

Minitek® Multipitch WTB Platform Product Presentation

Product Presentation

Amphenol Information Communications
and Commercial Products

 **FCi Basics**

Amphenol ICC

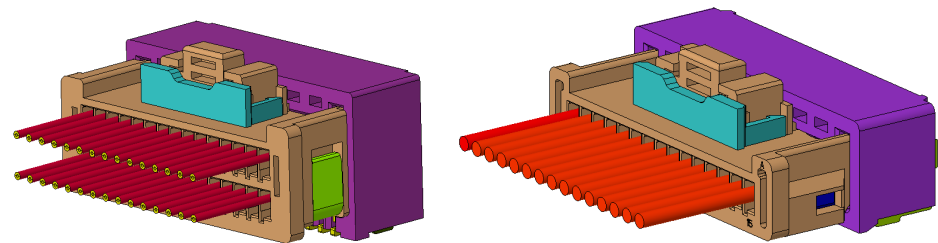
- Value Proposition
- Product Overview
- Product Specifications
- Features & Benefits
- Part Numbers
- Tooling information
- Markets & Application

Minitek® Multipitch Platform

Value Proposition



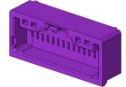
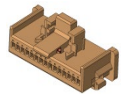
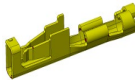
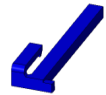
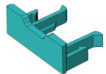
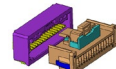
- The Multipitch platform connector's compact design addresses the growing demand for miniaturizing components. The connector system is single and double row with active latching, TPA and CPA features.
- The connector has nominal current carrying capacity of 2A and cable external diameter from 24AWG to 28AWG.
- The connector is available in 2 to 15 positions single row with horizontal and 10 to 30 position double row horizontal configurations.
- The connector can be applied in the Automotive-like applications, industry, consumer...



Minitek® Multipitch Platform

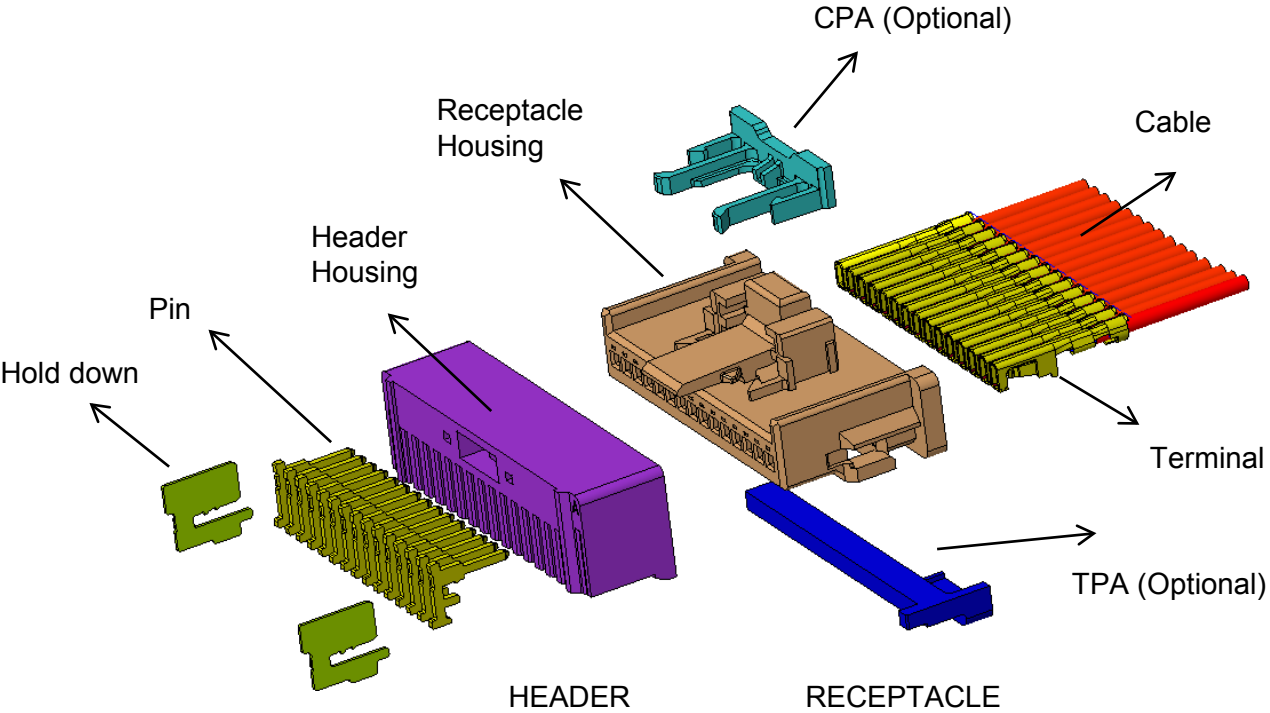
Value Proposition



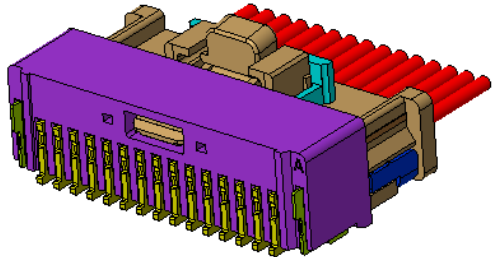
- Header Housing with pins (Male connector) ----- 
- Receptacle Female housing ----- 
- Terminal CTW contact ----- 
- TPA Terminal position assurance ----- 
- CPA Connector position assurance ----- 
- Right angle Connection axis parallel to the board ----- 

