

Luoyang Fuzz button Interconnect Technology Co., Ltd.

Phased radar \ Aerospace \ Chip test
5G communication \ Weapons missiles

CONNECTOR Fuzz Button® Floss Pin® 毛纽扣®









Luoyang Fuzz button Interconnect Technology Co., Ltd.

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Luoyang Fuzz button Interconnect Technology Co., Ltd.

— Luoyang Fuzz Button Introduction:

Luoyang Fuzz Button Interconnection Technology Co., Ltd., located in Luoyang District of China (Henan) Pilot Free Trade Zone, is a scientific and technological innovation enterprise integrating the R&D, sales, installation, commissioning, technical services and import and export business of electromechanical components, connectors and their accessories, and interconnection devices.

The company focuses on the development of various fuzz button connectors (board to board RF, coaxial, high-speed transmission), fuzz button connecting boards, fuzz button microwave devices and other products, and has independent intellectual property technology.

Floss Pin, i.e. Fuzz Button, company's patented products.

Floss Pin ®、 Fuzz Button ® and 毛纽扣® are registered trademarks of the company.

We are more first company in China of the fuzz buttons has being mass produced. Product performance is in the lead, Key parameters have reached Fuzz Button and CIN: APSE of USA.

Fuzz Button Connector:

- 1. Board (PCB) to board (PCB) vertical connection, board (PCB) to line connection;
 - 2. The connector has no polarity, regardless of the plug and socket;
- 3. The end face of the fuzz button is in elastic contact with the PCB, zero insertion force, and no welding required;
- 4. The fuzz button connector has low height, small size, light weight, and the height can be as low as 1mm;
- 5. The fuzz button connector can transmit low frequency, high frequency, microwave and high speed signals;
 - 6. The fuzz button connector is easy to install, use and maintain.

二、Trademark and Patents:

The Floss Pin: That is Fuzz button

The Floss Pin: New structure to solve flowering and wire detachment
The Fuzz button connector: Solve the install and fixed of the fuzz button
The Fuzz button B-B connector: Vertical connection, Zero-insertion force,

High speed performance

The Fuzz button B-B RF connector: Vertical connection, Zero-insertion force, RF coaxially



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二、Trademark and Patents:

The MM wave B-B Coaxial Connectors of Zero-insertion force and Vertical connection

The B-B coaxially connector: Vertical connection, Zero-insertion force, RF coaxially

The High-current socket with hyperboloid of spring-band: Power current. Spring envelope contact

The High-current socket and Inclined spring: Charging terminal for new energy electric vehicle







Floss Pin®

Fuzz Button®

毛纽扣®







The Floss Pin ZL2015103140605

The Fuzz button connector ZL2017206081853

The MM wave B-B Coaxial Connectors of Zero-insertion force and Vertical connection



///K 洛阳毛纽扣互连科技有限公司

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Specifications: Customized, Special size, Fast delivery

	WW-	DDD	LLL	
	材料	直径 (英寸)	长度 (英寸)	
	Wire Type	Diameter (inches)	Length (inches)	
	80: 铍铜镀金	.010": ф 0.25mm	.260": 6.6mm	
		.012": ф0.30mm	.200": 5.0mm	
规格型号:	81: 钼镀金	.015": ф0.38mm	.157": 4.0mm	
Numbering:	82: 钨镀金	.020": ф 0.50mm	.118": 3.0mm	
	83: 镍铬镀金 84: 磷铜镀金 85: 不锈钢镀金	.030": ф 0.76mm	.078": 2.0mm	
		.040": ф 1.0mm	.070": 1.8mm	
		.055": ф 1.4mm	.060": 1.5mm	
		.063": ф 1.6mm	.040": 1.0mm	
		自定义 custom	自定义 custom	
型号示例: 80-020200: 直径 0.5mm, 长度 5mm, 材料铍铜镀金				

