

COMMUNICATIONS, DATA, CONSUMER DIVISION

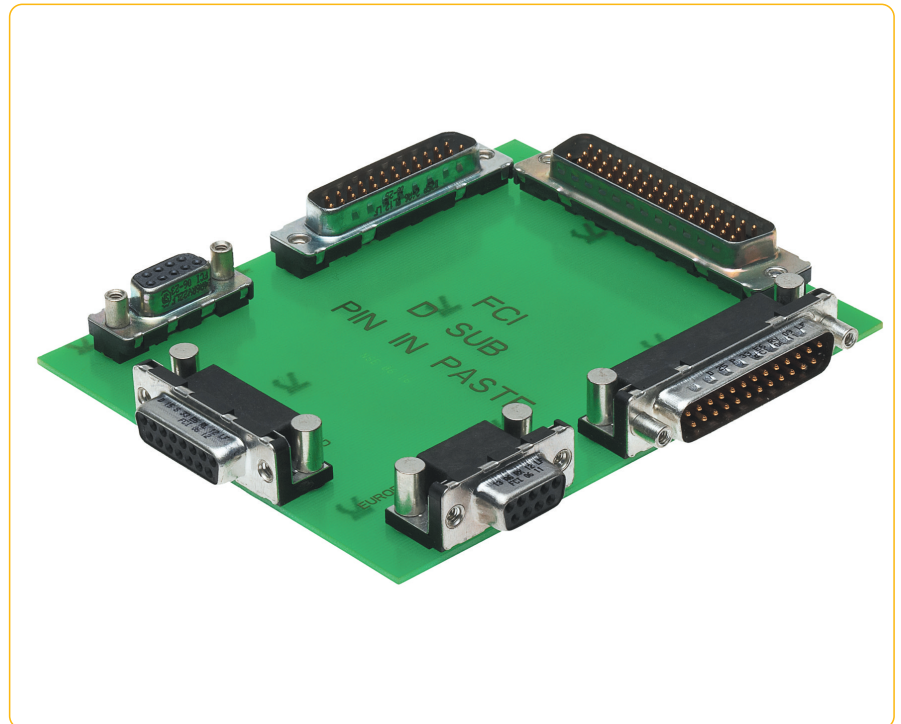
D-Subminiature Pin-in-Paste Connectors

DESCRIPTION

The D-Subminiature connectors are one of the most popular IO solutions, addressing segments such as Telecommunications, Industrial, Instrumentation and Medical.

Thanks to his very complete D-Sub range, FCI is one of the most experienced suppliers.

Now we are at the forefront once again in bringing you Pin-in-Paste (Through Hole Reflow) versions.



PIN-IN-PASTE

Pin-in-Paste technology (PIP) allows the use of Through Hole product in SMT manufacturing processes.

The connectors are automatically or manually placed on the board, and then soldered in the same operation as the SMT components.

Thanks to the Pin-in-Paste technology, the mechanical strengths of the Through Hole Technology soldering is maintained - still an important requirement for connectors nowadays in many industrial or telecom applications.

BENEFITS

... An innovative solution for savings on the total applied costs!

Time saving:

Pin-in-Paste connectors can be automatically positioned on the board using automatic pick and place processes (vacuum nozzle or gripper) thanks to an improved true positioning whereas traditional solder to board processes require a manual placement.

Higher quality

- Pin-in-Paste is a more stable process than wave soldering as it does not need constant adjust once set-up.
- Less control time after reflow process and less re-work time for repairing.

Fast and easy move from a wave soldering to a reflow process

Surface Mount Technology D-Sub's require a specific PCB design.

No re-design of the board for Pin-in-Paste:

- Same layouts
- Same hole diameters for signal contacts.

Higher robustness in Pin-in-Paste:

Thanks to the through hole pins and metal pegs. Makes it possible to eliminate wave soldering.

- For applications using a few remaining components requiring wave soldering, FCI D-Sub Pin-in-Paste can help to avoid wave soldering completely.