Minitek® Multipitch Platform

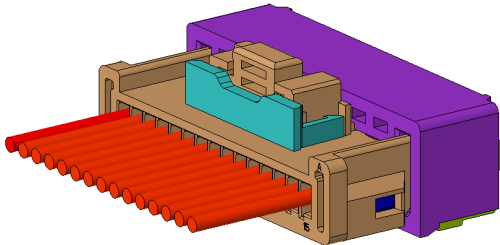
Product Overview single row



Exploded View



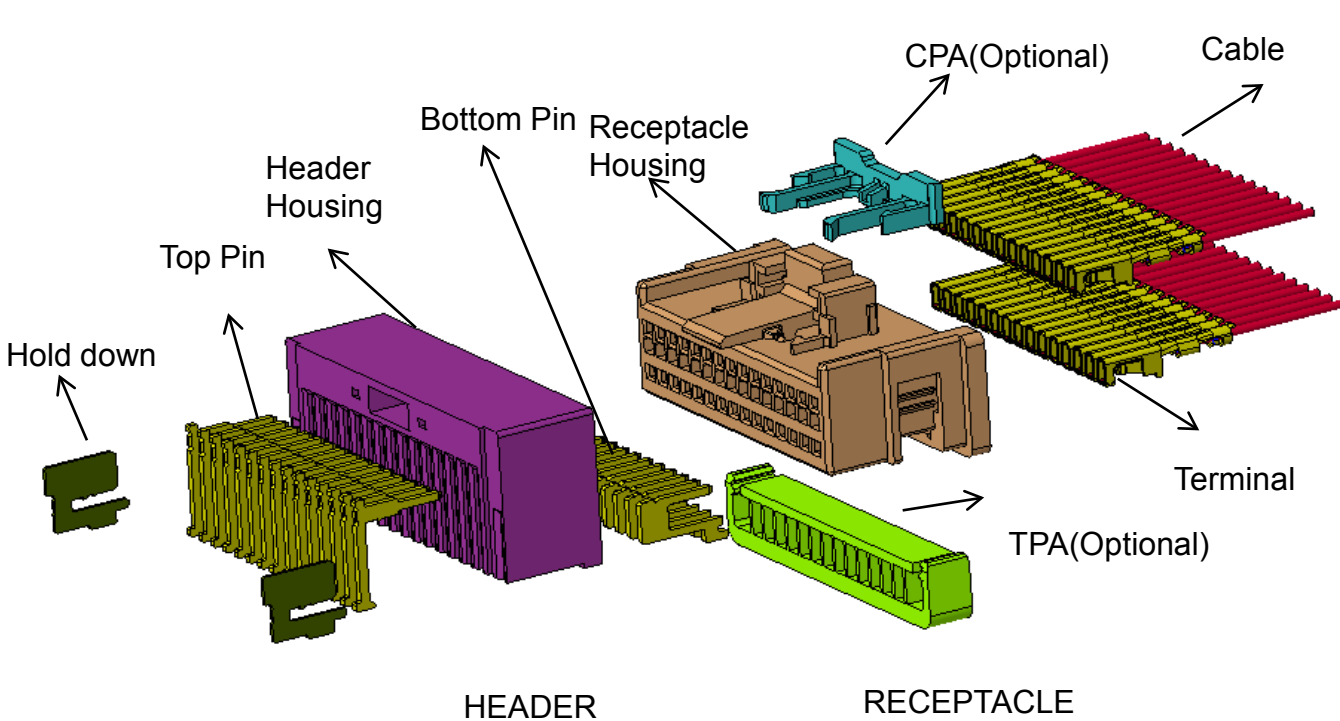
Assembled View



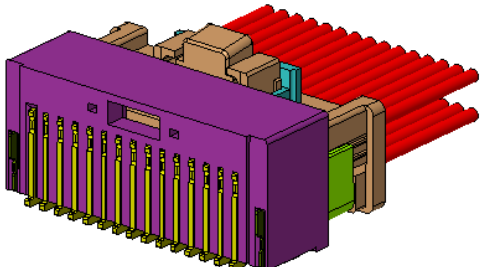
**Assembled View
(Reverse angle)**

Minitek® Multipitch Platform

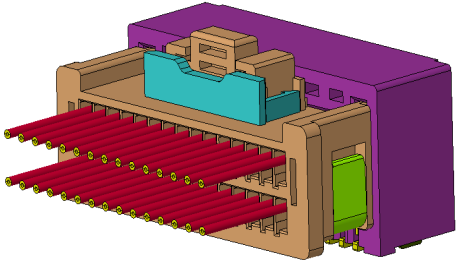
Product Overview double row



Exploded View



Assembled View



**Assembled View
(Reverse angle)**

Minitek® Multipitch Platform

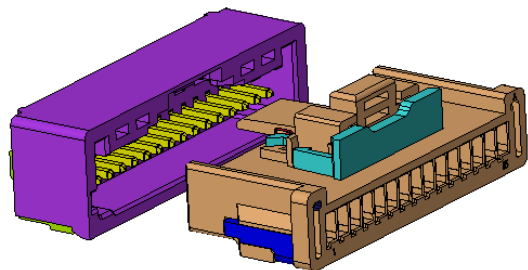
Product Overview



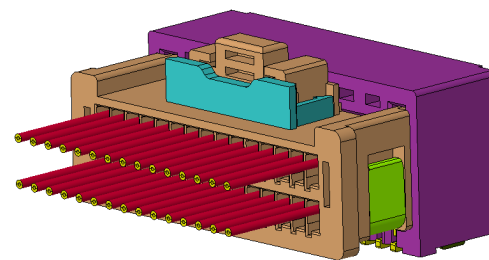
Family Configuration matrix

Pitch	Configurations	Descriptions	Part number
1.25mm	Single Row	R/A SMT Header	10157547
		Housing	10157554
	Double Row	R/A SMT Header	10158832
		Housing	10158828
1.5mm	Single Row	R/A SMT Header	10158514
		Housing	10158517
	Contact	Receptacle terminal	10157551

- Latch position: *Top*
- Single row (positions): *2 to 15*
- *Double row (positions): 10 to 30*
- Header soldering options: *Reflow soldering SMT*



Single Row



Double Row

MATERIALS

- Header Connector: PA9T
- Housing: High temp. UL94V-0
- Terminal for Crimping: High Current Alloy

ELECTRICAL PERFORMANCES

- Low Level Contact Resistance: < 40mΩ
- Insulation Resistance: 100MΩ
- Voltage Rating: 50V
- Dielectric Withstand Voltage: 500VAC
- Current Rating: 2.0A at 20°C ambient , T° Rise : 30°C max.

