(mm)	Length(mm)
LCFB-0254P05	0.254	0.5	LCFB-0254P18	0.254	1.8
LCFB-0254P08	0.254	0.8	LCFB-0254P20	0.254	2.0
LCFB-0254P10	0.254	1.0	LCFB-0254P23	0.254	2.3
LCFB-0254P13	0.254	1.3	LCFB-0254P25	0.254	2.5
LCFB-0254P15	0.254	1.5	Recommended compress rate 8%-12%, 10% the best		
0.381					
PN	Dimension(mm)	Length(mm)	PN	Dimension(mm)	Length(mm)
LCFB-0381P08	0.381	0.8	LCFB-0381P25	0.381	2.5
LCFB-0381P10	0.381	1.0	LCFB-0381P28	0.381	2.8
LCFB-0381P13	0.381	1.3	LCFB-0381P30	0.381	3.0
LCFB-0381P15	0.381	1.5	LCFB-0381P33	0.381	3.3
LCFB-0381P18	0.381	1.8	LCFB-0381P36	0.381	3.6
LCFB-0381P20	0.381	2.0	LCFB-0381P38	0.381	3.8
LCFB-0381P23	0.381	2.3	Recommended compress rate 15%-20%		
0.300					
PN	Dimension(mm)	Length(mm)	PN	Dimension(mm)	Length(mm)
LCFB-0300P08	0.300	0.8	LCFB-0300P20	0.300	2.0
LCFB-0300P10	0.300	1.0	LCFB-0300P23	0.300	2.3
LCFB-0300P13	0.300	1.3	LCFB-0300P25	0.300	2.5
LCFB-0300P15	0.300	1.5	LCFB-0300P30	0.300	3.0
LCFB-0300P18	0.300	1.8	Recommended compress rate 8%-12%, 10% the best		

0.508					
PN	Dimension(mm)	Length(mm)	PN	Dimension(mm)	Length(mm)
LCFB-0508P10	0.508	1.0	LCFB-0508P33	0.508	3.3
LCFB-0508P13	0.508	1.3	LCFB-0508P36	0.508	3.6
LCFB-0508P15	0.508	1.5	LCFB-0508P38	0.508	3.8
LCFB-0508P18	0.508	1.8	LCFB-0508P41	0.508	4.1
LCFB-0508P20	0.508	2.0	LCFB-0508P43	0.508	4.3
LCFB-0508P23	0.508	2.3	LCFB-0508P46	0.508	4.6
LCFB-0508P25	0.508	2.5	LCFB-0508P48	0.508	4.8
LCFB-0508P28	0.508	2.8	LCFB-0508P51	0.508	5.1
LCFB-0508P30	0.508	3.0	Recommended compress rate 15%-20%		
0.635					
PN	Dimension(mm)	Length(mm)	PN	Dimension(mm)	Length(mm)
LCFB-0635P10	0.635	1.0	LCFB-0635P38	0.635	3.8
LCFB-0635P13	0.635	1.3	LCFB-0635P41	0.635	4.1
LCFB-0635P15	0.635	1.5	LCFB-0635P43	0.635	4.3
LCFB-0635P18	0.635	1.8	LCFB-0635P46	0.635	4.6
LCFB-0635P20	0.635	2.0	LCFB-0635P48	0.635	4.8
LCFB-0635P23	0.635	2.3	LCFB-0635P51	0.635	5.1
LCFB-0635P25	0.635	2.5	LCFB-0635P53	0.635	5.3
LCFB-0635P25	0.635	2.5	LCFB-0635P56	0.635	5.6
LCFB-0635P28	0.635	2.8	LCFB-0635P58	0.635	5.8
LCFB-0635P30	0.635	3.0	LCFB-0635P61	0.635	6.1
LCFB-0635P33	0.635	3.3	LCFB-0635P64	0.635	6.4
LCFB-0635P36	0.635	3.6	Recommended compress rate 15%-20%		

