



2.00 by 2.25mm
(.079 by .089") Pitch
VHDM®

Backplane Connector System

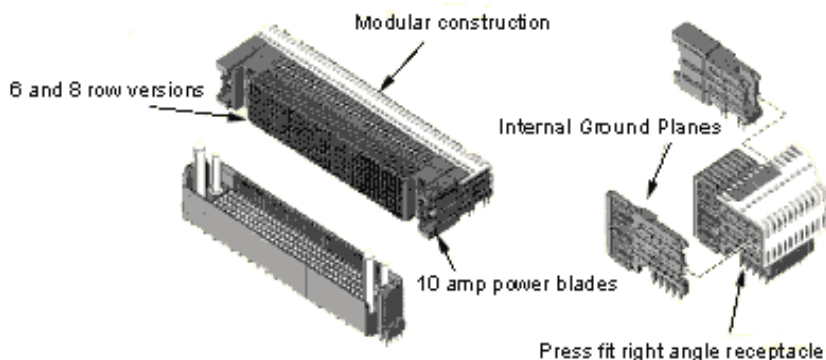
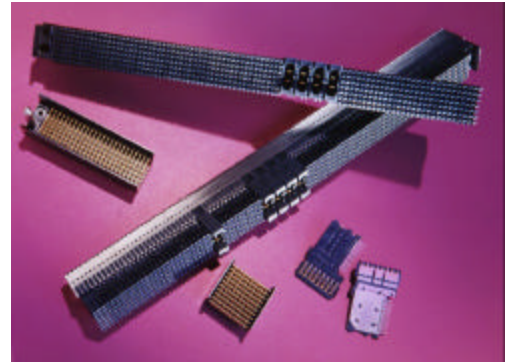
General Information

The Very High Density Metric (VHDM) connector system is designed for applications that require high interconnect density and high speed signal integrity. It is available in both 6-row and 8-row configurations with ground planes between columns. The grid of the mating face is 2 mm between columns and 2.25 mm between rows. The ground planes are interstitial to the signal grid.

In order to achieve the electrical performance, the dimensions from the daughter card to the back plane is unique to this system; 13.3 mm for the 6 row and 15.15 for the 8 row.

The daughter card connector is made from wafers. Each wafer has a column of signal contacts plus a ground plane. The wafers are then mounted onto a stiffener to make a monoblock connector. The connector can include signal wafers, guide blocks, and power modules.

On the back plane side, headers are available in lengths of 10 and 25 columns. There are open and guide pin versions available. Therefore, guide pins must be associated with signal arrays. Power modules can be freestanding outboard of the guide modules, or they can be between modules in the middle of the connector.



Receptacles

Since each daughter card connector is a customer special, we do a specific print and assign a customer part number for a buildup of wafers, guidance, and power elements as needed. The daughter card prints in this package show the elements, not the completed part. Once a customer part number has been assigned to a specific configuration, it can be ordered with this part number. Since all connectors are "made to order," this is not a premium cost and lead-times are normal.

Wherever the daughter card receptacle connector does not have a power or guidance module on the ends, it is recommended that an end wafer be used. This is a plastic part that protects the contacts on the adjacent wafer. Daughter card signal modules are available in designs for either differential or single ended applications, in multiples of 10 and 25 wafers. In general, signal pins can be designed in multiples of 10, 20 and 25 positions, and any increment of 5 above that.



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Relationship: Daughter Card-to-Backplane

Regarding Backplane alignment with the slide-in card, please pay attention to the relationships of the daughter card hole pattern to the back plane hole pattern. This is shown on the included drawing showing 6- and 8-row mating relationships.

Since the card edge to back plane dimension is different for the 6- and 8-row versions, a drawing is included showing the relationships if both versions are used on one card. They would have to be separate connectors, but it is practical to put 6- and 8-row connectors. The major implication of this is that there are left and right versions of the guide pin headers.

The back plane connectors are asymmetrical, with a signal pin column visible on one end of the connector and the ground plane visible on the other end. All modules must be aligned the same way to mate properly with the daughter card connector. The major implication of this is that there are left and right versions of the guide pin headers.

Customer applications sometime require " mid-plane" construction. This application features daughter cards that plug into both sides of a mid-plane with a minimum thickness of 5.50 mm. Please review the drawing coplanar mid plane layout on the following pages.

Mating Levels

There are multiple mating lengths available for signal pins. The standard lengths are 4.75 mm, 5.15 mm, and 6.25 mm. There is a fourth length available at 4.25 mm that can be used as an enable pin. This pin is very short and care must be taken that the connector can fully mate in the card cage to use this pin length. The headers are mass inserted, so it is easiest to make all of the pins in one row a special length. If necessary, it is possible to insert isolated pins of a special length, but this can best be done at the end of the header, probably on one of the inner rows.