ENVIRONMENTAL

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

MECHANICAL PERFORMANCE

- Crimp Terminal Insertion Into Housing: < 4.9N
- Crimp Terminal Retention Into Housing: > 6.9N
- Plug Terminal Retention Into Housing: > 2.94N
- Durability: 30 mating cycles.
- Mating Force/Terminal: 4N max.
- Housing retention force: 9.8N Min.

PACKAGING

- PCB Header: Tape and reel
- Receptacle housing: Bag
- Crimping terminal: Reel

SPECIFICATION

- Product Specification: GS-12-1610
- Packaging Specification: GS-14-2615
- Application Specification:
 - 1.25mm - GS-20-0660
 - 1.50mm - GS-20-0676
- Hand tool: 10158871-001LF

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Features & Benefits



Features	Benefits
Housing with positive locking.	Ensures secure mating retention
Hold down features	Increase the board grip force
Terminal position assurance (TPA)	Ensures proper terminal insertion position and retention
Connector positioning assurance(CPA)	Assures that connectors are properly mated and locked together
Polarized mating geometry	Keying to prevent visual mismatching

Minitek® Multipitch Platform

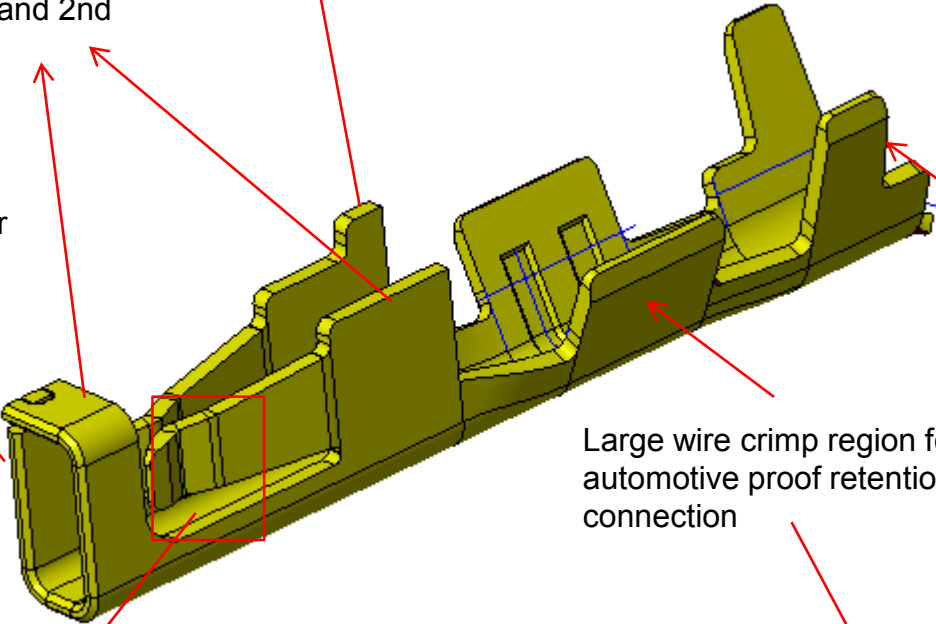
Terminal Features



Poka-yoke Structure

Latching and blocking feature to respect the 1st and 2nd retention

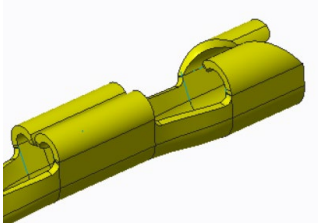
Prevent the terminal beam deformation under tension



