

 COMMUNICATIONS, DATA, CONSUMER DIVISION

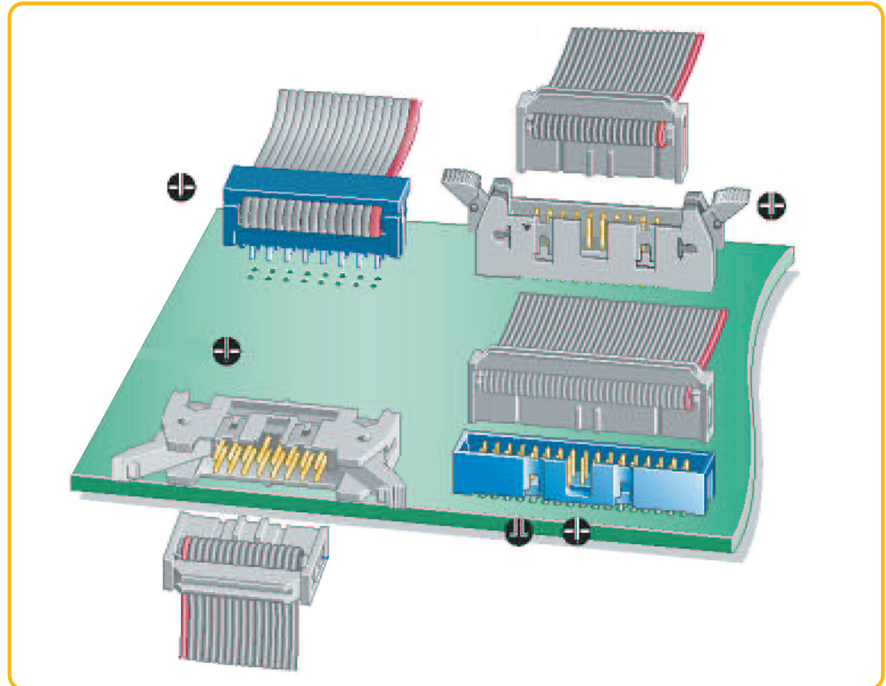
QUICKIE™

**Cable-to-board Connectors
for Pin-in-Paste Processes**

Description

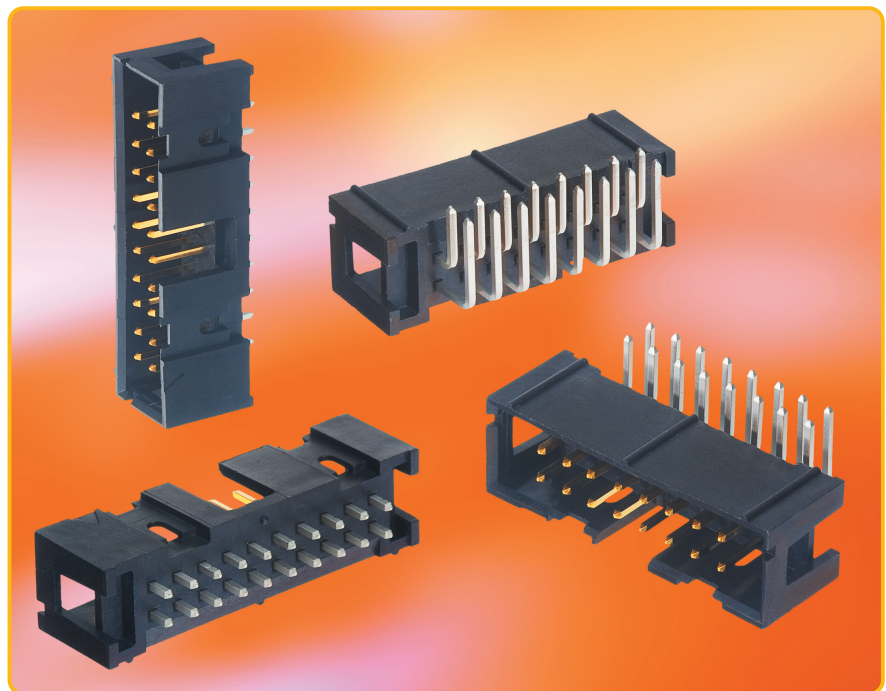
Quickie™ is FCI's brand for cable-to-board connectors in 2.54mm pitch. The Quickie™ product range includes IDC Receptacles, IDC Board Connectors, Shrouded Low Profile Headers and Shrouded Eject Latch Headers.

