MEGA-FIT TPA-CAPABLE CONNECTOR SYSTEMS

1.0 SCOPE

This specification covers the requirements for the application of Mega-Fit 5.70 mm pitch wire to board and wire to wire TPA-capable connector systems. *For detail on the Non-TPA capable Mega-Fit connector system, pls refer to the AS-76823-100.

2.0 PRODUCT NAME AND SERIES NUMBERS

WIRE -TO-WIRE CONNECTION	
Description	Series Number
DUAL ROW RECEPTACLE HOUSING	171692
Mates with parts	
Dual Row Panel Mount Plug Housing	105411
Dual Row Free Hang Plug Housing	105411
Use with parts	
Female Crimp Terminals	76823,172063
Male Crimp Terminals	105417,105418
SINGLE ROW RECEPTACLE HOUSING	200456
Mates with parts	
Single Row Panel Mount Plug Housing	213814
Single Row Free Hang Plug Housing	213815
Use with parts	
Female Crimp Terminals	76823,172063
Male Crimp Terminals	105417,105418
TPA	105415
BACK SHELL	200122(Available for Dual Row Only)

WIRE -TO-BOARD CONNECTION	
Description	Series Number
DUAL ROW RECEPTACLE HOUSING	171692
Mates with parts	
Vertical Header Dual Row (with crush pegs)	76829, 172065
Slim Vertical Header Dual Row	76829, 172065
Right Angle Header Dual Row	172064,76825, 204653
Use with parts	
Mega-Fit Female Crimp Terminals	76823,172063
SINGLE ROW RECEPTACLE HOUSING	200456
Mates with parts	
Single Row Vertical Header	200241
Single Row Right Angle Header	200241
Use with parts	
Mega-Fit Female Crimp Terminals	76823,172063
TPA	105415
BACK SHELL	200122(Available for Dual Row Only)

DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawings for the information on dimensions, materials, platings & Markings

3.0 REFERENCE DOCUMENTS

See appropriate sales drawings for information on specific part numbers and material.

For Dimensions refer:

1716920200(SD)	Mega-Fit, Dual Row, Receptacle
2004561000(SD)	Mega-Fit, Single Row, Receptacle
768230200(SD)	Mega-Fit, Female Crimp Terminal
1054170100(SD)	Mega-Fit, Male Crimp Terminal
1054110100(SD)	Mega-Fit, Dual Row, Panel Mount Plug Housing
1054110200(SD)	Mega-Fit, Dual Row ,Free Hang Plug Housing
2138140001-SD	Mega-Fit, Single Row, Panel Mount Plug Housing
2138150001-SD	Mega-Fit, Single Row, Free Hang Plug Housing
1054150001(SD)	Mega-Fit, TPA
2002411000(SD)	Mega-Fit, Single Row, Vertical Header
2002412000(SD)	Mega-Fit, Single Row, Right Angle Header
SD-76825-0100	Mega-Fit, Dual Row, Right Angle Header
SD-76829-0100	Mega-Fit, Dual Row, Vertical Header with Crush Pegs or Slim Vertical Header

4.0 GENERAL APPLICATION NOTES

4.1 Connector Appearance:

- Parts conform to class “B” requirements of cosmetic specification PS-45499-002 except where noted on the sales drawing

4.2 Connector Application:

- This connector system is designed to mate gold plating to gold plating OR tin plating to tin plating. Never cross mate tin plated parts to gold plated parts
- This connector system is not designed for current sharing (i.e. splitting one current load across multiple circuits)

4.3 Chemical Exposure:

- Do not store terminals or header assemblies near any chemicals listed below as they may cause corrosion in terminal contacts.