Overlapping insulation crimp barrels to maximize retention

Large wire crimp region for an automotive proof retention and connection

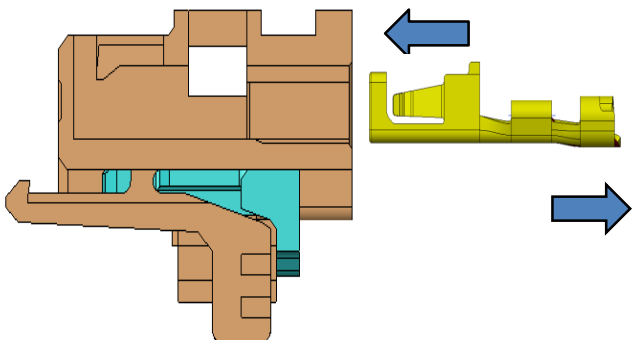
Supported contact beam to maximize contact normal force



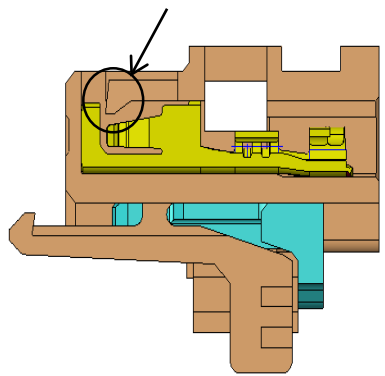
Multi Pitch

Terminal & TPA Ass. & TPA Functionality-SR

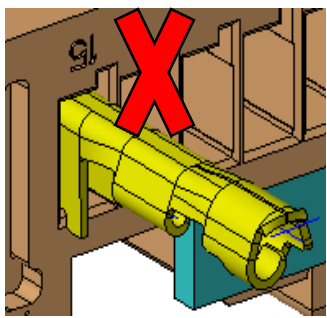
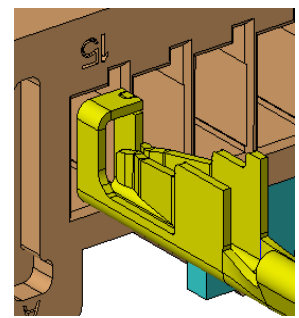
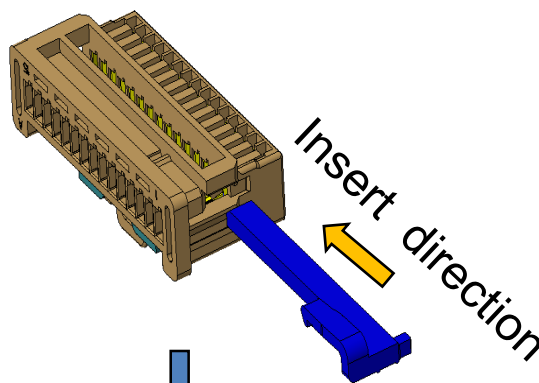
Insertion of terminal into receptacle housing



Primary latch active

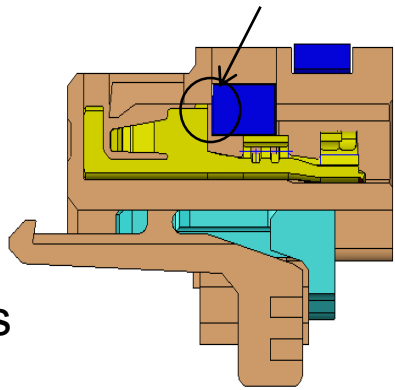


Assembly TPA

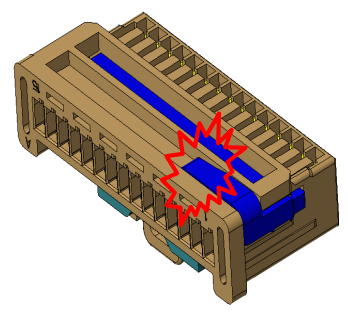


Keying function of terminal prevents wrong instertion

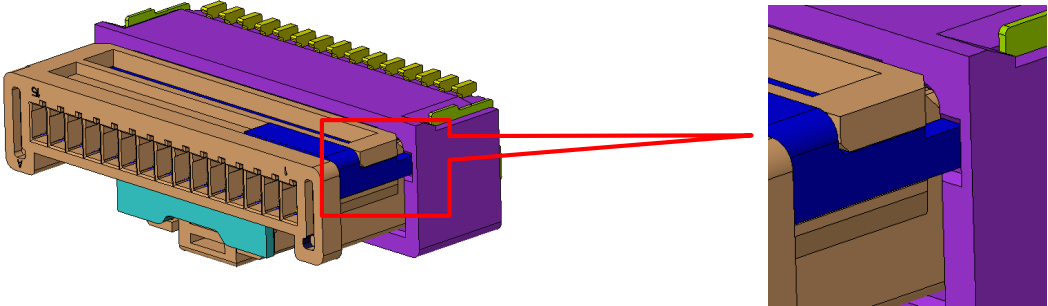
Secondary latch active



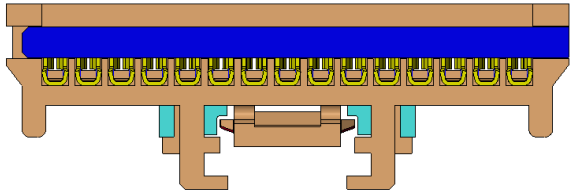
When TPA assembly is OK, sound prompts will be issued