FCI is adding four new series of Quickie Headers to its product range, dedicated to Pin-in-Paste soldering processes. This brochure gives additional information for the correct use of Quickie PiP connectors in the application process.



Pin-in-Paste

Pin-in-Paste (PiP) technology allows the use of TMT products in SMT manufacturing processes. The connectors are automatically or manually placed on the board, then soldered in the same operation as the SMT components. Despite this, the mechanical strength of the TMT soldering is maintained – still an important requirement for connectors nowadays in many industrial or automotive applications.



Part number

8-Digit Base Part Number

Shrouded Superslim Header
 10056844 = Straight
 10056845 = Right Angle

Plating

Total positions

Option

LF

Option

= Tube without pick-up cap
 A = Tape with pick-up cap (availability according to TA-893)

1 = 0,76 µm gold on mating area,
 tin on solder side

6, 8, 10, 14, 16, 20, 26, 30, 34, 40

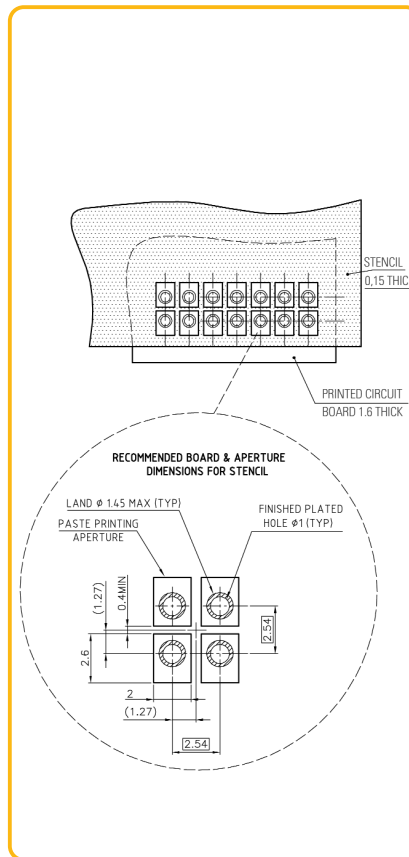
Application design guidelines

For application in a Pin-in-Paste process, FCI recommends the application design guidelines below.

STENCIL DESIGN:

The stencil design is crucial for a good solder joint. It determines the quantity of paste and the position of the paste print on the board. Each PCB hole has its own stencil aperture with enough spacing in between in order to have separate solder deposits.

This prevents solder robbing from one hole to another and guarantees the correct quantity of solder paste for each hole. The print position is slightly asymmetrical so as to optimise the flow of molten solder paste.



PASTE APPLICATION:

The quantity of paste for each hole depends on the soldering process parameters and the degree of hole filling. For the squeegee, FCI recommends a 45° angle. You can use a smaller angle for an even greater degree of hole filling. The squeegee moves in parallel with the shorter sides of the stencil apertures.

BOARD LAYOUT:

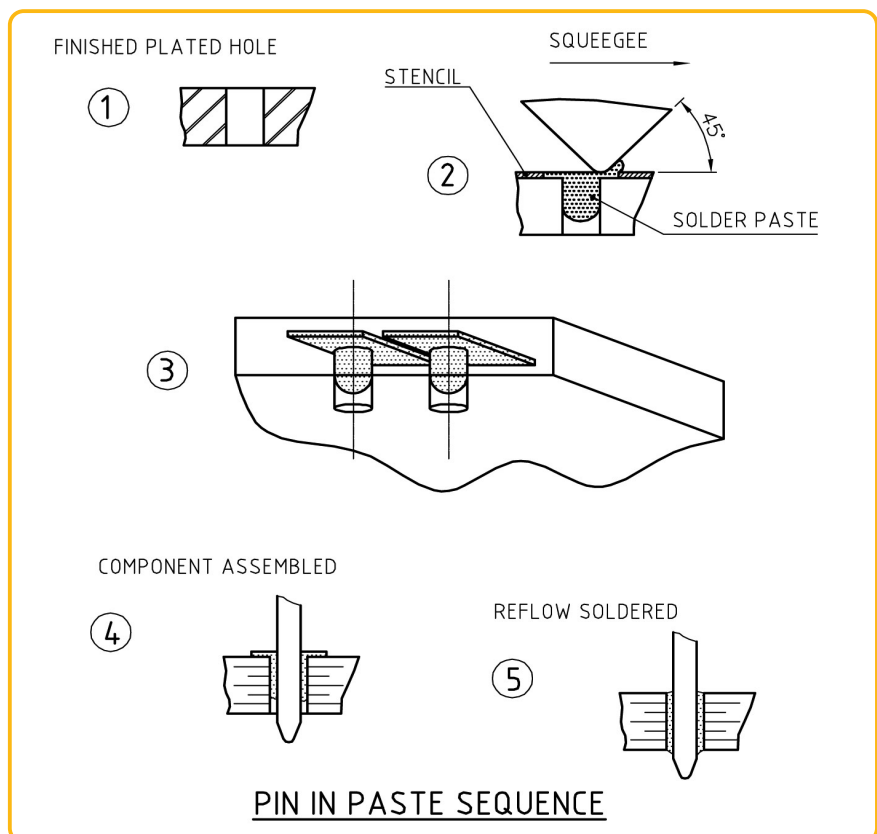
Please use a hole of 1.00 +/- 0.05mm for an optimum paste deposit. For automatic pick-and-place, lean towards the upper end of the tolerance.

