THE DATASHEET OF

57202-F52-05ALF

Minitek® Headers

2.00mm pitch

BOARDS PRODUCTS SOLUTIONS

Minitek® is Amphenol FCI's brand for board-to-board and wire/cable-to-board connectors in 2.00mm pitch. The Minitek® product range includes PCB Card Connectors, Shrouded and Unshrouded headers and IDC/CTW receptacles.

Amphenol FCI is adding five new series of Minitek® Headers to its product range, dedicated to Pin-in-Paste soldering processes.

- Easy to operate and strong FFC/FPC retention makes it vibration-proof
- Ensures high solderability and high durability
- Operating temperature range of -55°C to +85°C

TARGET MARKETS

FEATURES	BENEFITS
Modular System	Ensures interchangeable solution for flexible design
2mm pitch available	38% less board space compared with 2.54mm
Lowest co-planarity at 0.1mm	Facilitates automatic placement with no orientation constraint on PCB
0.5mm square drawn wire pin	Provides four smooth mating surfaces
High raw material temperature range	Withstands re-flow soldering process

TECHNICAL INFORMATION

UNSHROUDED/STACKING

MATERIAL

- Housing: High temperature thermoplastic
- Color: Black
- Flammability Rating: UL94V-0
- Pin: Phosphor bronze
- Plating: Gold and tin over 1.27µm nickel

MECHANICAL PERFORMANCE

- Pin Retention: 7N min.

ELECTRICAL PERFORMANCE

- Current Rating: 1A continuous
- Insulation Resistance: 1000WM min.
- Dielectric Withstanding Voltage: 650V

ENVIRONMENTAL

- Operating Temperature Range: -55°C to +125°C

APPROVALS & CERTIFICATION

- RoHS compatible according to the European Union Directive 2002/95/IEC

SPECIFICATIONS

- File Number: E66906
- File Number: LR46923
- Product Drawing: By 8-digit base part number
- Product Specification: DPS-12-011 and GS-12-163
- Application Specification: TA-895
- Re-flow Profile: TA-842

PROCESSING INFORMATION

- Compatible with IR re-flow soldering processes

TARGET MARKETS/APPLICATIONS


Automotive


Communications


Data


Industrial & Instrumentation


Medical

TECHNICAL INFORMATION

SHROUDED

MATERIAL

- Housing: High temperature thermoplastic
- Colour: Black
- Flammability Rating: UL94V-0
- Pin: Phosphor bronze
- Plating: Gold and tin over 1.27µm nickel

MECHANICAL PERFORMANCE

- Pin Retention: 7N min.

ELECTRICAL PERFORMANCE

- Current Rating: 2A continuous
- Insulation Resistance: 1000WM min.
- Dielectric Withstanding Voltage: 650V

ENVIRONMENTAL

- Operating Temperature Range: -40°C to +125°C

APPROVALS & CERTIFICATION

- RoHS compatible according to the European Union Directive 2002/95/IEC

SPECIFICATIONS

- File Number: E66906
- File Number: LR46923
- Product Drawing: By 8-digit base part number
- Product Specification: DPS-12-011 and GS-12-163
- Application Specification: TA-896
- Reflow Profile: TA-842

PROCESSING INFORMATION

- Compatible with IR reflow soldering processes

TARGET MARKETS/APPLICATIONS


Electronic Control Systems


Communications


Servers
Communication Equipment


Industrial Automation
Instrumentation


Vending Machines

PART NUMBERS

Descrption	Part Numbers
Unshrouded Header, Vertical, Single Row, TMT / PiP	10138654
Unshrouded Header, Vertical, Double Row, TMT / PiP	57102
Unshrouded Header, Vertical, Double Row, SMT	57202
Unshrouded Stacking Header, Vertical, Double Row, TMT	59112
Unshrouded Stacking Header, Vertical, Double Row, SMT	59202
Unshrouded Header, Right-Angle, Single Row, SMT	10112684
Unshrouded Header, Right-Angle, Double Row, TMT	98423
Unshrouded Header, Right-Angle, Double Row, SMT	10112690
Unshrouded Header, Right-Angle, Double Row, PiP	10072353
Shrouded Header, Right-Angle, Single Row, SMT	95000
Shrouded Header, Right-Angle, Double Row, TMT	98464
Shrouded Header, Vertical, Double Row, TMT	98414
Shrouded Header, Vertical, Double Row, SMT	98424

Minitek® Headers

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 operationas 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.

