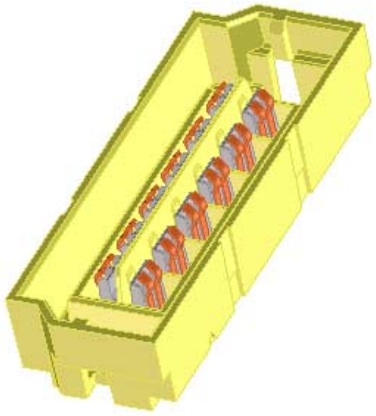
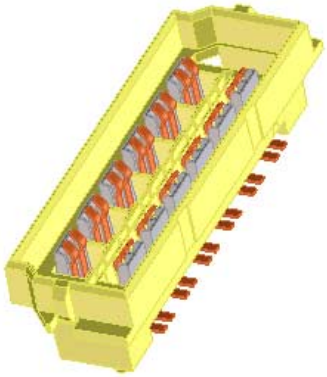
HIGH SPEED MEZZANINE APPLICATION SPECIFICATION

HIGH SPEED MEZZANINE BOARD TO BOARD CONNECTOR





75005 Receptacle Assembly **75003 Plug Assembly**

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TEMPLATE FILENAME: PRODUCT_SPEC[SIZE_A](V.1).DOC

1.0 SCOPE

This specification covers the mating and unmating process, soldering process, and board layout techniques for the High Speed Mezzanine connector. The interface consists of a differential pair of signal lines over molded in plastic surrounded by a plated plastic housing. The signal contacts are on 1.2mm pitch, with the differential pairs being on 3.51mm pitch.

2.0 PRODUCT DESCRIPTION

2.1 Product Name and Part Numbers:

High Speed Mezzanine Connector

Plug Assemblies

Series 75003

Receptacle Assemblies

Series 75005

2.2 Dimensions, Materials, Platings, and Markings:

(See appropriate sales drawings for information)

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Product Specification	PS-75005-001
Sales Drawing	SD-75003-001
Sales Drawing	SD-75005-001
Sales Drawing	RSD-75005-001

4.0 INSERTION AND WITHDRAWAL

This section describes the preferred methods for inserting and withdrawing the High Speed Mezzanine connectors. It also describes the special zippering feature of this connector which allows for the full rotation of the connector about a specific point of rotation.

4.1 Preferred Method of Insertion and Withdrawal:

INSERTION

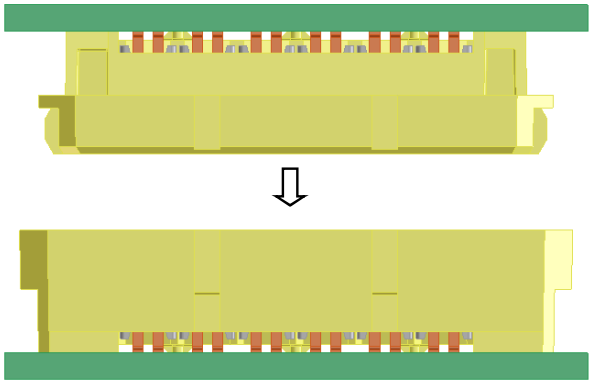


Figure 1

Figure 1 is the preferred method of insertion. Straight insertion of the connectors insures proper alignment during the mating process.

Zippering during Insertion:

The "zippering" together of the connectors during insertion is permissible. This can reduce the amount of force required to insert the connector. However, to do this the mating connector must be properly placed at the point of rotation. See Figure 2.