CONNECTOR DESIGN

In order to achieve optimum soldering results, FCI launches dedicated Pin-in-Paste connectors. These connectors are fully adapted to Pin-in-Paste processing in all aspects, including plastic material, metal peg, housing design, pin length, and packaging.

PLASTIC MATERIAL:

The FCI D-Sub Pin-in-Paste connectors are molded in high temperature plastic able to withstand a temperature exposure up to 260°C peak for 10 to 30 seconds in a convection infrared or vapor-phase reflow oven.

METAL PEG:

To ensure electrical continuity and low insertion forces, a specific metal peg has been designed. These metal pegs significantly increase the connection robustness after soldering.

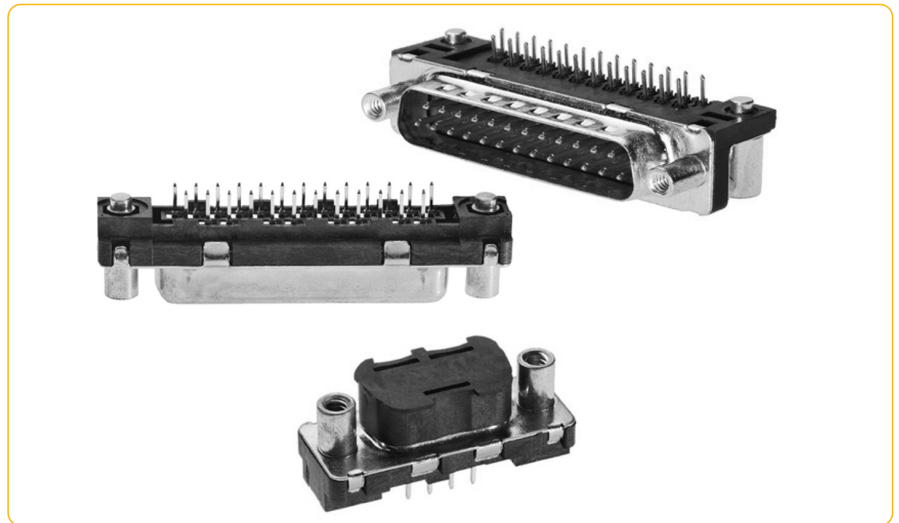
HOUSING DESIGN:

Standoffs are specifically designed around the metal pegs to avoid any paste interaction between the back housing and the PCB. Consequently, the paste can spread around the metal peg, keeping the connector in its correct and original position.

PIN LENGTH:

The termination length beyond the bottom of the PCB is shorter than traditional solder-to-board products. Thus, the risk of pushing out the solder paste when setting the pin into the PCB hole is very much limited. The solder paste will not stick on the pin tip or even fall off completely, but stays around the pin for free flow during soldering. FCI uses pin lengths corresponding to the PCB thickness +0.4 mm.

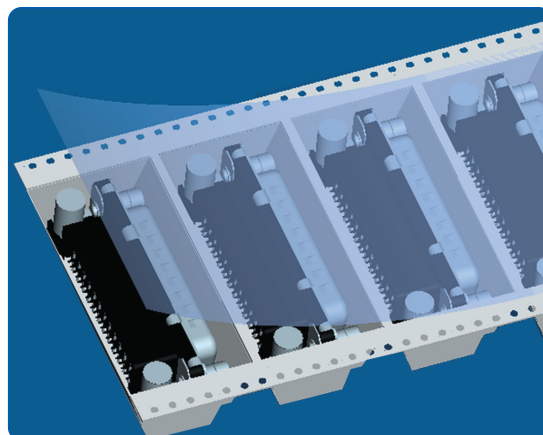
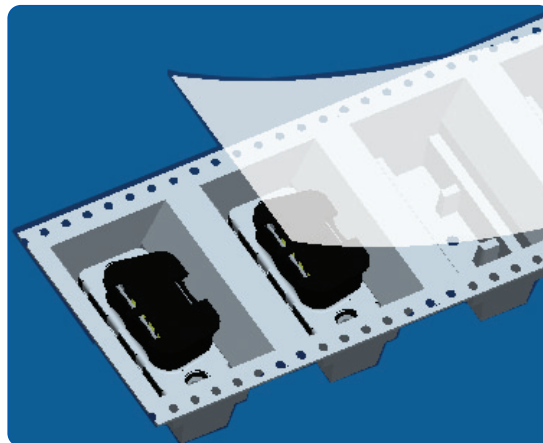
For a 1.6 mm PCB thickness, the pin length is 2.0 mm.