1.016					
PN	Dimension(mm)	Length(mm)	PN	Dimension(mm)	Length(mm)
LCFB-1016P15	1.016	1.5	LCFB-1016P28	1.016	2.8
LCFB-1016P18	1.016	1.8	LCFB-1016P30	1.016	3
LCFB-1016P20	1.016	2	LCFB-1016P32	1.016	3.2
LCFB-1016P22	1.016	2.2	LCFB-1016P35	1.016	3.5
LCFB-1016P25	1.016	2.5	LCFB-1016P40	1.016	4
Recommended compress rate 15%-20%					
1.270					
PN	Dimension(mm)	Length(mm)	PN	Dimension(mm)	Length(mm)
LCFB-1270P15	1.270	1.5	LCFB-1270P28	1.270	2.8
LCFB-1270P18	1.270	1.8	LCFB-1270P32	1.270	3.2
LCFB-1270P20	1.270	2.0	LCFB-1270P35	1.270	3.5
LCFB-1270P22	1.270	2.2	LCFB-1270P40	1.270	4.0
LCFB-1270P25	1.270	2.5	Recommended compress rate 10%-15%		

Fuzz Button Connectors

■ Introduction

Typical mm wave fuzz button connectors adapt to SMA/2.92mm/2.4mm/1.85mm/SMP/SSMP interface.

1. Fuzz button connected to PCB board or microstrip circuit

The elastic contact between fuzz button and PCB land is solderless, easy to maintain while keep excellent performance.

2. The surface-mounted transmission line combined with center pin forms coplanar transmission. The position tolerance is relatively large.

3. The other end is standard connector interface that can be terminated to cables.

■ Technical Parameter

Impedance	50
Frequency	DC~26.5G and DC~40G
VSWR	$\leq 1.05 + 0.015f(\text{GHz})$
Materials and plating:	
Fuzz button	Beryllium copper/Gold Plated
Center contact	Beryllium copper/ Phosphor bronze/Gold Plating
Insulator	PTFE
Body	Brass/gold plated; stainless steel/passivated
Mechanical Parameter	
Temperature	-55°C~150°C
Life	5000 insertion and extraction times

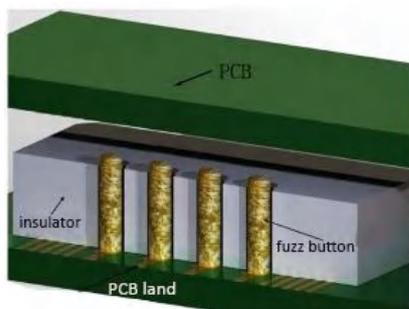
■ Appearance

◆ Flexible PCB interface connection (through hole or SMT)