Alkalis Ammonia Citrates Phosphates Citrates Sulphur Compounds

Amines Carbonates Nitrites Sulphur Nitrites Tartrates

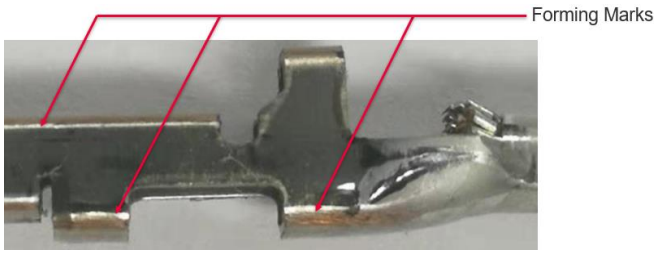
4.4 Terminal Instructions

4.4.1 Crimp Terminal Handling

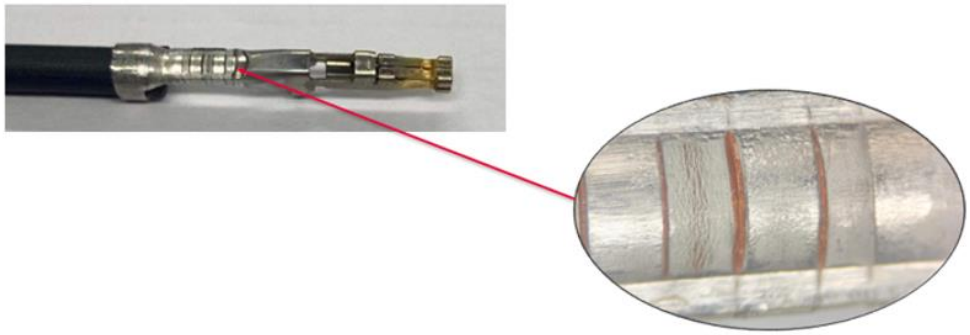
- Due to exposed terminal interface, keep crimp terminals on prepackaged reel until they are crimped onto wires. Do not precut and bulk pack terminals due to risk of damaging the contact interface. Store and handle crimped terminals so the interface doesn’t make contact with other terminals or foreign objects. If terminal interface is damaged, please discard prior to assembly.

4.4.2 Crimp Terminal Appearance

- Forming marks on female terminal are normal. These are due to stretching of the plating during the forming process and are superficial cracks on the plating surface.

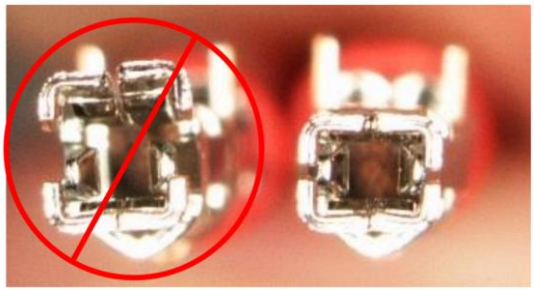


- Plating splitting terminal crimped is normal and acceptable.



4.4.3 Crimp Terminal Function

- Do not use terminals with damaged lock tabs or damage on the front of the terminals:



4.4.4 Crimped Terminal Extraction

- Do not reuse terminals that have been removed with extraction tool. The receptacle housing can be removed if it is not damaged.

4.4.5 Connector Testing

- Do not probe female terminal – use only Flat faced pogo pin styles that will not enter the terminal opening.
- Do not use Mega-Fit connectors as test parts, they are not intended to be used with repeated mating. Follow durability cycles as listed in 1054171000-PS/1720631000-PS.