Refer also to TA-894 for further information.

basics+ Service Program

Quickie™ is part of the *basics+* product range. *basics+* is a service program built around 2.54mm and 2mm pitch connectors for board-to-board, wire-to-board and cable-to-board applications.

basics+ makes the entire product design-in process very simple, with easy-to-use product selection, technical hot line, fast sample service, and core range products. Included are established, proven brands such as BergStik, Dubox, Quickie and Minitek.



Connector design

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

PLASTIC MATERIAL:

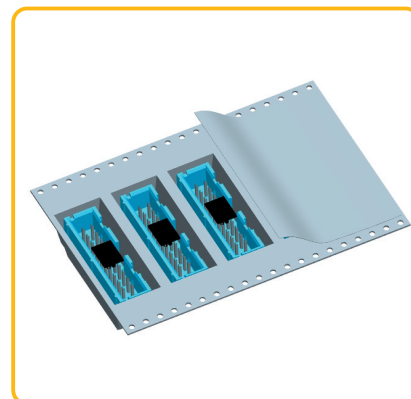
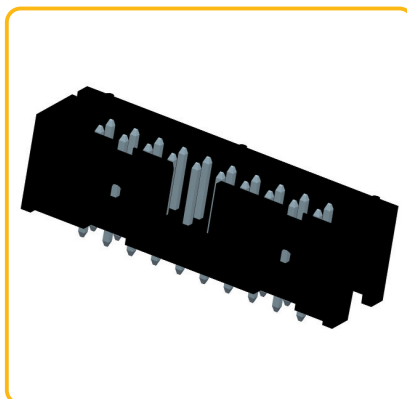
Quickie PiP headers are moulded in high temperature thermoplastic and are able to withstand temperature exposure up to 260°C peak for 10 to 30 seconds in a convection infrared or vapour-phase reflow oven.

HOUSING DESIGN:

Standoffs raise the housing body slightly above the PCB surface and thus allow the molten solder paste to flow freely from its printed position into the board hole and around the pin. The standoffs are correctly positioned for a good solder paste deposit around the pin. Please respect the stencil design guidelines below in order to avoid paste deposit around the standoffs.

PIN LENGTH:

The connector lead length beyond the bottom of the PCB is shorter than for traditional TMT products. Thus, the risk of pushing out the solder paste when inserting 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 a solder tail length of 2 +/-0.2 mm for Quickie Headers for a standard PCB of 1.6 mm thickness.



PACKAGING:

For combining SMT and TMT components not only in the soldering process, but also in the assembly process, FCI proposes a choice of pick-and-place packaging for PiP connectors. The most common part numbers are available in tape-on-reel packaging, all others in tube.

Technical Data

MATERIALS

Housing: high temperature thermoplastic
Colour: black
Flammability rating: UL 94 V-0
Pin: Phosphor bronze
Plating: Gold and tin over 1.27 µm nickel

ELECTRICAL PERFORMANCE

Current rating: 3A continuous
Insulation resistance: 10,000 MΩ min.
Dielectric withstanding voltage: 1,500 V

MECHANICAL PERFORMANCE

Pin retention to housing: 20 N min.

OPERATING TEMPERATURE RANGE

-65°C to +125°C

PROCESSING INFORMATION

Compatible with IR reflow soldering processes

RoHS INFORMATION

This product is RoHS compatible according to the European Union Directive 2002/95/IEC

REFERENCE INFORMATION

File n° E66906
File n° LR46923
Product drawing: by 8-digit base part number
Product specification: BUS-12-055
Tape-on-Reel specification: TA-893
Application specification: TA-894
Reflow profile: TA-842

AMEYA360

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