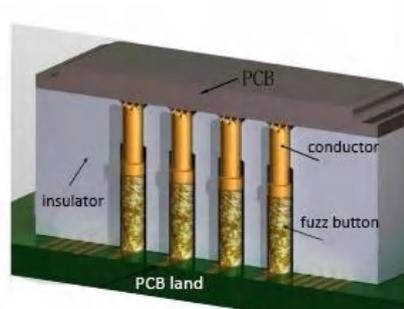
◆ integrated to SMA and other products

◆ Custom heights and shapes

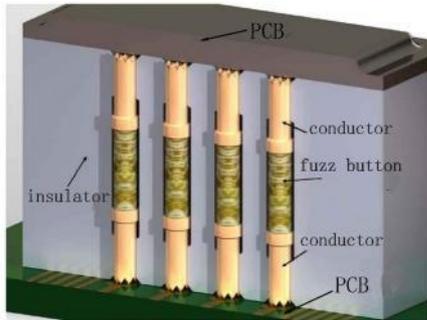
■ Typical application



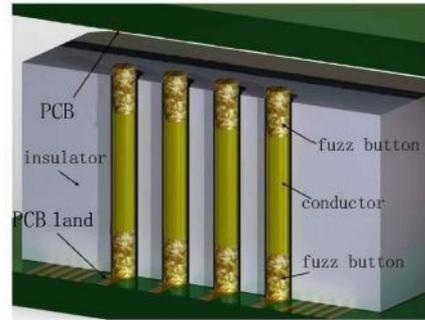
Solution A



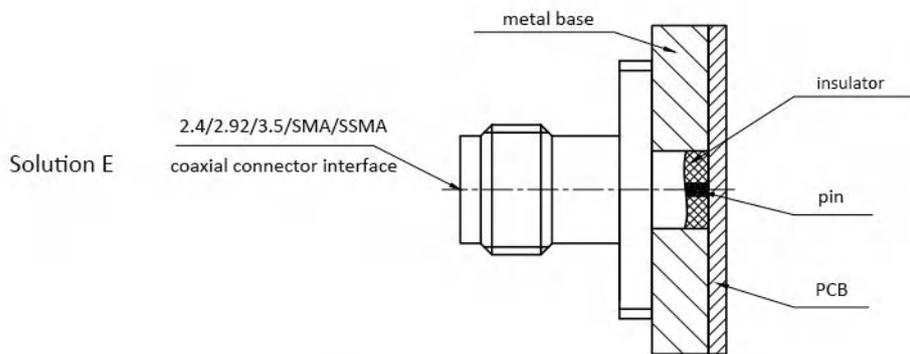
Solution B



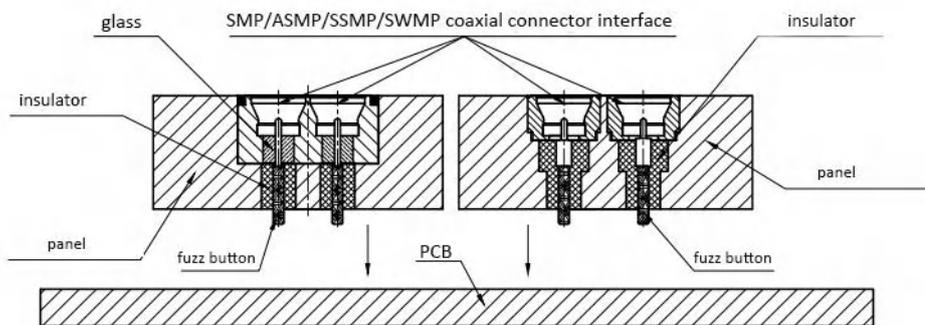
Solution C



Solution D

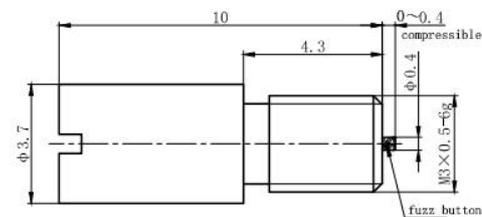
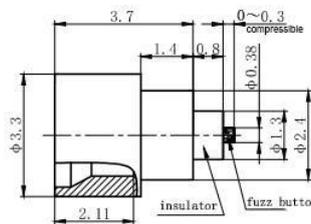
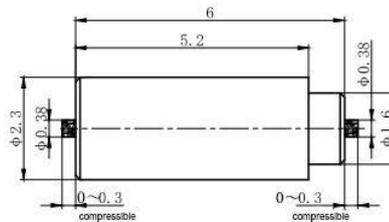
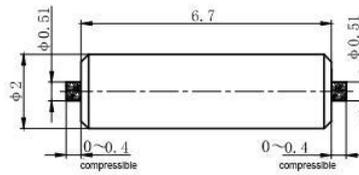


Solution E



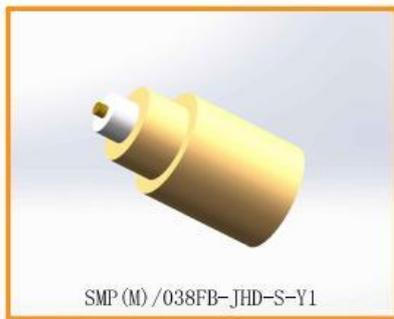
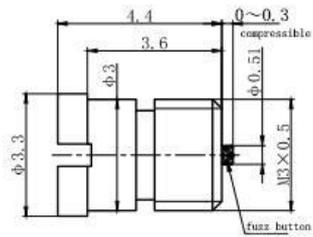
Solution F