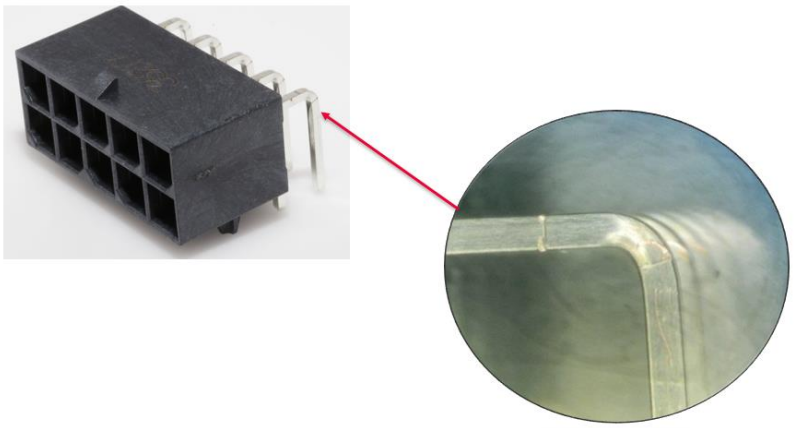
4.4.5 Crimping

- For acceptable crimp tools and specifications see application tooling section on Molex.com listed for each terminal part number.
- Use with multi strand wire only. Single strand wire should not be used.
- Use only Molex specified crimp tooling, refer to Molex.com for acceptable crimp tooling. Crimped terminals must also meet Molex crimp specifications. Using crimp tooling/specifications other than specified voids any product warranties and will negatively impact mechanical and electrical performance.

4.5 Header Instructions

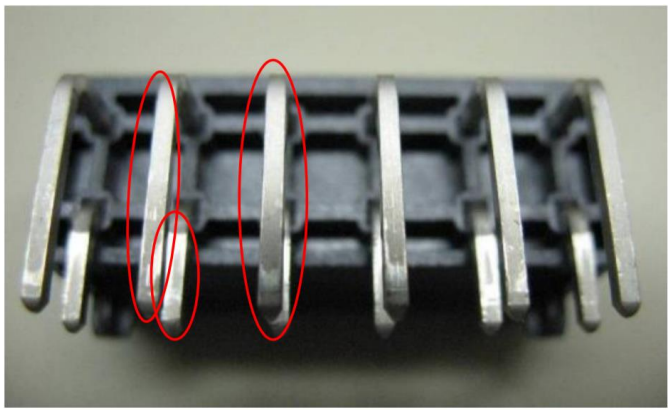
4.5.1 Header Appearance

- Discoloration in the bandolier carrier area of the pin is inherent to the plating process and is due to the masking effect of the carrier. This discoloration is in a non-functional area of the pin and will not affect the performance of the header assembly. Refer to cosmetic specification PS-45499- 002.



4.5.2 Right Angle Header Appearance

- Forming marks on header pins are acceptable. Refer to cosmetic specification PS-45499-002



4.5.3 Header Assembly to Board

- Some Headers are designed with crush pegs and need to be pushed into the circuit board.
- Alignment peg designed in for Headers without press crush pegs.
- Header should be flush with board after insertion.
- See below for solder process information.

4.5.4 Solder Process Temperatures

- Wave Solder: 265°C Max
- Reflow Solder: 260°C Max
-

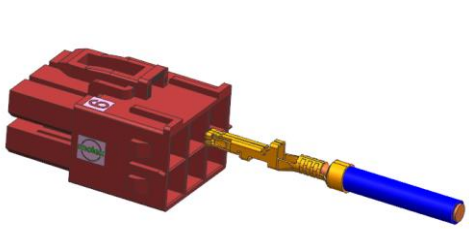
4.5.5 Reflow Soldering Profile

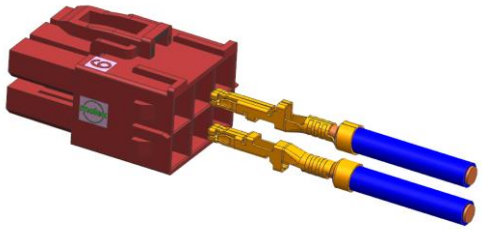
- See AS-40000-5013

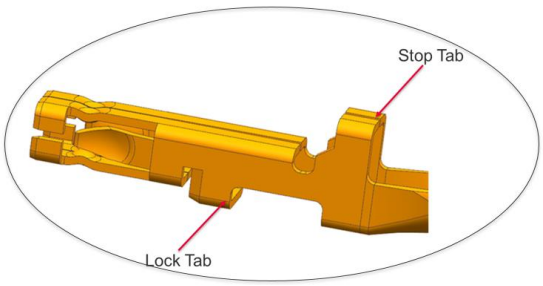
5.0 ASSEMBLY INSTRUCTIONS

5.1 CONPONENT ASSEMBLY INSTRUCTIONS

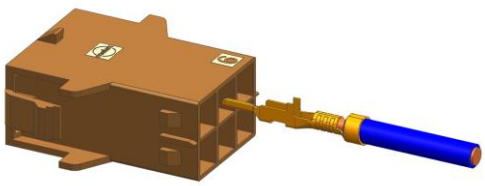
5.1.1 Insert the recommended female crimp terminals as in the SD into the receptacle housing. Terminals are inserted in the opposite orientation for both top and bottom row.

