

LPH VERTICAL RECEPTACLE INSTALLATION SPECIFICATION**1.0 SCOPE**

This specification applies to the series 46114, 46113, 46112 LPH vertical receptacle products with press-fit tails.

2.0 PRODUCT DESCRIPTION

The LPH Vertical system consists of Power and Signal modular configurations. The vertical receptacle connectors are through-hole devices with eye-of-the-needle compliant pin terminals. The connector assembly is delivered with the Power and Signal modules pre-installed system that aligns during the press-fit operation.

3.0 REFERENCE DOCUMENTS

- 3.1 Refer to the appropriate sales or manufacturing drawing for information on dimensions, materials, plating, and markings
- 3.2 PS-46114-001 – LPH Vertical Product Specification.
- 3.3 ATS-62201-8672 Press-In Tool instruction for Connector assemblies with 12, 16, 32, or 36 circuit signal.
- 3.4 ATS-62201-8671 Press-In Tool instruction for Connector assemblies with 20, 24, 28, or 40 circuit signal.
- 3.5 ATS-62100-6300 Power Terminal Removal Tool Instruction Sheet

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4.0 LPH VERTICAL RECEPTACLE NOMENCLATURE AND FEATURES

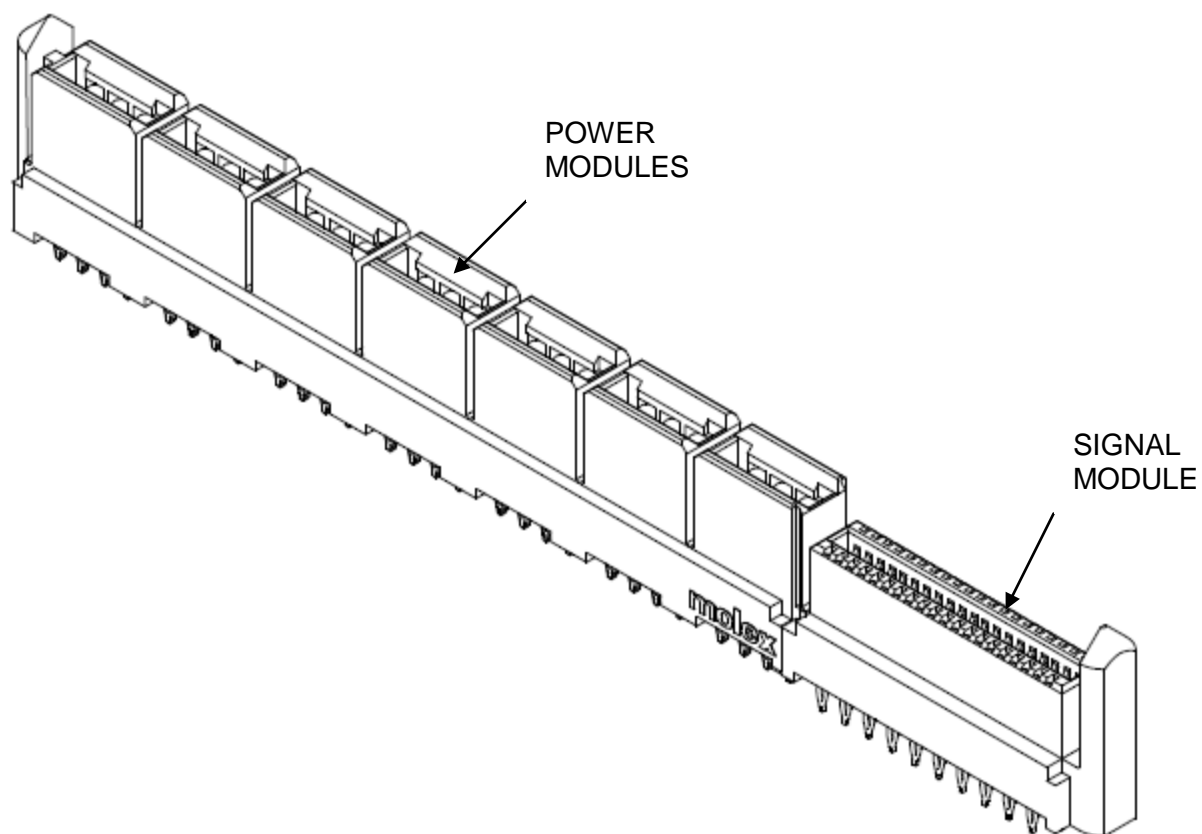


Figure 4.1

AS-DELIVERED RECEPTACLE ASSEMBLY

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5.0 PRINTED CIRCUIT BOARD SUPPORT

The LPH Vertical connector requires up to 15 lbs. of force per pin to press the Power Connector and 5 lbs. of force per pin to press the Signal Connector into the printed circuit boards. Therefore, a backup or support fixture is required to prevent damage to the PCB. The support fixture should have clearance for the connector terminals when they protrude through the underside of the PCB. It is also recommended that the support fixture have locating pins. Due to the custom nature of each application, Molex does not supply support and locating fixtures, the customer normally supplies them.