填充率 Fill Rate: 28%±2% 公差 Tolerances: 直径 Diameter±5%: 长度 Length +20%/0%

3.1 Rated current:

Ф0.25mm: 0.5A; Ф0.38mm: 1A; Ф0.50mm: 3A;

Sample: 80-020200: Diameter 0.5mm, Length 5mm, Wire Type Au/BeCu

Φ0.76mm: 5A; Φ1.02mm: 7.5A; Φ1.4mm: 10A

3.2 Fuzz Button Standard sizes:

- Φ0.25x1.8mm、 Φ0.30x1.2mm、
- Φ0.38x1.5mm、Φ0.38x2.0mm、Φ0.38x2.5mm、Φ0.38x3.0mm、 Φ0.38x2.8mm、Φ0.38x4.1mm、Φ0.38x5.1mm
- Φ0.50x1.0mm、Φ0.50x1.4mm、Φ0.50x1.6mm、Φ0.50x1.8mm、Φ0.50x2.0mm、Φ0.50x2.3mm、Φ0.50x2.6mm、Φ0.50x3.0mm、Φ0.50x3.3mm、Φ0.50x3.5mm、Φ0.50x4.0mm、Φ0.50x4.5mm、Φ0.50x5.0mm、Φ0.50x6.6mm
- Φ0.76x3.0mm \ Φ0.76x2.0mm
- Φ1.02x0.7mm、 Φ1.02x1.3mm、 Φ1.02x2.5mm、 Φ1.02x3.0mm、 Φ1.02x4.0mm、 Φ1.02x5.0mm
- Φ1.40x6.6mm Φ1.20x5.0mm
- Φ1.60x1.4mm、Φ1.60x1.6mm、 Φ1.60x4.0mm、 Φ5.0x8.5mm



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四、Fuzz Button Applications:

The solderless flexible connection fuzz button connector can be used to realize the connection between the gold-plated plane (pad) and the pad, and the connection between the pad and the cable. It is an ideal interconnection solution to meet the requirements of high reliability, high-speed transmission, low profile, high density, etc.

- 1. High Speed RF Solutions: Satellite Antennas. Phased Array Antennas. Active Electronically Steered Array Radar, Unmanned aerial vehicle (UAV), navigation
 - 2. Smart Munitions: Missiles. Small Diameter Munitions
- 3. Airborne Computers and Avionics: MCM's. ASIC's. CPU's. LRM's. **Gyros**



UAV



satellite



robot



Radar Antenna



aviation, aerospace



Chip test

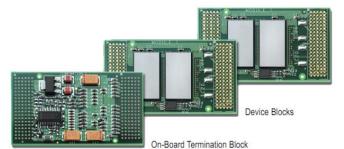


guided missile



Phased Radar

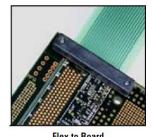




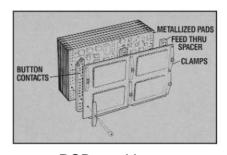
Multilayer printed board stacking, vertical connection between boards



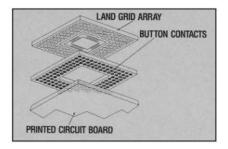
Chip Package to Board Chip to PCB



Flexible to PCB



PCB stacking



Chip to board connection



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五、Only Fuzz Button (Customizable)

5.1, Fuzz Button: Micro-nano type



One of the smallest, frequency greater than 110GHz





One of the smallest, frequency greater than 70GHz

5.2. Fuzz Button: High temperature type

The high temperature resistant fuzz button is made of high temperature resistant alloy wire. It can work in high temperature environments such as wave soldering, reflow soldering, manual soldering, etc. It is suitable for aircraft engines, missiles, space and other high temperature working occasions.