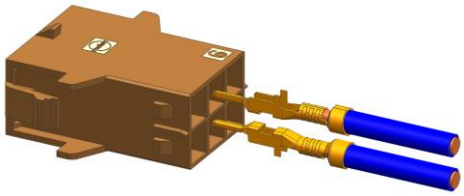


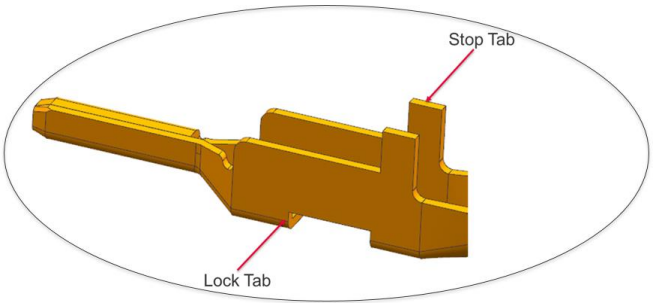




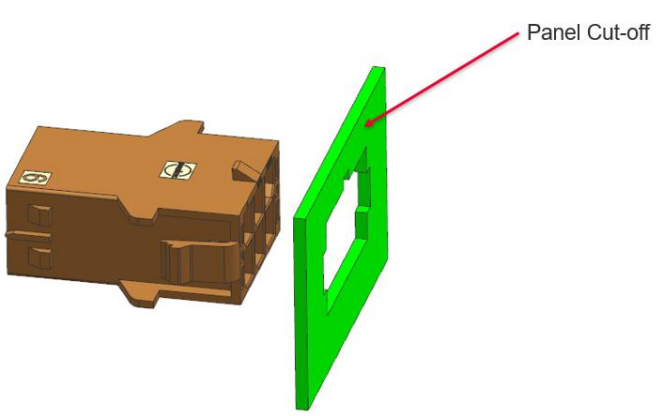
5.1.2 Insert the recommended Male crimp terminals as in the SD into the Plug housing. Terminals are inserted in the opposite orientation for both top and bottom row.