PACKAGING:

The FCI D-Sub connectors can be packaged in different ways depending on existing installed processes.

- **Tray packaging** : ideal for manual placing and low volume applications.
- **Tape and reel packaging** with or without pick-up caps: fully compatible with automatic pick and place processes like grippers or vacuum nozzles, for medium and high volume applications.



DELTA D signal right angle Pin-in-Paste

In compliance with DIN 41652:

- Reflow type: JSTD-020C
- Packaging: IEA-481-B
- Plating: BELLCORE CO GR-1217

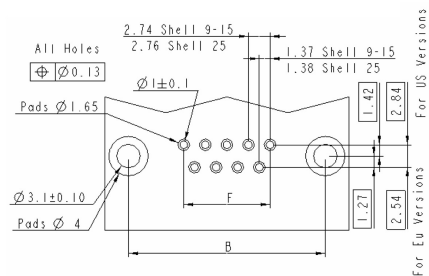


PART NUMBER

Series	D	09	P	13A	6	RV	12	LF
Number of contacts	9 - 15 - 25							
Contacts	P : Pin S : Socket							
Termination								
Code	Type	Footprint/Pitch	Termination length	PCB thickness				
13A	Right angle - Europe standard	10.4 / 2.54 mm	2.0 mm	1.6 mm				
33E	Right angle - US standard	8.08 / 2.84 mm	2.0 mm	1.6 mm				
Plating	6 : High performance class (> 500 mating/unmating)							
Mounting options	RL : Insert M3 + Metal peg + Electrical continuity RX : Insert UNC 4-40 + Metal peg + Electrical continuity RV : Female screw UNC 4-40 + Metal peg + Electrical continuity							
Packaging	09 : Tray for manual positioning 12 : Tape and Reel for automatic pick and place							
RoHS status	LF : RoHS compatible EU directive 2002/95/EC							

Recommended layouts and pad dimensions

Contacts	B ^{±0.10}	F	G
09	24.99	10.96	8.22
15	33.32	19.18	16.44
25	47.04	33.12	30.36



Technical data

• Materials:

- Shell: Steel, nickel plated
- Housing: Thermoplastic HT UL94VO
- Contacts: Copper Alloy
 - Active part: Gold over nickel
 - Termination: Matt Tin over nickel
- Accessories: Brass
 - Front accessories: Nickel
 - Metal pegs: Tin over nickel

• Operating temperature range:

-55° to 125°C

• Reference information:

Product lead free in accordance to RoHS 2002/EC/95

• Mechanical performances:

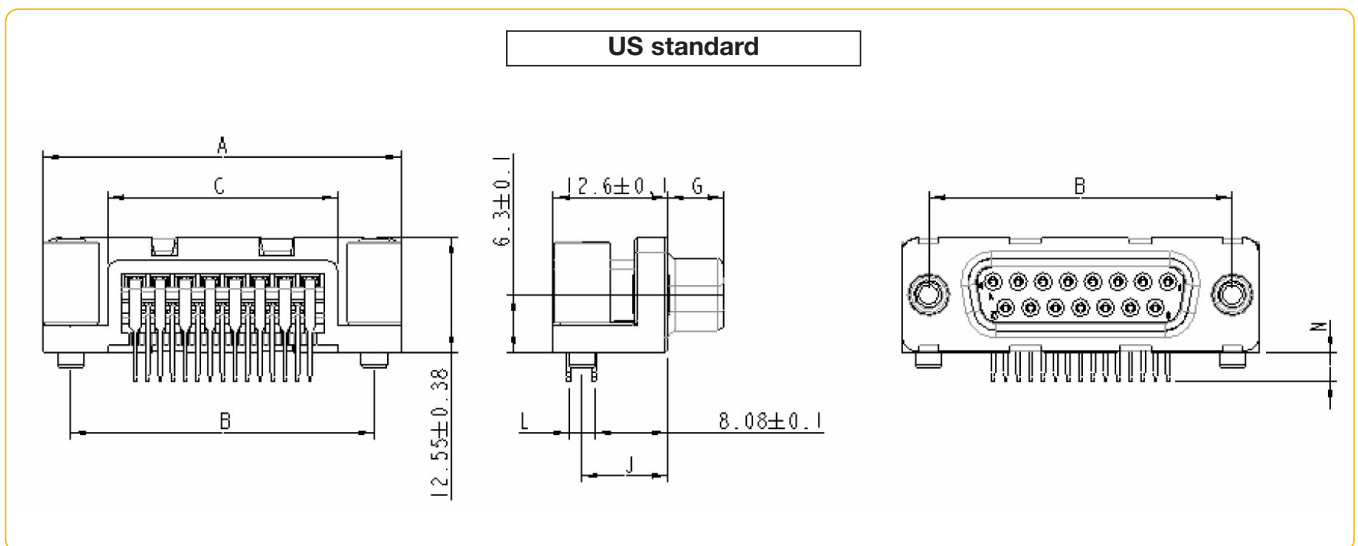
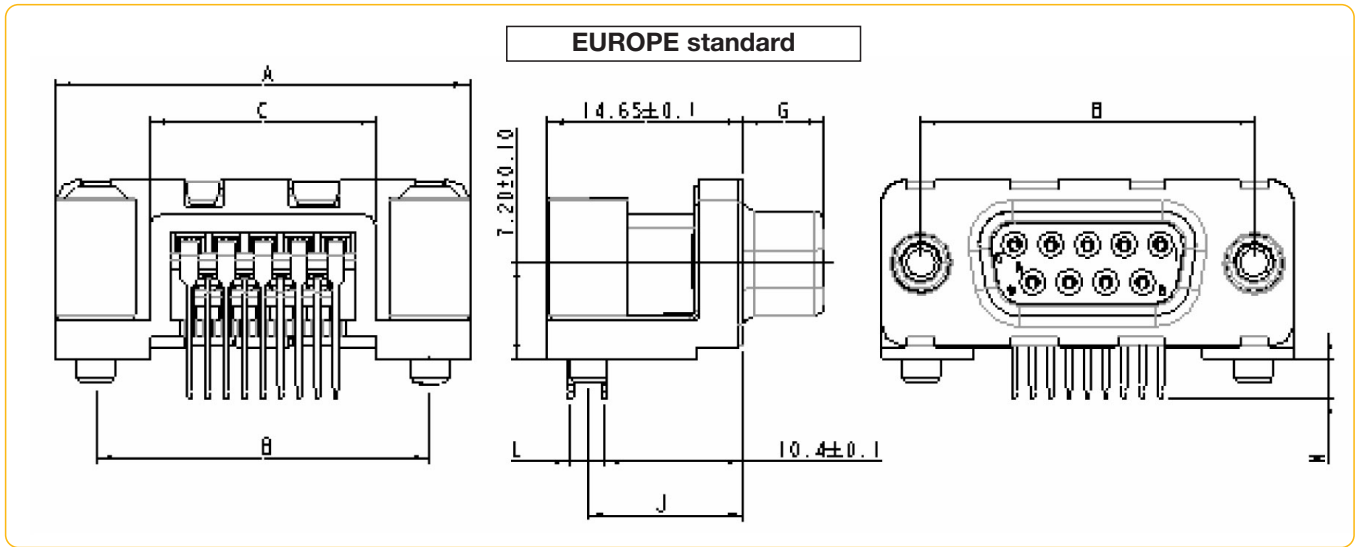
mating/unmating cycles: 500 min

• Electrical performances:

- Current rating: 5A
- Insulation resistance: ≥ 5000 MΩ
- Contact resistance: <10mΩ
- Dielectric withstanding voltage: 1000 Vrms