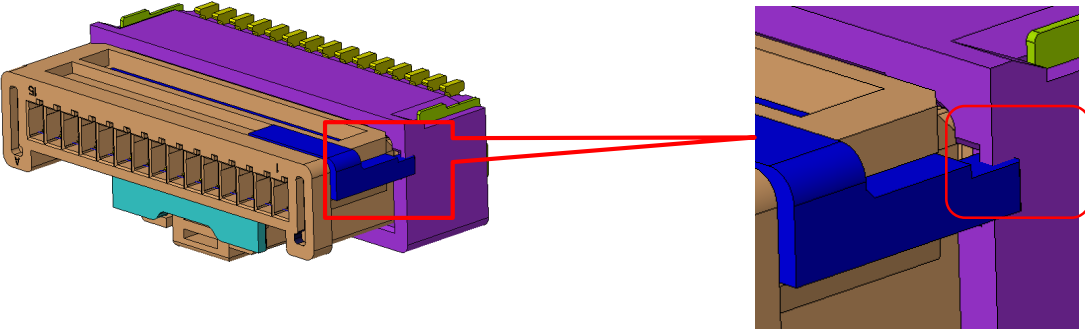
TPA function



Section



TPA is assembled in a right place, header and receptacle can be mated.

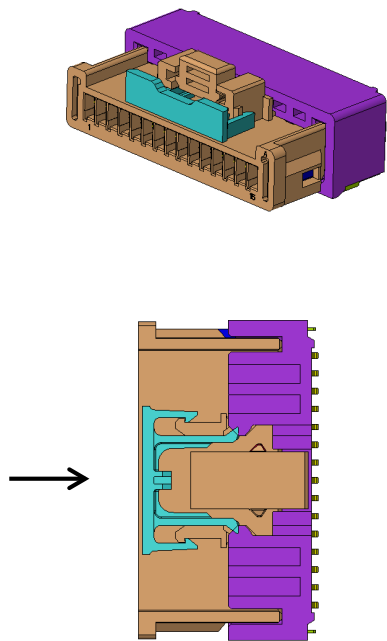


Header and receptacle can't be mated in place

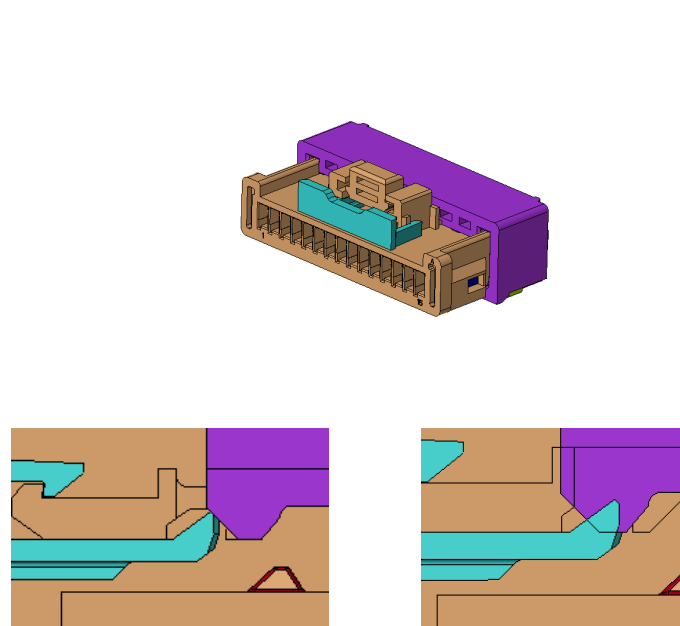
Header and receptacle can't be mated if TPA is not in a correct position.

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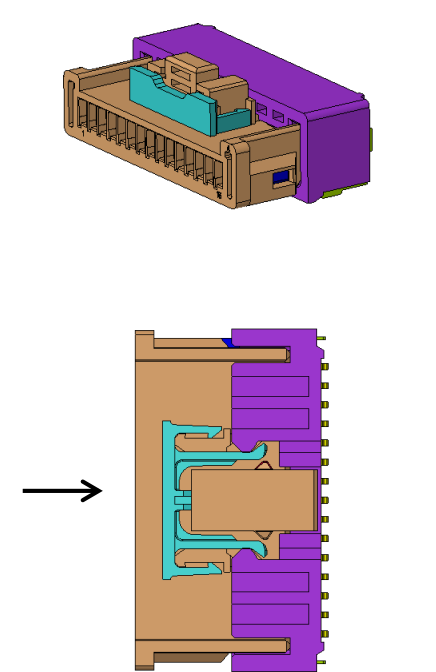
CPA Features