There are multiple mating lengths for the power connector as well. There are 4 mating levels; 7.5, 9, 10.5, and 12 mm. Generally the default levels are 9 and 10.5 mm with longer or shorter added as needed for a specific application.

Press Fit

These connectors are only available in press fit, both for daughter cards and backplanes.

General Information

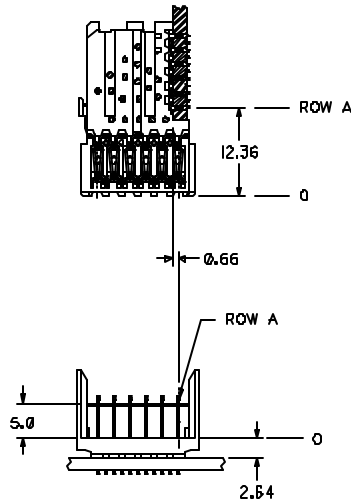
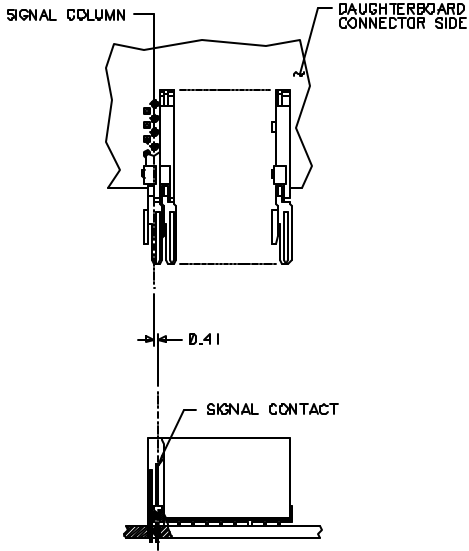


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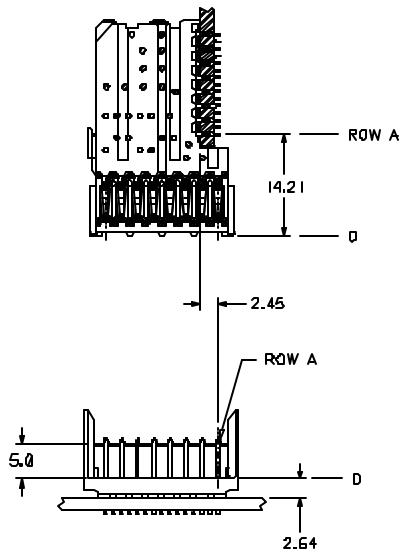
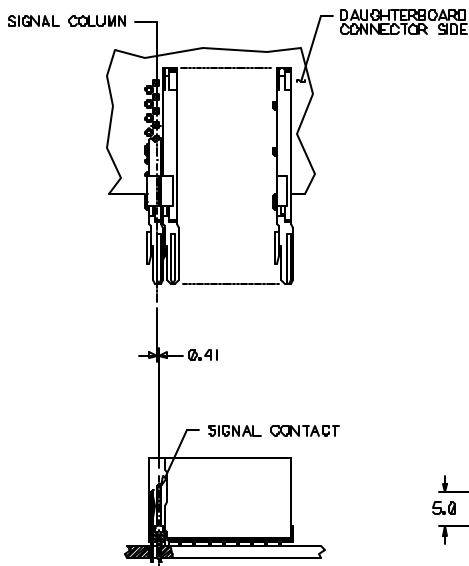
Backplane Connector System