Non inductive, non magnetic 5.3 Fuzz Button:

























Length diameter ratio: 13 times

4.7 times



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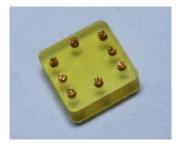
六、Fuzz Button Connector

Customized fuzz button connector 6.1

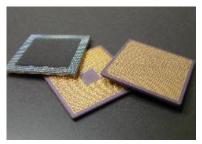
According to the customer's needs, realize the transmission of low frequency, radio frequency, high speed and differential signals;



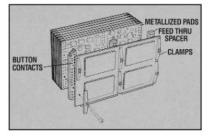
2 channel 60G connection board

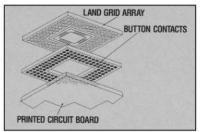


8-core PCB connector



Custom chip connector

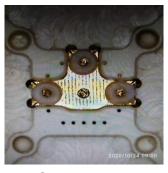




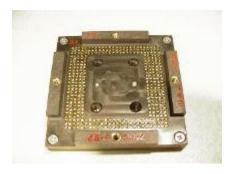
PCB Cascade connection



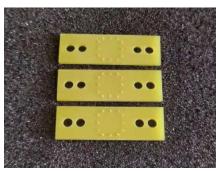
20 core PCB connector



Chip test socket



Chip test socket



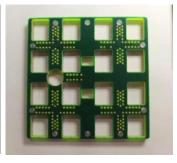
Chip test connection board



Phased Radar Matrix Connection Board



3+2 PCB coaxial connection



T/R board of phased radar



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Standard Fuzz Button connector:

End face elastic contact. Vertical connection, standard ordering; Multiple high-speed. low frequency and RF signals can be transmitted simultaneously.



PDS Fuzz Button connector



J30(MDM) Fuzz Button connector



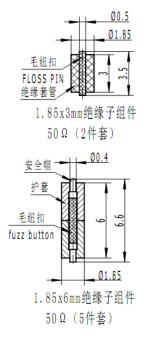
SMA Reclining Fuzz Button connector

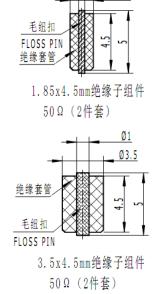


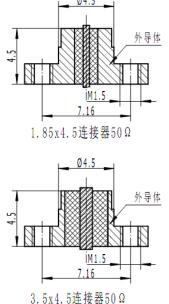
SMP(GPPO) **Fuzz Button Connector**



Fuzz Button RF insulator









Fuzz Button connector



Fuzz Button RF insulator series

2.92(K) Fuzz Button Connector



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6.3 Standard Fuzz Button mm wave connector:

SMA/ 2.92mm(K)/ 2.4mm/ 1.85mm/ SMP(GPPO)

Microwave Solderless PCB Connectors with Fuzz button offer a complete line of high frequency coaxial / surface mount PCB connectors that meet the industry need for high performing, highly reliable solderless connectors for precision thin substrate mounting. Current configurations include 2.92mm, 2.4mm, and SMA versions.

- 1. One end is vertically connected with PCB board or microstrip circuit, surface mounted, elastic contact with bonding pad by using Fuzz Button end face, no welding is required, convenient for assembly, adjustment and maintenance, simple and reliable structure, and excellent performance;
- 2. Coplanar transmission between surface mounting transmission line and central pin, large position tolerance range;
- 3. The other end is a standard mm wave plug connector interface, which can connect cable components.









Features

- Solderless PCB compression mount (available with screws)
- · Conforms to flexible circuit boards
- Non-destructive engagement on soft or thin (<0.010") dielectric cores
- Series: SMA, 2.92mm(K), 2.4mm, SMP(GPPO), and 1.85mm
- · Cost effective testing solutions

Applications

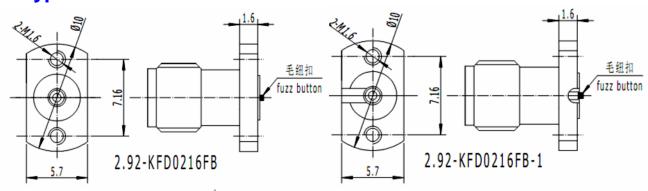
- Internet of Things (IoT)
- 5G Wireless Infrastructure
- Smart Cities and agriculture
- Embedded computing
- · Precision thin substrate mounting
- Ideal for high speed PCB materials
- RF test and measurement
- Stripline, microstrip and coplanar waveguide PCB launch