Insert receptacle to the header housing



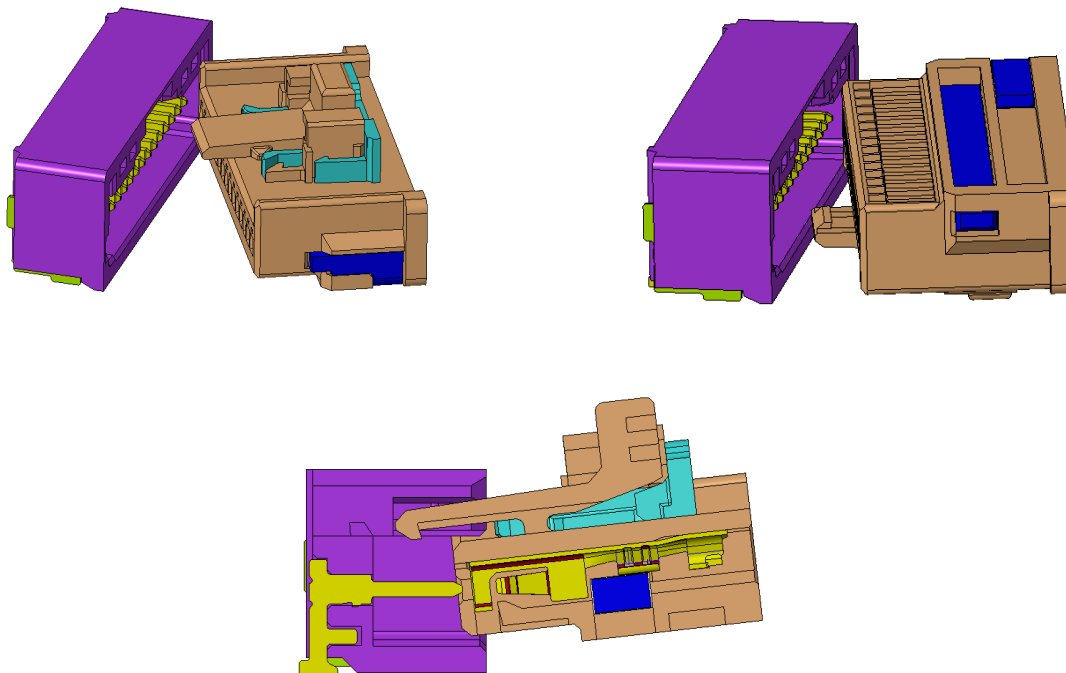
Header slope feature unblock the CPA from the receptacle



At the end position the CPA block the actuation of the latch

CPA can be actuated only if the receptacle is mated into the header at the final position. CPA function is to prevent accidentally press latch to cause latch loosed, and to ensure mated correctly and lock tightly.

Avoid error insertion, oblique insertion and reverse insertion (180°):

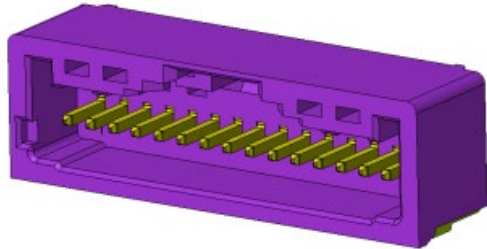


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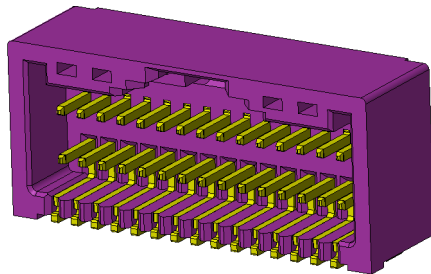
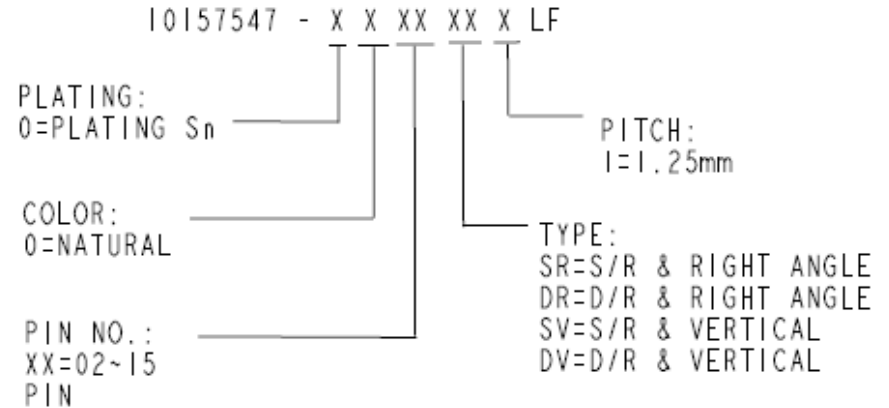
Part numbers_1.25mm pitch_RA Header

FCi Basics

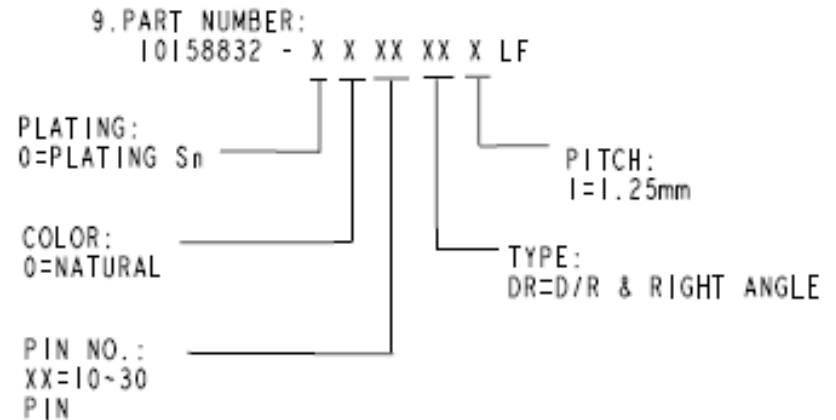
Board header



Single row R/A SMT Header



Double row R/A SMT Header



Remarks:

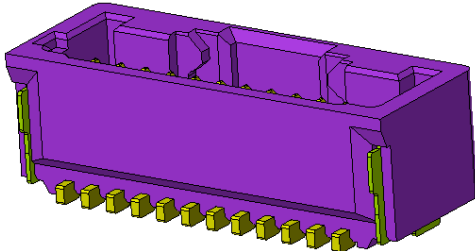
Housing color could be offered based on customer requirement.