DELTA D signal right angle Pin-in-Paste

SPECIFIC DIMENSIONS



Dimensions

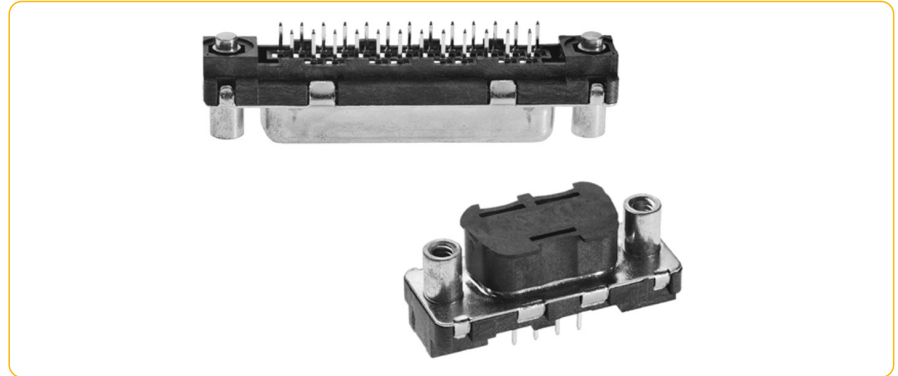
		A ^{±0,38}	B ^{±0,12}	C ^{±0,10}	G ^{0/+0,25}	J ^{±0,10}	L ^{±0,10}	N ^{±0,30}	
						Termination 13	Termination 33	Termination length	
								I3A 33E	I3B
9	P	30.81	24.99	16.96	5.90 ^{0/+0,15}	11.67	9.50	2.00	2.90
	S	30.81	24.99	16.96	6.05	11.67	9.50	2.00	2.90
15	P	39.14	33.32	25.18	5.90 ^{0/+0,15}	11.67	9.50	2.00	2.90
	S	39.14	33.32	25.18	6.05	11.67	9.50	2.00	2.90
25	P	53.03	47.04	39.12	5.70	11.67	9.50	2.00	2.90
	S	53.03	47.04	39.12	6.05	11.67	9.50	2.00	2.90

Dimensions in mm




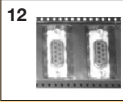
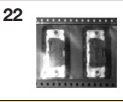
DELTA D signal straight Pin-in-Paste

In compliance with DIN 41652:

- Reflow type: JSTD-020C
- Packaging: IEA-481-B
- Plating: BELLCORE CO GR-1217

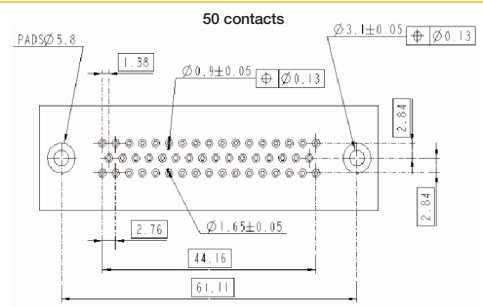
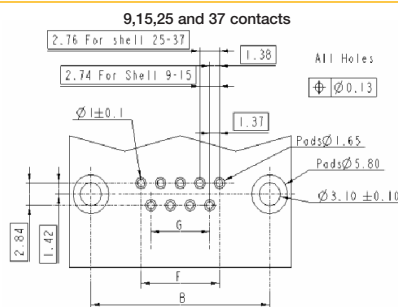


PART NUMBER

Series	D	09	P	24A	6	RV	12	LF
Number of contacts	9 - 15 - 25 - 37 - 50							
Contacts	P : Pin		S : Socket					
Termination								
Code	Type	Footprint/Pitch	Termination length	PCB thickness				
24A	straight version	6.0 / 2.84 mm	2.0 mm	1.6 mm				
24B	straight version	6.0 / 2.84 mm	2.9 mm	2.4 mm				
Plating	6 : High performance class (> 500 mating/unmating)							
Mounting options	RL : Insert M3 + Metal peg + Electrical continuity RX : Insert UNC 4-40 + Metal peg + Electrical continuity RV : Female screw UNC 4-40 + Metal peg + Electrical continuity							
Packaging	09 : Tray for manual positioning 12 : Tape and Reel for automatic pick and place and gripper device (not available in 37 and 50 ways) 22 : Tape and Reel and pick-up cap for vacuum nozzle device (not available in 37 and 50 ways)							
RoHS status	LF : RoHS compatible EU directive 2002/95/EC							