CONNECTOR DESIGN

In order to achieve optimum soldering results, Amphenol 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

Minitek PiP headers are molded in high temperature thermoplastic and are able to withstand exposure to 260°C peak temperature for 30 seconds maximum in a convection, infra-red or vapour phase reflow oven.

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. Amphenol FCI uses a solder tail length of 2 ± 0.2mm for Minitek Headers for a standard PCB of 1.6mm thickness.

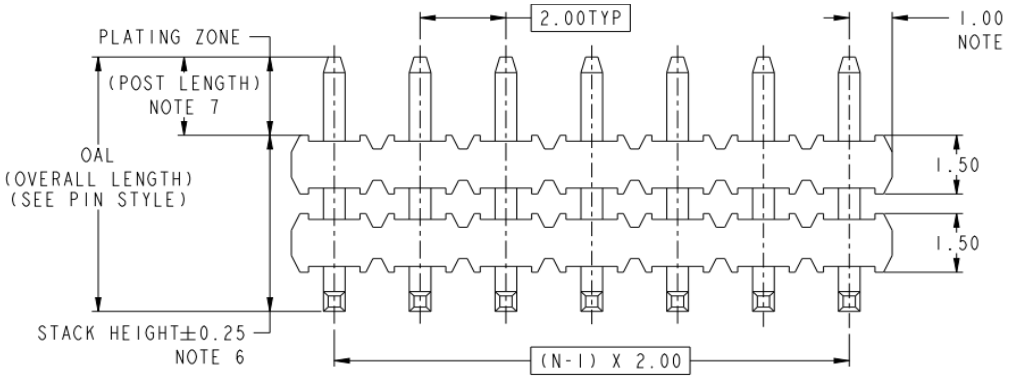
HOUSING DESIGN

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.

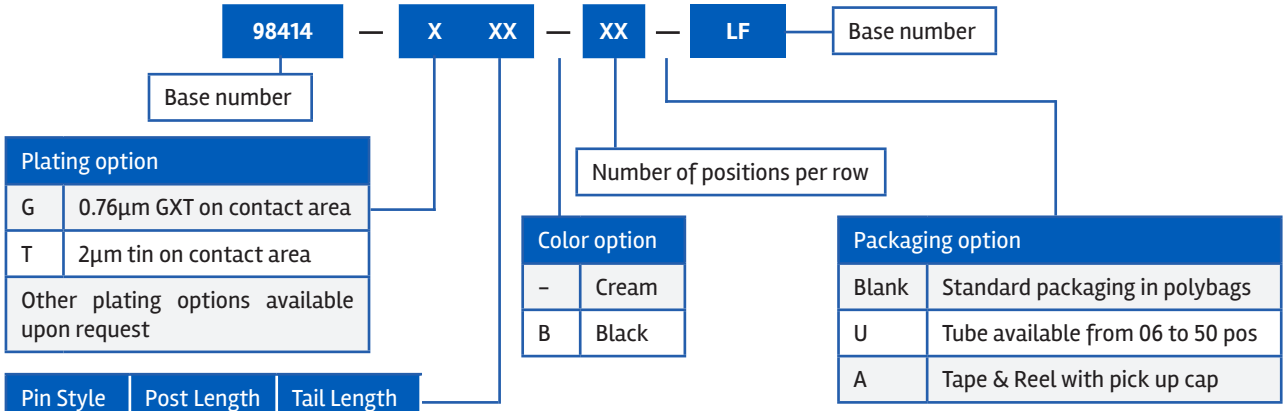
PACKAGING

TFor combining SMT and TMT components not only in the soldering process, but also in the assembly process, Amphenol 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.

SHROUDED



PART NUMBER SELECTOR HEADER



Plating option	
G	0.76µm GXT on contact area
T	2µm tin on contact area
Other plating options available upon request	

Color option	
–	Cream
B	Black

Packaging option	
Blank	Standard packaging in polybags
U	Tube available from 06 to 50 pos
A	Tape & Reel with pick up cap

Pin Style	Post Length	Tail Length
04	4.00	2.00
06	4.00	2.50
08	4.00	3.10
10	4.00	3.70

Descrption	Part Numbers
Unshrouded Header, Vertical, Single Row, TMT / PiP	10138654
Unshrouded Header, Vertical, Double Row, TMT / PiP	57102
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Minitek® 2.00mm Receptacle

Single and double row

MODULAR AND COMPACT SOLUTION

The Minitek® product family includes single and double row receptacles for Board-to-Board and Wire-to-Board applications, in 2 to 25 positions per row and in vertical and horizontal configurations.