The following is one simple way of making a PCB support and locating fixture:

- 5.1 Locate a suitable piece of material for the backup. It should be approximately $\frac{3}{4}$ inch thick and the same size or slightly larger than the PCB to be used. While aluminum can be used, a rigid nonconductive material such as a phenolic is preferred. (A stack of scrap PCBs of suitable size can be fastened together and used as a fixture).
- 5.2 Obtain a scrap PCB like the ones to be assembled. Attach this PCB to the material from step 5.1.
- 5.3 Using an oversize drill bit, drill through each hole where a pin from the connector will go. Drill deep enough into the lower material to be certain the pins do not bottom out when inserted (at least 5mm [0.20in] deep).
- 5.4 Locate two (2) holes on the PCB to use as locating points. Drill for and mount suitably sized dowel pins in the two locations on the support fixture.
- 5.5 Clear out the support for any components mounted on the underside of the PCB.

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6.0 INSTALLATION PROCEDURE

- 6.1 Be certain the correct application tooling and board support are clean of debris or any other material that could damage the connector or PCB.
- 6.2 Place the board support under the ram of the press.
Note: Be certain the board support is square and sits level on the press; this is important due to the high forces generated during the press in process. Any flexing during the press in process could damage the board support, PCB, connector or the application tooling. The board support must provide clearance to all press-fit tails.
- 6.3 Program the press (if applicable) for the optimum force necessary to fully seat the connector on the PCB. Consult the LPH Vertical Product Spec for recommended insertion force.
- 6.4 Place the printed circuit board on the board support.
Note: The PCB should be doweled to the board support so no shifting occurs during the press in process that will cause miss-alignment between the PTH and the clearance holes in the board support.
- 6.5 Before placing the connector on the PCB inspect for any bent pins that would interfere with proper alignment to the PCB. Refer to workmanship criteria for descriptions and examples of product defects.
- 6.6 Place the connector on the PCB.
- 6.7 Place the insertion tool on the connector.
- 6.8 Cycle the press to seat connector on the PCB.
- 6.9 Check that connector is fully seated on the PCB and that all compliant tails were pressed in without any bent pins. See Figure 6.1.

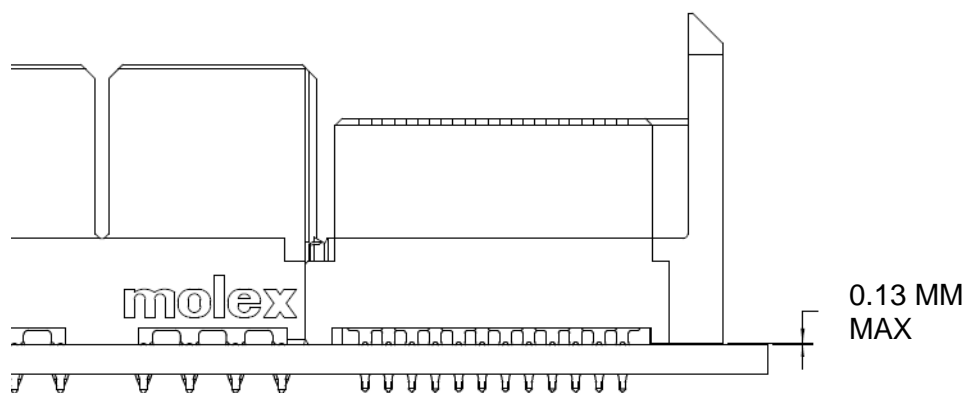


Figure 6.1
CONNECTOR SEATING DIMENSION

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INSPECTION PROCEDURE (Post Installation)

After the receptacle is pressed on the PCB the final assembly should be inspected. The following is a recommended inspection procedure.

First, inspect the mating side of the receptacle

- * The plastic shroud should be seated and flush to the PCB, a maximum allowable gap of 0.13mm is acceptable (see figure 6.1).
- * If the seating height is not correct, receptacle may be re-pressed to obtain the correct seating height.
- * Inspect the plastic housing, verify it is not cracked, deflected or damaged in any way. To avoid a mis-mate condition, the daughtercard lead-in zone must be free of debris and not damaged in any way.

Second, inspect the bottom side of the PCB

- * Verify all pins were pressed into the PTH's, if a pin did not get pressed into a hole the most common cause for this condition is mis-loading of the connector.

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