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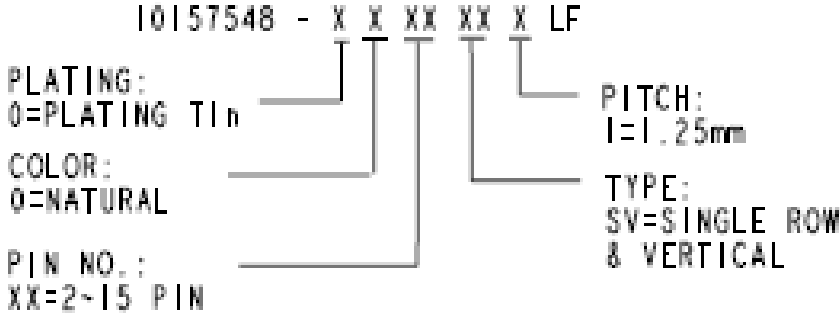
Part numbers_1.25mm pitch_Vertical Header



Board header



Single row Vertical SMT Header



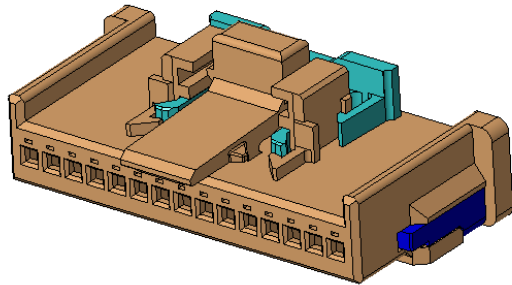
Remarks:
Housing color could be offered based on customer requirement.

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Part numbers_1.25mm pitch_Receptacle Housing

FCi Basics

Cable side



PART NUMBER: 10157554 - X X X X X LF

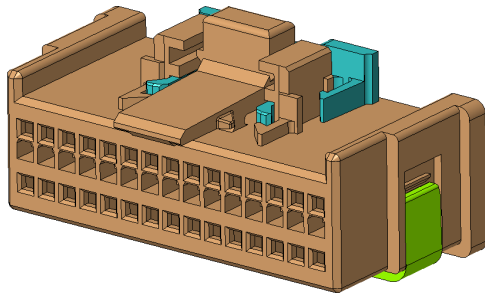
COLOR:
0=NATURAL

PIN NO. :
XX=2~15 PIN

PITCH:
1=1.25mm

TYPE:
1=WITH TPA&CPA(7~15PIN)
2=WITH TPA/WO CPA(2~15PIN)
3=WITH CPA/WO TPA(7~15PIN)
4=WO TPA & CPA

Single row Receptacle housing



PART NUMBER: 10158828 - X X X X X LF

COLOR:
0=NATURAL

PIN NO. :
XX=10~30 PIN

PITCH:
1=1.25mm

TYPE:
1=WITH TPA&CPA(14~30PIN)
2=WITH TPA/WO CPA(10~30PIN)
3=WITH CPA/WO TPA(14~30PIN)
4=WO TPA & CPA(10~30PIN)

Double row Receptacle housing

Remarks:

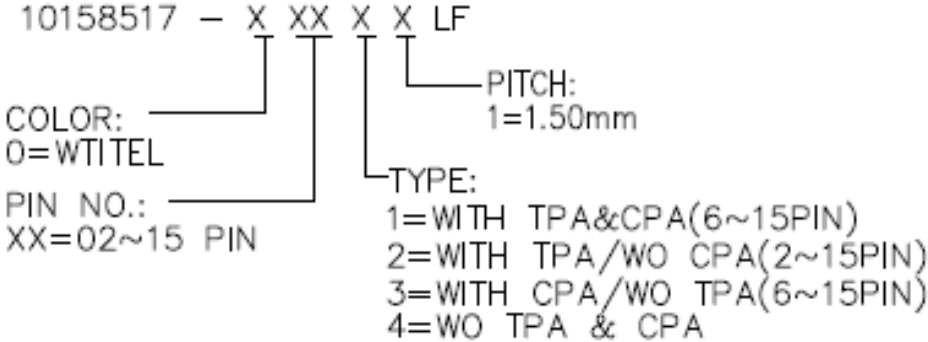
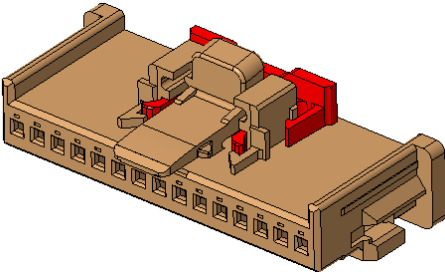
Housing color could be offered based on customer requirement.