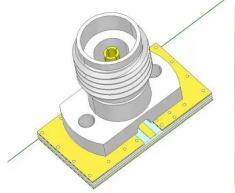


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6.3 Standard Fuzz Button mm wave connector:

Type: 2.92-KFD0216FB、2.92-KFD0216FB-1









Series	Manufacturer:	Part Numbers	
2.92mm	Luoyang Fuzz button Interconnect Technology Co., Ltd.	2.92-KFD0216FB	2.92-KFD0216FB-1 (with side groove)
Max		40 GHz	40 GHz
Frequency		40 0112	40 0112
Applications		Stripline	CPW / Microstrip
	Amphenol/SV Microwave LiteTouch Solderless PCB Connectors W/ SPRING PIN	SF1521-60124	SF1521-60115
	Amphenol/ Compression Mount PCB Connectors	SF1521-60061	SF1521-60070
Replaceable	Rosenberger/Easy to Assemble Economic Solderless PCB Connectors: RPC-2.92 female	02K721-40MS3	02K722-40MS3
	Molex/ SMK Molex Precision 2.92mm Compression -Mount Test Connectors	0732520090 0732520091 0732520092	
	Hirose Electric RF Connectors / Coaxial Connectors	HK-R-SR2-1	
	Johnson / Cinch Connectivity Solutions 2.92mm SMK Connectors	145-0701-202	145-0701-212

Tel: +86-18903792044 Email: lyf8805@163.com Web: www.lymnk.com

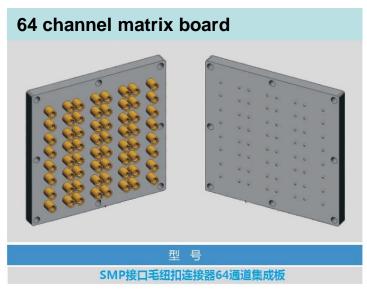
Address: Luoyang Area of China (Henan) Pilot Free Trade Zone

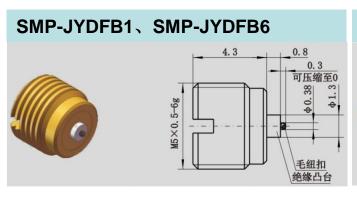


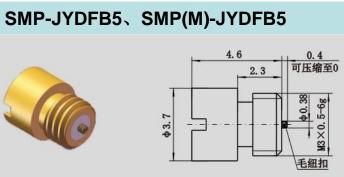
Luoyang Fuzz button Interconnect Technology Co., Ltd.

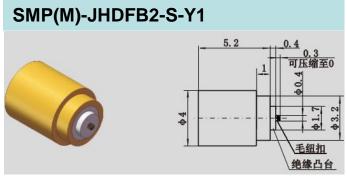
6.4 SMP(GPPO) Fuzz Button Connector:

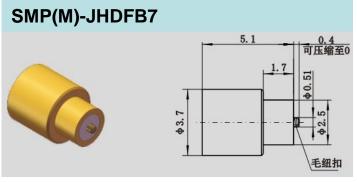


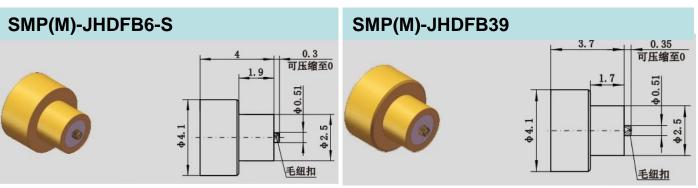










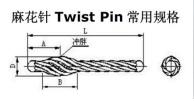




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七、Twist Pin and Twist Pin connector (MDM):

For MilAero, suitable for 0.635mm, 1.27mm, 1.9mm and other space micro connectors



Twist Pin



0.2mm纳针 (Nano Pin)