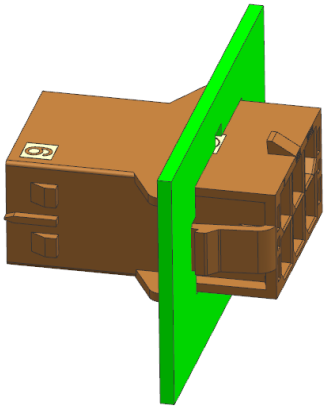




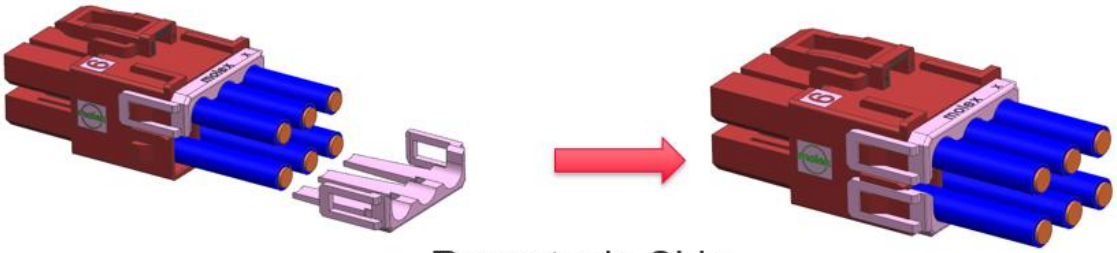


5.1.3 Insert the Plug into the recommended panel as in the SD

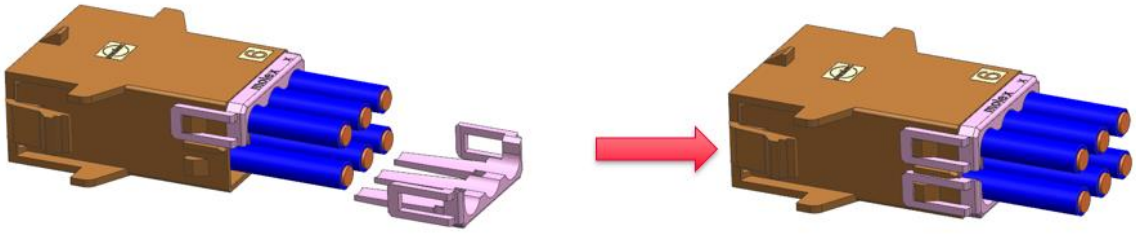




5.1.4 Insert the TPA into receptacle or plug mentioned in the SD.



Receptacle Side

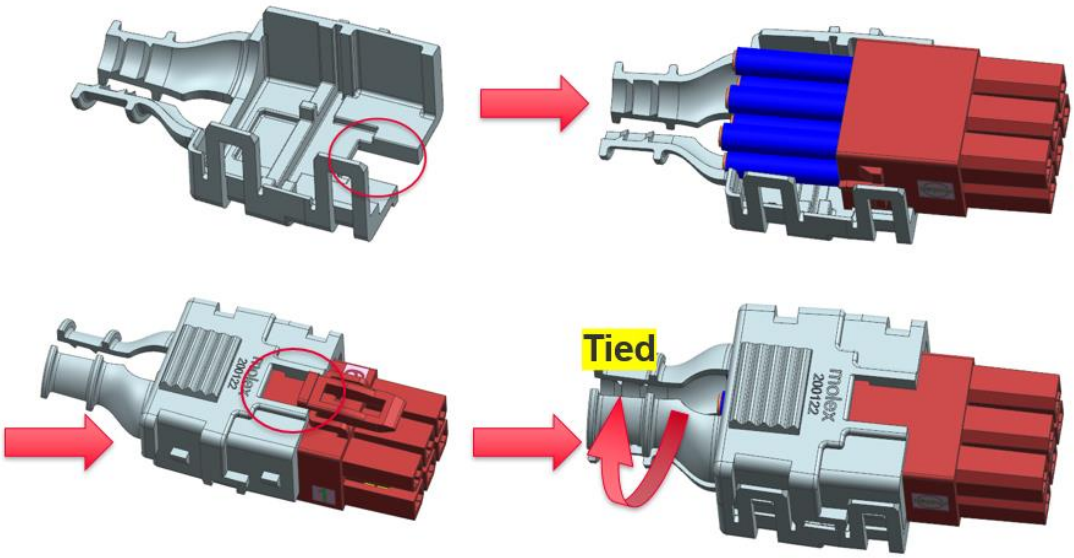


Plug Side

5.1.5 Optional strain relief hermaphroditic Back Shell assembly with receptacle or plug

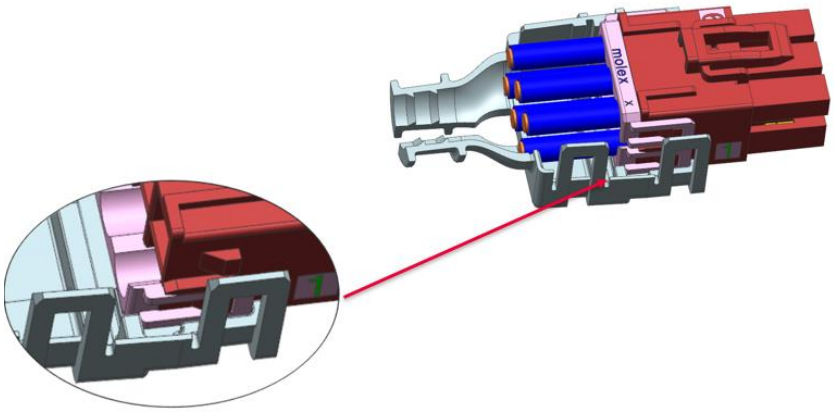
- This back shell is designed for cable strain relief.
- Must be used with cable tie.
- Can be used directly with wire bundle or wire bundle sheathing.
- Two back shells per assembly (same part number).
- Back shells not designed for re-use. If back shells are un-assembled for any reason, then replace both back shells with new back shells.
- Can be used with or without TPA