- Selective plating option saves costs
- Double solder tail on each pitch for SR VCC ensures no orientation constraint
- 2Amps performance with more than one contact powered
- Horizontal configuration is ideal for coplanar applications
- Modular system ensures interchangeable solution for flexible design

TARGET MARKETS

FEATURES	BENEFITS
Double solder tail on each pitch for Single Row (SR) Vertical Card Connector (VCC)*	Facilitates automatic placement with no orientation constraint
2Amps with more than one contact powered	Meet higher power Amps performance requirements
Selective plating	Cost efficient
Low profile version available (2.3mm height)	Meets specific design requirements
Modular system is fully intermateable	Interchangeable solution offers design flexibility
Smaller pitch of 2.00mm	38% less board space compared with 2.54mm connectors
Dual beam contact design	Highly reliable electrical performances
Perpendicular or coplanar application	Vertical or horizontal mounting solution
High raw material temperature range	Withstands re-flow soldering process

TECHNICAL INFORMATION

MATERIAL

- Housing: High Temperature Thermoplastic, Black, UL94V–0
- Pin: Phosphor Bronze
- Plating:
- 1= 0.76µm Gold/GXT® on contact area and 2µm min. matte tin on tail
- 2= 0.38µm Gold/GXT® on contact area and 2µm min. matte tin on tail
- 3= 0.20µm Gold/GXT® on contact area and 2µm min. matte tin on tail
- 9= 1.27µm Nickel min. under layer and 2µm matte in on tail

MECHANICAL PERFORMANCE

- Durability: 100 mating cycles

ELECTRICAL PERFORMANCE

- Dielectric Withstanding Voltage: 650V
- Insulation Resistance: 1000MΩ min.
- Current Rating: 2A (all contacts powered)

PACKAGING

- Tube
- Tape

APPROVALS & CERTIFICATION

- UL94 V–0 & CSA

SPECIFICATION

- Amphenol Product Specification: GS–12–1326

ENVIRONMENTAL

- Operating Temperature: –55°C to +125°C

TARGET MARKETS/APPLICATIONS


Electronic Control Systems


Communications

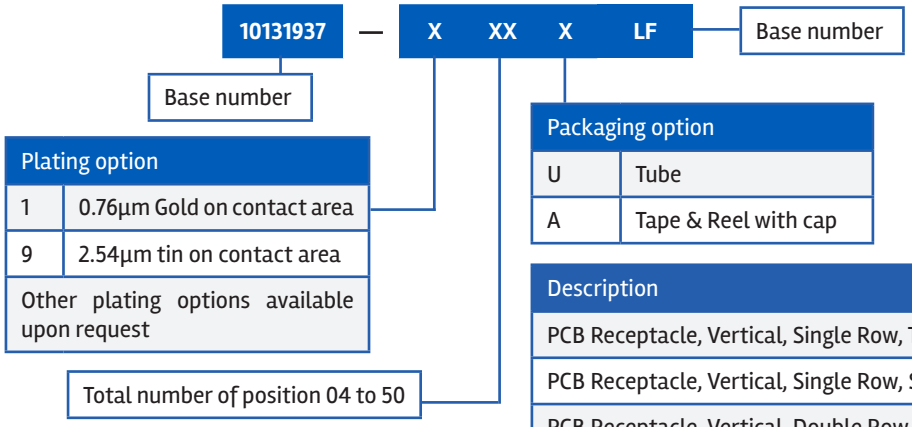

Servers
Communication Equipment


Industrial Automation
Instrumentation


Vending Machines

Description	Part Numbers
PCB Receptacle, Vertical, Single Row, TMT	10131934
PCB Receptacle, Vertical, Single Row, SMT	10131935
PCB Receptacle, Vertical, Double Row, TMT	10131936
PCB Receptacle, Vertical, Double Row, SMT	10131937
PCB Receptacle, Horizontal, Single Row, TMT	10131931
PCB Receptacle, Horizontal, Single Row, SMT	10131930
PCB Receptacle, Horizontal, Double Row, TMT	10131932
PCB Receptacle, Horizontal, Double Row, SMT	10131933