0.4mm毫针 (Micro Pin)



0.6mm厘针 (Mini Pin)

八、Hyperboloid Technology socket: 线簧插孔产品



Working principle



Ф1.0mm Hyperboloid socket



Ф2.0mm Hyperboloid socket

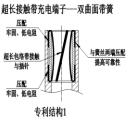


Hyperboloid socket

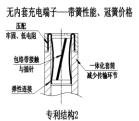
九、High-current socket with hyperboloid of Inclined spring:



Envelope with spring-band



Patent structure with sleeve



Patent structure without sleeve



Charging terminal without sleeve



Ф6mm AC Charging terminal without sleeve



Ф12mm AC Charging terminal without sleeve



Ф8mm High-current socket



Ф9mm High-current socket



Ф11.1mm High-current socket



Ф20mm High-current socket High-current socket



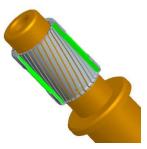
Ф23mm



Ф49mm Socket of submarine

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9.1. Hyperboloid of spring-band contact technology:



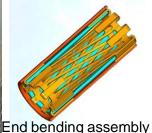


Inclined spring without sleeve

adopts hyperbolic copper grid structure, with spring envelope contact, has good conductivity, greatly increased the conductive contact area. so that connectors have smaller insertion force, lower voltage drop and temperature rise.





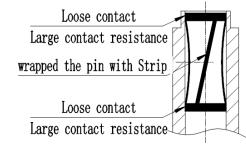


interference fit Firm and low resistance wrapped the pin with Strip interference fit Firm and low resistance

Because of the structure, the reeds need to twist angles. The ends need bending. Therefore, the material can not be too hard, resulting in poor elasticity, hardness, mechanical life (times of plugging) is poor. An inner sleeve is needed to fix the reed, and the cost is increased. Current path: the end of the pin ---- the front end of the pin ---- the reed -- the inner sleeve -the curved part of the reed -- the outer sleeve -- the tail of the outer sleeve

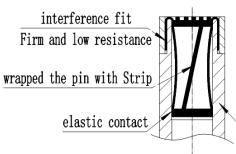






Similarly, the spring needs to twist the angle, so the material can not be too hard, and no heat treatment is used to increase the hardness. One end of the reed is fixed on the outer cylinder with a stainless steel band, which is not conducive to the transmission of large current. Current path: the end of the pin ---- the front end of the pin ---- the reed -- the contact part of the spring and the sleeve -- the outer sleeve -- the tail of the outer sleeve





One end fixed connection One end elastic connection Guaranteed performance, simplified structure Avoid inner sleeve and reduce cost High quality and productivity Integral sleeve

Less transmission link

Without inner sleeve inclined spring jack, the reed is punched once, without twisting angle, and the reed after heating is pressed on the outer sleeve.

Current path: the end of the pin ---- the front end of the pin ---- the reed ---- the pressing part of the spring ---- the outer sleeve --- the tail of the outer sleeve



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十、MIL-DTL-38999 (GJB-599) connectors: J599、D38999

MIL-DTL-38999 (formerly MIL-C-38999) connectors are designed and approved to meet the most stringent requirements of the Military and Aerospace industry. We manufactures three different series of connectors fully compliant with the MIL-DTL-38999 standard and many other tailored and derivative products.

We offers the largest range of 38999 connectors of the market with three series of connectors fully compliant with the MIL-DTL-38999 standard, and many other products derived from this standard.