Step one, Place loaded housing, thumb latch down, into back shell cavity. Thumb latch fits into rectangular opening in back shell. Use this opening as guide for location.
Step two, Place second back shell top and snap closed.
Step three, Wrap cable tie inside and around cable tie area and secure

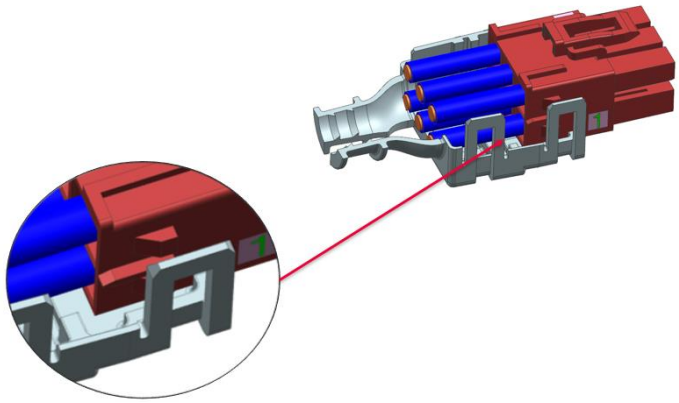


Notes: Location detail

1) With TPA



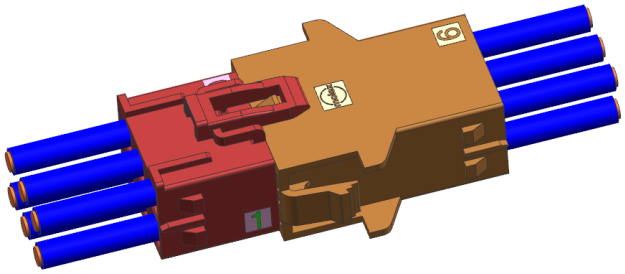
2) With out TPA



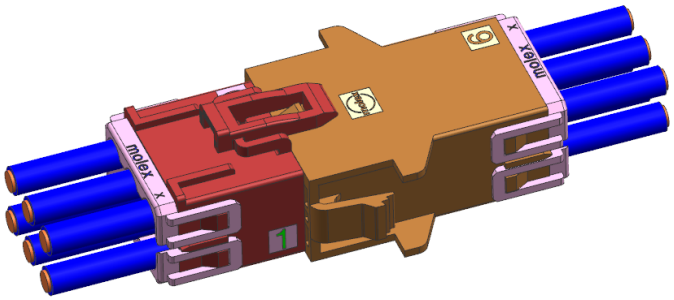
5.1 WIRE-TO-WIRE ASSEMBLY INSTRUCTIONS

Mate the receptacle side to Plug side series mentioned in the SD. First or Last circuit identifier will be provided on the receptacle housing rib