High Frequency Fuzz Button Connector

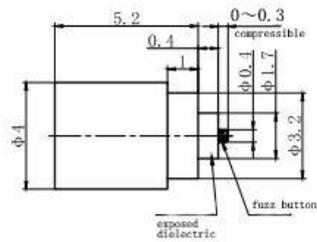


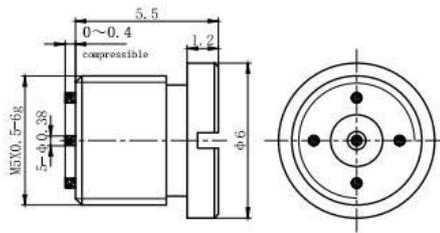
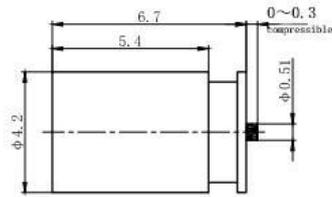
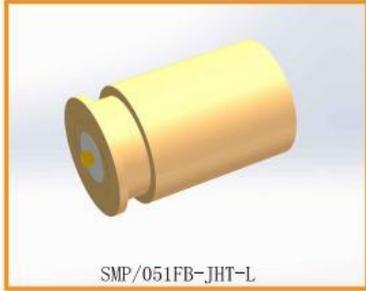
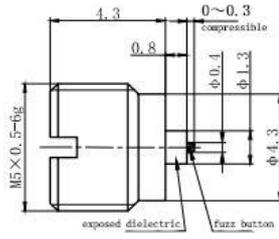
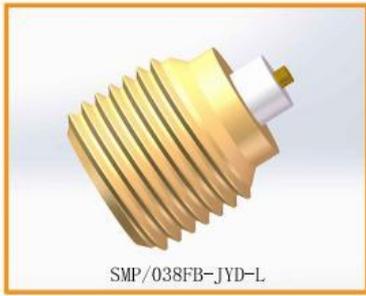