MAIN FEATURES

The following options are available:

Coupling mechanism: thread, bayonet

Shell material: aluminium alloy, composite, stainless steel, carbon steel, marine bronze

Shell finish: olive drab cadmium, electroless nickel, black zinc nickel, passivation, zinc cobalt

Shell sizes: from 09 to 25

More than 60 arrangements of contacts including high density and power versions Types of contacts: signal, power, coax, twinax, quadrax, PCB, optical termini









Micro-D Connectors: J30J、J30、MDM (MIL-DTL-83513)

Nano-D Connectors: J63、NDD、NDS (MIL-DTL-32139)

Mini-D Connectors: J29、J24、J14

Twist Pin Technology

The Twist Pin Micro-D connectors qualified to MIL-DTL-83513 is one of the most widely used 0.050 inch (1.27mm) pitch connectors for military and high-end commercial applications. Micro-D Connectors is ideal where packaging requires a small size and low weight, as well as a highly reliable and rugged connector that has electrical and mechanical integrity under extreme vibration and shock conditions. The heart of the Twist Pin is the unique wire form pin that provides seven points of contact when mated to the socket. Applications include electronics in missiles, aircraft, launch vehicles, satellites and computers.

Micro-D connectors are available as all plastic in 9, 15, 21, 25, 31, 37 and 51 positions and metal shell versions in 9, 15, 21, 25, 31, 37, 51 and 100 positions. In addition, We also offers Metal Shell Micro Edge Twist Pin Connectors in 128 and 184 positions, strip connectors up to 60 positions and connector savers. Termination can be solder cup, wired leads or PC mount.





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十二、Fuzz Button Installation method:

The basic Floss Pin® contact configuration consists of a contact installed into a customized plastic insulator with hole design. Once in place, the contact extends on both sides of the insulator.

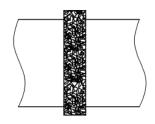
Quick, Solderless Installation: Floss Pin® is easily installed in two basic steps, without soldering.

First, using alignment features, the Floss Pin® interconnect is positioned between two components with matching connection footprints.

Next, the two components are compressed and fastened together. Its as simple as that.

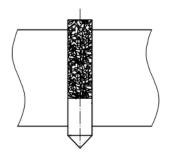
Only Fuzz Button

Basic configuration of fuzzy buttons, This Floss Pin® basic configuration provides multiple points of contact and mechanical wipe. Ideally suited for applications requiring high speed, low profile, and high density, this configuration is commonly used in LGA sockets.



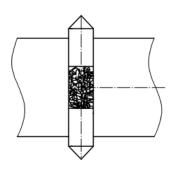
Plunger + Fuzz Button

The addition of a gold-plated brass plunger increases the handling durability of the Floss Pin® contacts and provides additional height. This configuration is ideally suited for board-to-board and test applications.



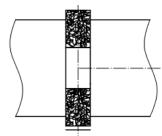
Plunger + Fuzz Button + Plunger

Adding a second plunger to the connector results in a tall system (up to 1.0"), along with it being the most durable in terms of handling. This configuration is best suited for contacts that see excessive handling from both sides. Commonly used for parallel board-to-board stacking connector applications.



Fuzz Button + Spacer + Fuzz Button

Using two contacts with a gold-plated brass spacer in between creates a connector with all the benefits of the contact-only style, and the ability to span greater z-axis heights (up to 1.0"). This configuration is most often used when multiple points of contact are needed in a tall connector.



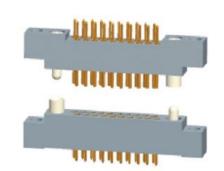


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十三、 Multi-channel low frequency Board to Board

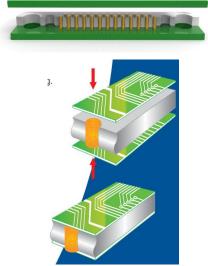
a Conventional board to board connectors :

- 1. Plug+socket, respectively welded on PCB;
- 2. The insertion and removal force of plug and socket is large, especially when the number of cores and groups are connected, PCB is easy to be damaged, and maintenance and replacement are difficult;
- 3. After the plug and socket are plugged in, the height is high and the space occupied is large;
- 4. Suitable for transmitting hundreds of megabytes of low-frequency signals;
- 5. The alignment requirements for plug and socket connection are high, and the installation is difficult;



by Fuzz button board to board connector:

- 1. No polarity, no plug and socket, single piece connection;
- 2. Compression type interconnection without plugging;
- 3. Elastic contact of end face, solderless connection, zero plug and pull force, suitable for multi-core connection;
- 4. Large tolerance during connection, easy alignment and installation;
- 5. Low height, small volume, connector height can be as low as 1mm;
- 6. The upper and lower PCBs are stacked and assembled at the same time to complete the connection;
- 7. It can transmit low-frequency signals, more suitable for transmitting high-frequency, microwave and high-speed signals, and the frequency can be greater than 40G;
- 8. High density, small spacing, up to 7000 roads.



c. Pogo Pin board to board connector;

- 1. The frequency of the transmission signal is low, and high frequency, microwave and high-speed signals cannot be transmitted;
- 2. With large diameter, low density and large spacing, it is only suitable for signal transmission with few cores.
- 3. One end needs welding





Luoyang Fuzz button Interconnect Technology Co., Ltd.

十四、 Multi-channel RF Board to Board

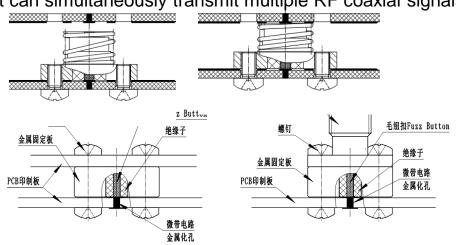
a. Conventional board to board RF coaxial connectors;

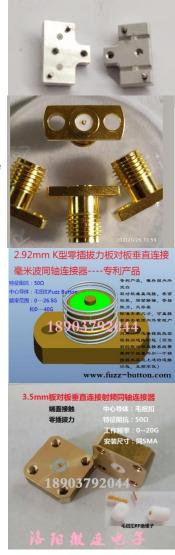
- 1. Major manufacturers include Tyco, Molex, Amphenol, etc;
- 2. Common ones are SMP, SMP Spring, SMP-MAX, etc;
- 3. Three components: socket adapter socket;
- 4. Socket adapter socket is plugged in twice, and the plugging force is large;
- 5. After plugging, the height is high and the space is large;
- 6. The transmission frequency is low, up to about 3G;
- 7. Only one RF signal can be transmitted;
- 8. The alignment requirements for plug and socket connection are high, and the installation is difficult;
- 9. It is difficult to repair and replace when multiple groups are connected.



b. Fuzz button board to board RF coaxial connector:

- 1. No polarity, no plug and socket, single piece connection;
- 2. Compression type interconnection without plugging;
- 3. Elastic contact of end face, solderless connection, zero plug and pull force, suitable for multi-core connection;
- 4. Low height, small volume, connector height can be as low as 1mm:
- 5. The upper and lower PCBs are stacked and assembled at the same time to complete the connection;
- 6. It is more suitable for transmitting high-frequency, microwave and high-speed signals, and the frequency can be greater than 40G:
- 7. Zero plug and pull force, zero separation force, easy to install and maintain:
- 8. It can simultaneously transmit multiple RF coaxial signals.





Fuzz Button [®] Floss Pin [®] 毛纽打[®]

Floss Pin® i.e. Fuzz Button connectors only be made in China!

For 30 years, Luoyang Fuzz button Interconnect Technology Co., Ltd. has specialized in manufacturing and selling Fuzz Button connectors and related products. Made in China, high quality and low price. At the same time, we sell all kinds of connectors and accessories made in China, and the products are sold all over the world! Fuzz Button connectors is elastic contact. Solderless, board-to-board vertical connections. It is widely used in aerospace, phased radar, drones, communications, satellites, antennas, navigation, missiles, robots, 5G, chip testing and other fields.

What we provide is not product, but service!



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Luoyang Fuzz button Interconnect Technology Co., Ltd.

移动电话: 18903792044

网址: www.fuzz-button.com、 www.lymnk.com、 邮箱: weiliandk@163.com、lyf8805@163.com

微信号Wechat: 18903792044 微信公众号: 毛纽扣连接器

地址:中国(河南)自由贸易试验区洛阳片区涧西区丽春西路