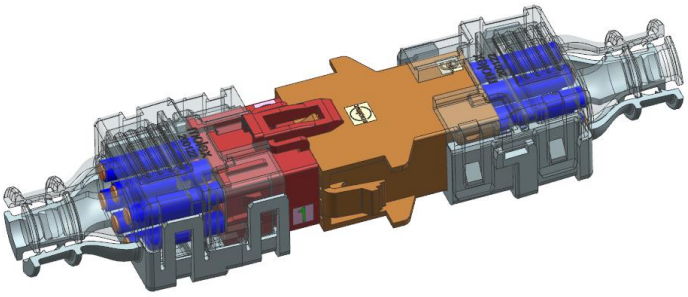
- Option one



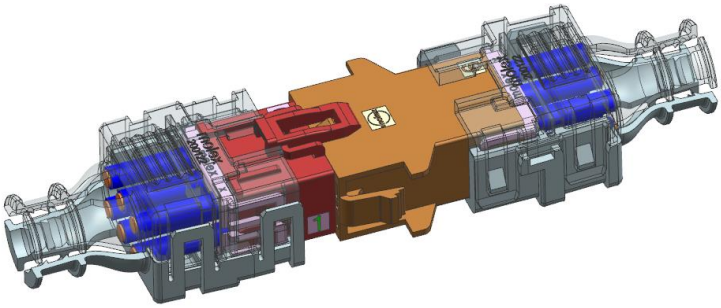
- Option two, with TPA (for Dual Row)



- Option Three, with Back Shell

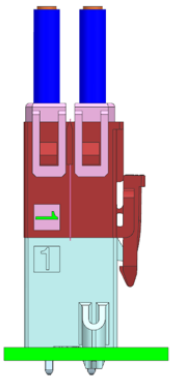


- Option Four，with TPA and Back Shell

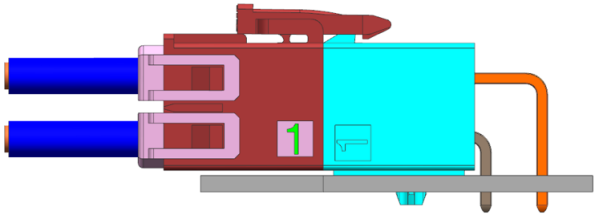


5.2 WIRE-TO-BOARD ASSEMBLY INSTRUCTIONS

Mate the receptacle side to Plug side series mentioned in the SD. First or Last circuit identifier will be provided on the receptacle housing rib



Vertical Type

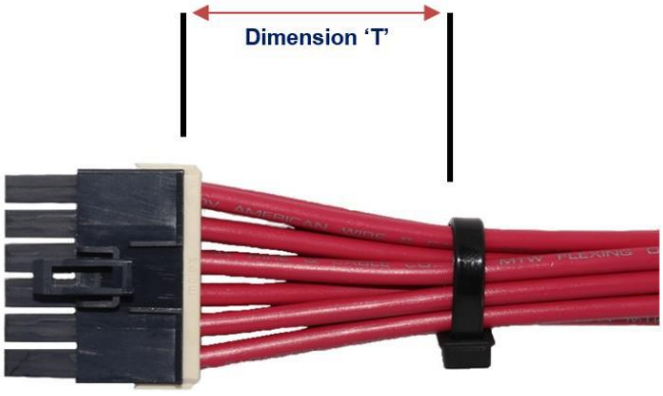


Right Angle Type

Notes: To avoid interface between the PCB and the receptacle. Header must be placed 12.00 mm Max from the edge of the PCB as in the SD.
Pls refer to Wire-to-Wire for back shell option

5.3 Minimum wire bend cable tie or twist location:

Circuit Sizes		Dimension T Minimum
Dual Row	Single Row	
2	2	.50” (12.7 mm)
4-6	3	.75” (19.1 mm)
8	4	1.00” (25.4 mm)
10-12	5-6	1.25” (31.75 mm)
----	7-8	1.50” (38.10 mm)



- The “T” dimension defines a “free” length of wire or length of wire that is not subject to significant bias by external factors such as a wire tie, wire twisting , or any other means of bending or deforming of the wires that repositions them from their natural relaxed state or location where they enter the housing. This dimension is a general recommendation and may need to adjust for different wire gauges and wire type and insulation thickness and insulation material.

- Wires are to be stressed in such a manner to allow the terminals to float freely in the receptacle pocket.

6.0 PACKAGING

Parts shall be packaged in the original Molex packaging to protect against damage during handling, transit and storage. Refer to Molex specification AS-45499-001 for moisturizing nylon connector parts.