PART NUMBER SELECTOR PCB RECEPTACLE



Description	Part Numbers
PCB Receptacle, Vertical, Single Row, TMT	10131934
PCB Receptacle, Vertical, Single Row, SMT	10131935
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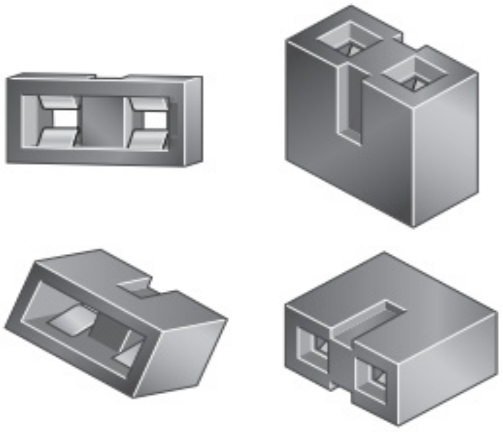
PCB Receptacle, Horizontal, Single Row, TMT	10131931
PCB Receptacle, Horizontal, Single Row, SMT	10131930
PCB Receptacle, Horizontal, Double Row, TMT	10131932
PCB Receptacle, Horizontal, Double Row, SMT	10131933

Minitek® Jumper Shunts

BOARD/WIRE-TO-BOARD CONNECTORS



TARGET MARKETS

FEATURES

- Dual beam contact design
- Early entry
- Mates with very short pins (5mm) stackable end-to-end and side-by-side
- Closed front and beveled lead in ramps
- Housing height 3.5mm
- Can be stacked end to end and side by side
- High Temperature Performing Raw materials

BENEFITS

- High reliable electrical performances
- Long wiping action for electrical reliability
- Meets your specific needs and is useful for Mezzanine Application
- Protect contact damage during insertion
- Allow small size of application
- Flexibility for assembly with male header
- Compatible with infra-red and vapor phase re-flow oven

TECHNICAL INFORMATION

MATERIAL

- Housing: High temperature, Black thermoplastic
- Flammability Rating: UL94V-0
- Pin: Phosphor-Bronze
- Plating: Gold or Tin over 1.27µm (50µin) Nickel

MECHANICAL PERFORMANCE

- Mating Cycles (durability): 50 max.
- Insertion Force: 650gf max.
- Withdrawal Force: 50gf min.

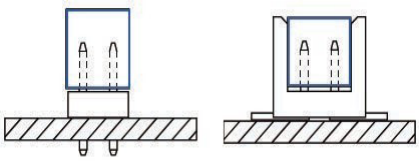
ELECTRICAL PERFORMANCE

- Current Rating: 1A max. per contact
- Insulation Resistance: 1000MΩ min.
- Contact Resistance: 15MΩ max. initial, 20MΩ max. after environmental tests
- Dielectric Withstanding Voltage: 650V

PACKAGING

- Plastic bags

TYPICAL APPLICATIONS



APPROVALS & CERTIFICATION

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

SPECIFICATIONS

- File no. E66906
- File no. LR46923
- Product Drawing: 86730
- Product Specification: DPS-12-012

ENVIRONMENTAL

- Operating Temperature Range: -40°C to +105°C

TOOLING INFORMATION

- Hand-tool: HT 270

TARGET MARKETS/APPLICATIONS

Personal Care Devices (Air Dryer)
Home Care Devices (Cleaning Robot)
Home Automation (Alarm System)

Sever
Storage

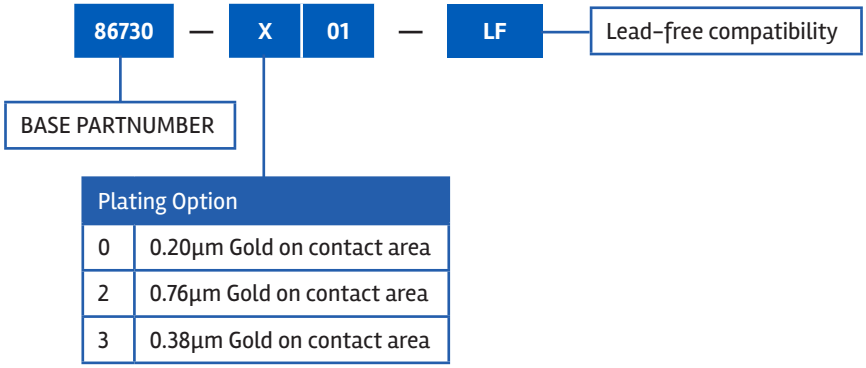
Robotics
PLC
Power Tool

PART NUMBER SELECTOR SHUNTS

CORE RANGE

86730 — 202LF

STANDARD



Plating Option	
0	0.20µm Gold on contact area
2	0.76µm Gold on contact area
3	0.38µm Gold on contact area

BASICSMNTKBTB0124EA4

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

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Optimize Your Supply Chain with WIN SOURCE Solutions

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