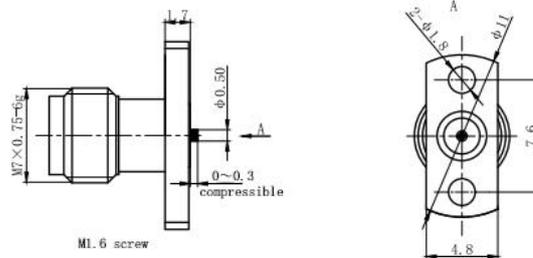
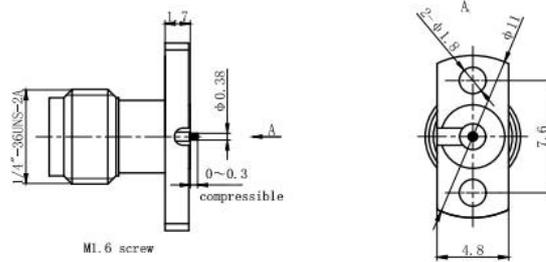
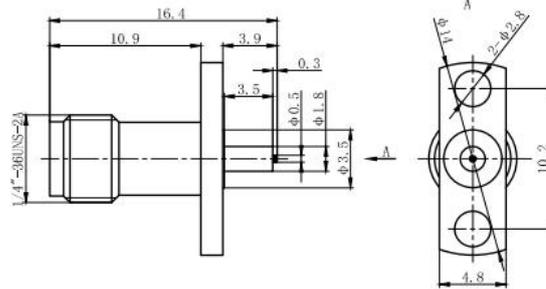
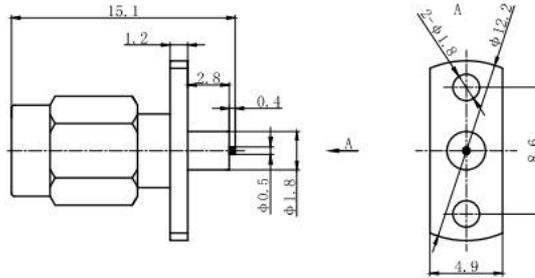
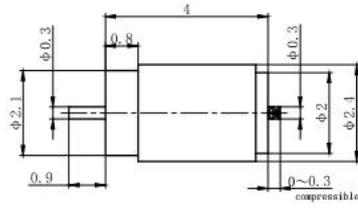
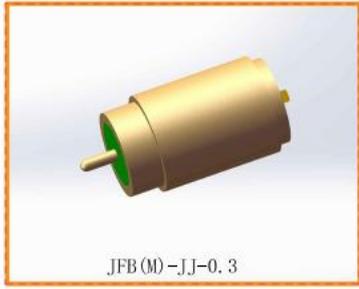
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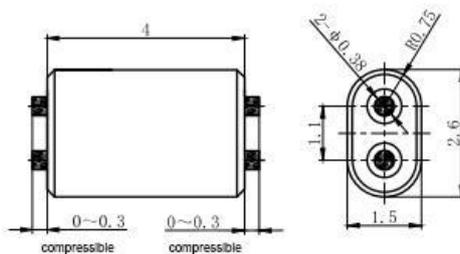
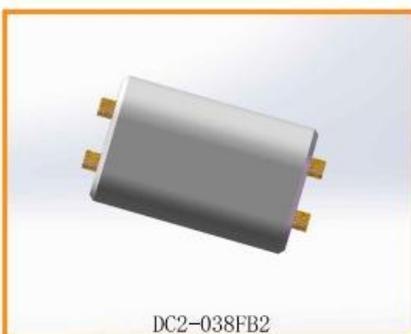
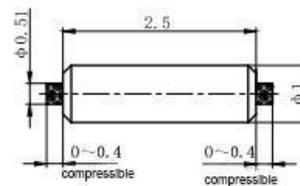
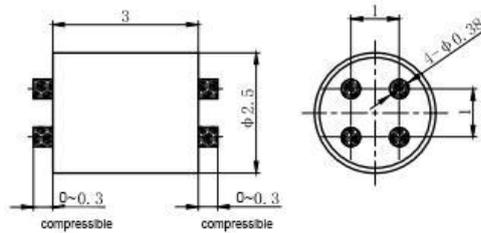
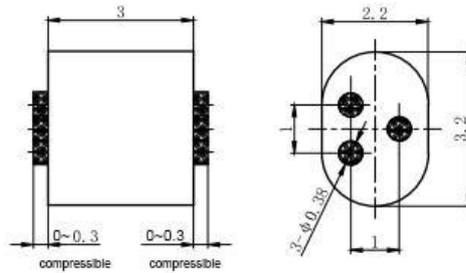
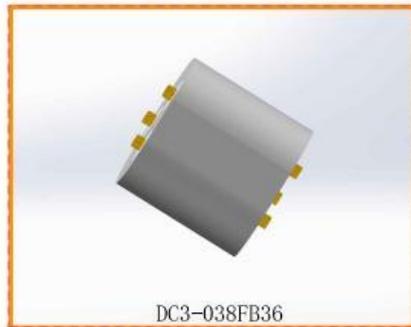
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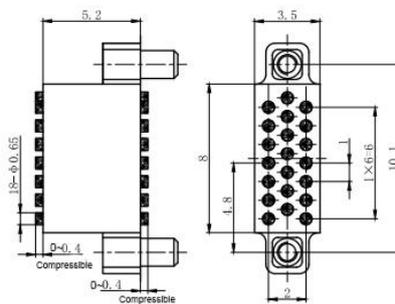
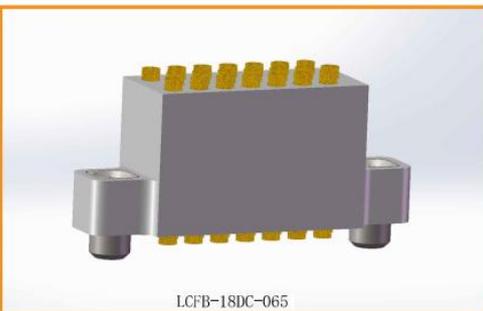
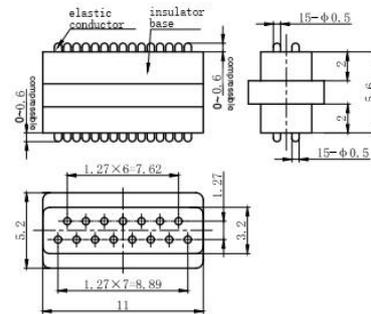
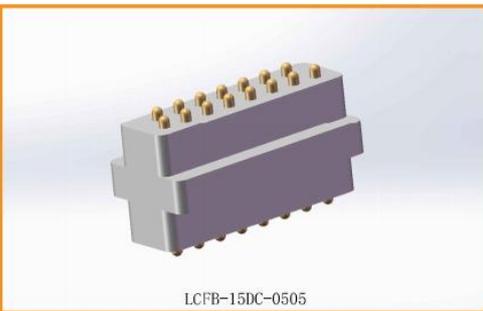
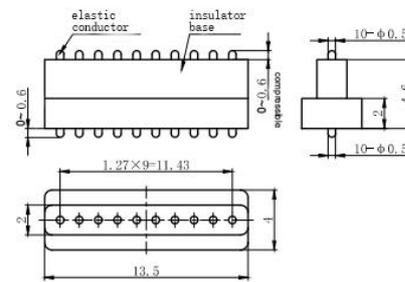
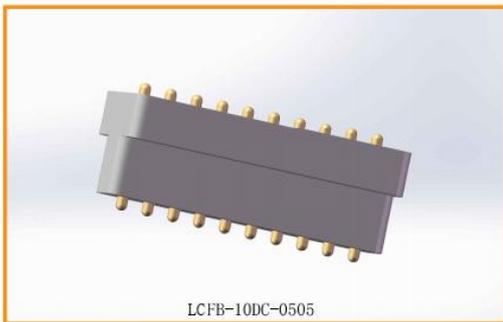
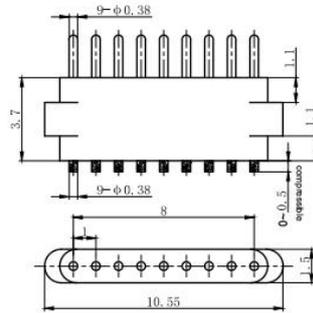