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Part numbers_1.50mm pitch_Receptacle Housing

Cable side



Single row Receptacle housing

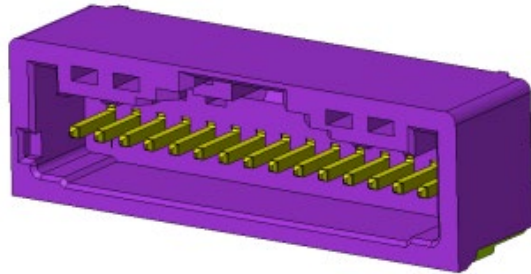
Remarks:
Housing color could be offered based on customer requirement.

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Part numbers_1.5mm pitch_RA Header

FCi Basics

Board header



Single row R/A SMT Header

PART NUMBER:
10158514-X X XX XX X LF

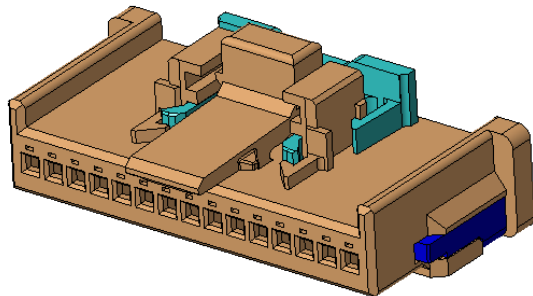
PLATING: _____
0=PLATING Tin

COLOR: _____
0=NATURAL
1=BLACK

PIN NO.: _____
XX=02~15 PIN

PITCH:
1=1.25mm

TYPE:
SR=SINGLE
ROW



Single row R/A SMT Header

PART NUMBER:
10158517 - X XX X X LF

COLOR: _____
0=WTITEL

PIN NO.: _____
XX=02~15 PIN

PITCH:
1=1.50mm

TYPE:
1=WITH TPA&CPA(6~15PIN)
2=WITH TPA/WO CPA(2~15PIN)
3=WITH CPA/WO TPA(6~15PIN)
4=WO TPA & CPA

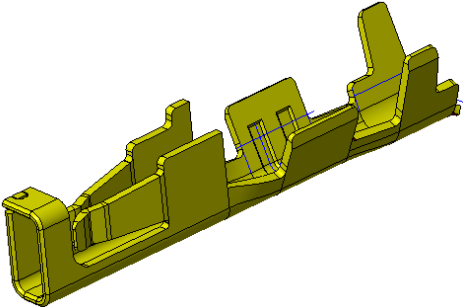
Remarks:

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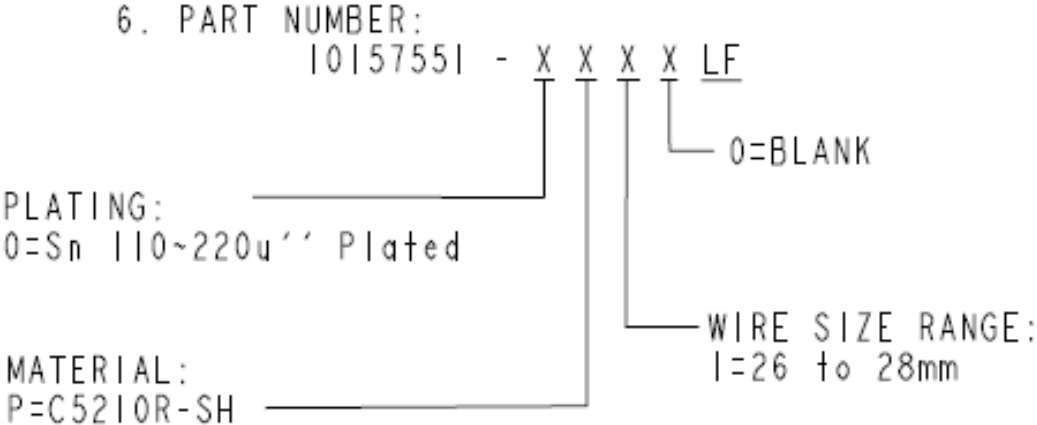
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Part numbers_Crimping Terminal

Cable side



Terminal



Crimping Hand Tool: 10158871-001LF

1.25mm pitch

- *See application spec GS-20-0660 ...*

1.50mm pitch

- *See application spec GS-20-0676 ...*



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Marketing and Application

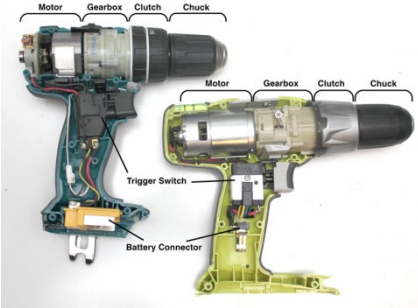
FCi Basics



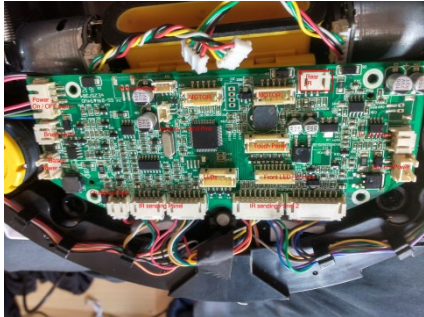
Steering Control Button
Infotainment
Lighting



Robotics , PLC, power tool



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



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THANK YOU