Recommended layouts and pad dimensions

Contacts	B ^{±0,10}	F	G
09	24.99	10.96	8.22
15	33.32	19.18	16.44
25	47.04	33.12	30.36
37	63.50	49.68	46.92

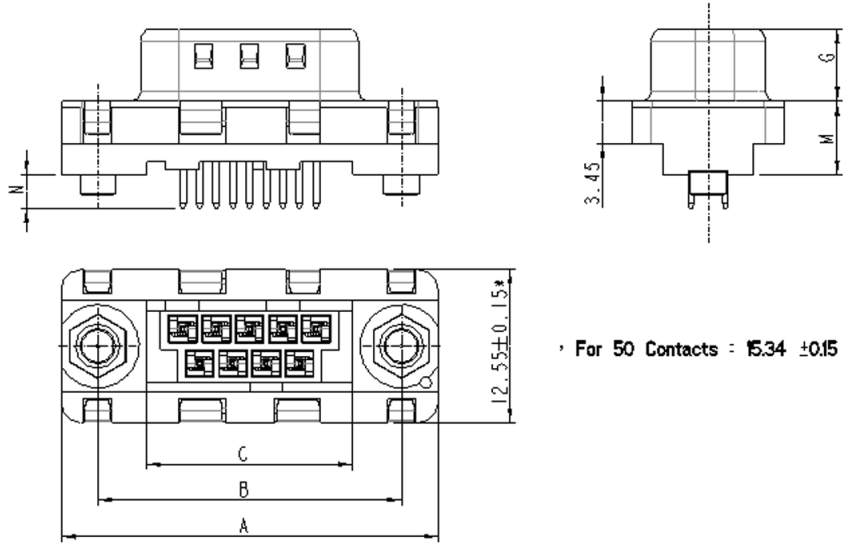


Technical data

- **Materials:**
 - Shell: Steel, nickel plated
 - Housing: Thermoplastic HT UL94V0
 - Contacts: Copper Alloy
 - Active part: Gold over nickel
 - Termination: Matt Tin over nickel
 - Accessories: Brass, bright tin over nickel
- **Operating temperature range:** -55° to 125°C
- **Reference information:** Product lead free in accordance to RoHS 2002/EC/95
- **Mechanical performances:** mating/unmating cycles: 500 min
- **Electrical performances:**
 - Current rating: 5A
 - Insulation resistance: ≥ 5000 MΩ
 - Contact resistance: <10mΩ
 - Dielectric withstanding voltage: 1000 Vrms

DELTA D signal straight angle Pin-in-Paste

SPECIFIC DIMENSIONS



Dimensions

		A ^{±0.38}	B ^{±0.12}	C ^{±0.10}	G ^{0/+0.25}	M ^{±0.10}	N ^{±0.30}	
							Termination length	
							24A	24B
9	P	30.81	24.99	16.96	5.90 ^{0/+0.15}	6.00	2.00	2.90
	S	30.81	24.99	16.96	6.05	6.00	2.00	2.90
15	P	39.14	33.32	25.18	5.90 ^{0/+0.15}	6.00	2.00	2.90
	S	39.14	33.32	25.18	6.05	6.00	2.00	2.90
25	P	53.03	47.04	39.12	5.70	6.00	2.00	2.90
	S	53.03	47.04	39.12	6.05	6.00	2.00	2.90
37	P	69.32	63.50	55.68	5.70	6.00	2.00	2.90
	S	69.32	63.50	55.68	6.05	6.00	2.00	2.90
50	P	67.10	61.11	54.11	5.70	6.00	2.00	2.90
	S	67.10	61.11	54.11	6.05	6.00	2.00	2.90

Dimensions in mm

For more information on FCI sales offices,
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Americas - Tel.: 1 (800) 237 2374

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