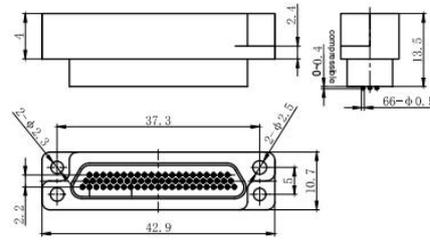
Low Frequency Fuzz Button Connector







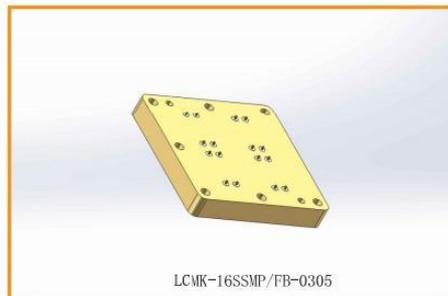
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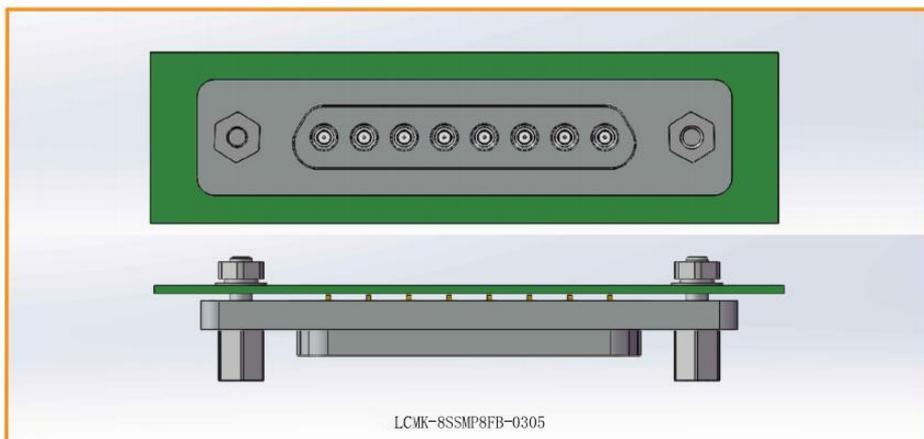
Multi-Channel Fuzz Button Connector



LCMK-4RF2DC-0404



LCMK-16SSMP/FB-0305



LCMK-8SSMP8FB-0305