6 ROW



Backplane/Daughtercard
Component Side

8 ROW

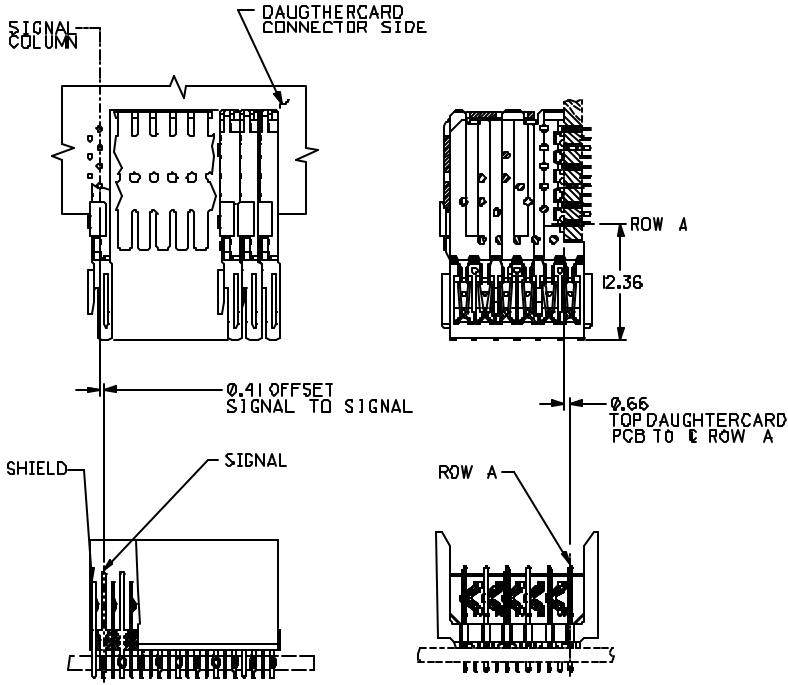




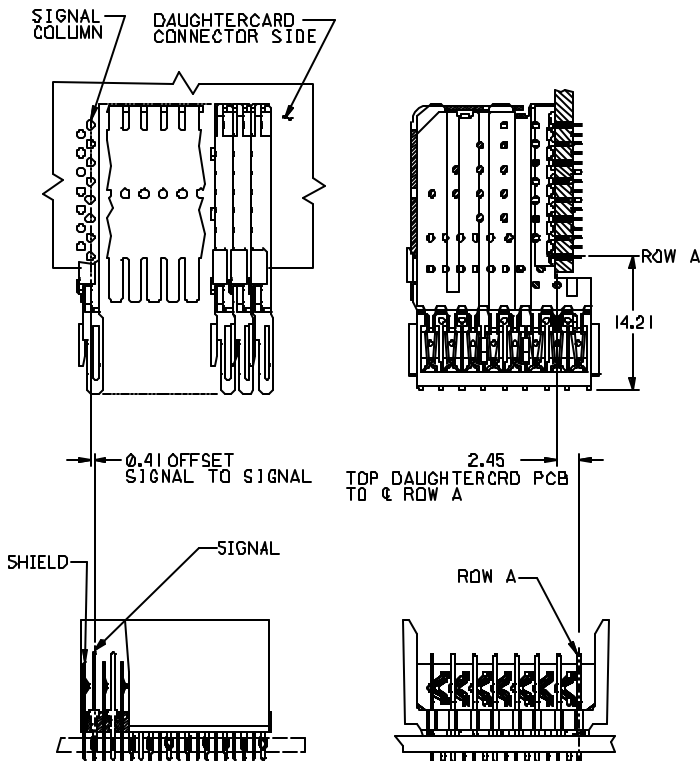
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6 ROW VHDM

Wafers



8 ROW VHDM





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General Information

VHDM Standard Backplanes

The following parts listed below are standard backplane parts. These parts come in 4 pin lengths. The pin length 2 shown below is the standard length which is 6.25 mm. The following are all of the available pin lengths.

1 = 4.75 mm

2 = 6.25 mm

3 = 4.25 mm

4 = 5.15 mm

The last digit in the Molex part number sequence defines the length of the signal pin. Examples below all end in a "2" defining a 6.25 mm pin length. This is the most commonly used length.

A keying position is denoted by an "X" in the second to last position in the Molex part number. There are 8 keying positions.

A = 1, B = 2, C = 3, D = 4, E = 5, F = 6, G = 7, H = 8

Backplane Headers	Molex Order No.	Teradyne Order No.
6 row x 10 open	74057-1002	496-5010-002
6 row x 25 open	74057-2502	496-5025-002
8 row x 10 open	74060-1002	493-5010-002
8 row x 25 open	74060-2502	493-5025-002
6 row x 10 guiding - right	74059-1002	498-5010-002
6 row x 10 guiding - left	74058-1002	498-5110-002
6 row x 25 guiding - right	74059-2502	498-5025-002
6 row x 25 guiding - left	74058-2502	498-5125-002
8 row x 10 guiding - right	74062-1002	495-5010-002
8 row x 10 guiding - left	74061-1002	495-5110-002
8 row x 25 guiding - right	74062-2502	495-5025-002
8 row x 25 guiding - left	74061-2502	495-5125-002
6 row x 10 guid + code right	74059-10x2	498-5010-x02
6 row x 10 guid + code left	74058-10x2	498-5110-x02
6 row x 25 guide + code right	74059-25x2	498-5025-x02
6 row x 25 guide + code left	74058-25x2	498-5125-x02
8 row x 10 guide + code right	74062-10x2	495-5010-x02
8 row x 10 guide + code left	74061-10x2	495-5110-x02
8 row x 25 guide + code right	74062-25x2	495-5025-x02
8 row x 25 guide + code left	74061-25x2	495-5125-x02
backplane power 2 row	74029-6000	437-5050-000
backplane power 3 row	74029-8000	437-5040-000
Keying post	74069-0010	
stand alone guide pin	74076-001/0002	564-0383-0553

*Please note that order number 74076-0001 is for a board thickness of 1.8 - 4.0 and order number 74076-0002 is for a board thickness of 4.0 - 9.0.