WITHDRAWAL

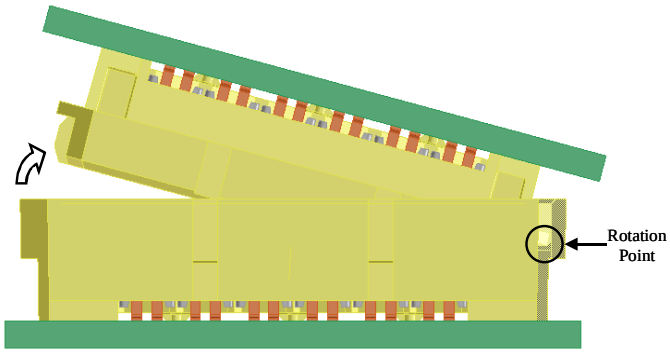


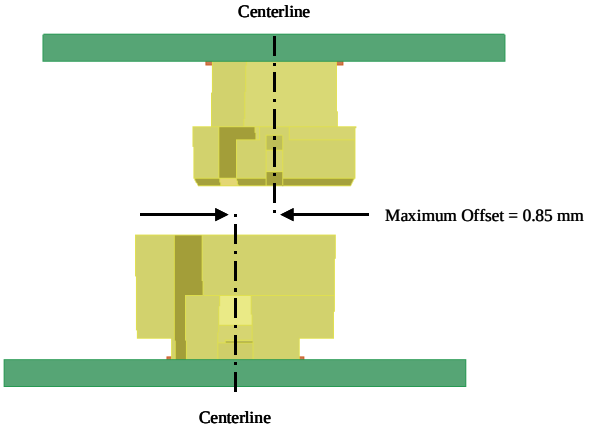
Figure 2

Zippering during Withdrawal:

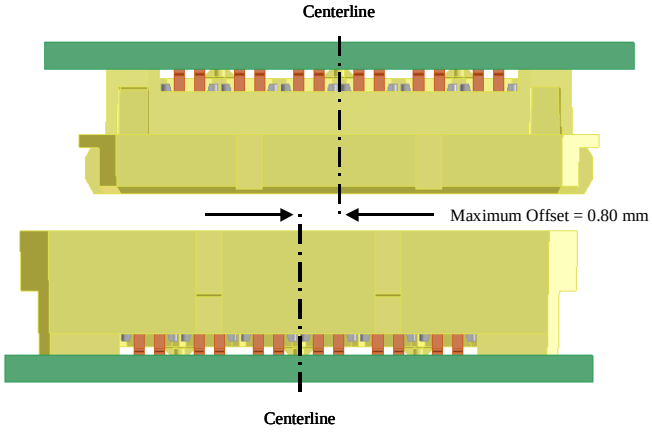
Zippering the connector during the withdrawal process is the preferred method of withdrawing the connector. This allows for reduced withdrawal forces. The connector is designed to rotate fully about its point of rotation during the withdrawal process, without binding or damaging the components of the connector.

The connector may also be withdrawn evenly with out damaging any components of the connector. This method is less preferable only because it requires more force during the withdrawal process.

4.2 Maximum Offset in X and Y Direction During Insertion:

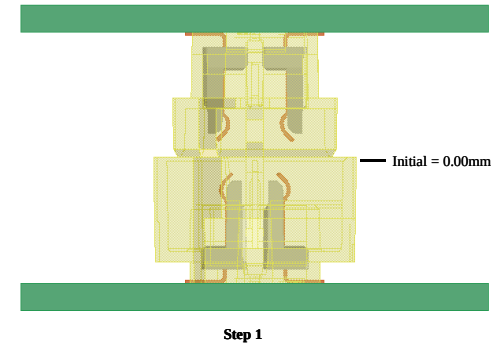


X-Direction

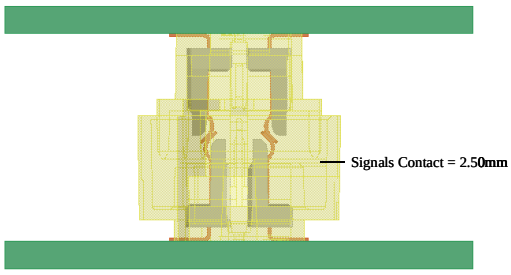


Y-Direction

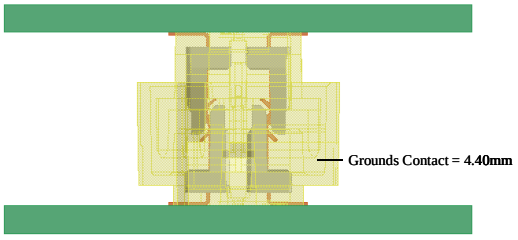
4.3 Mating Sequence During Insertion:



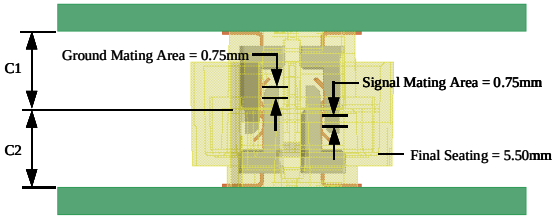
Step 1



Step 2



Step 3



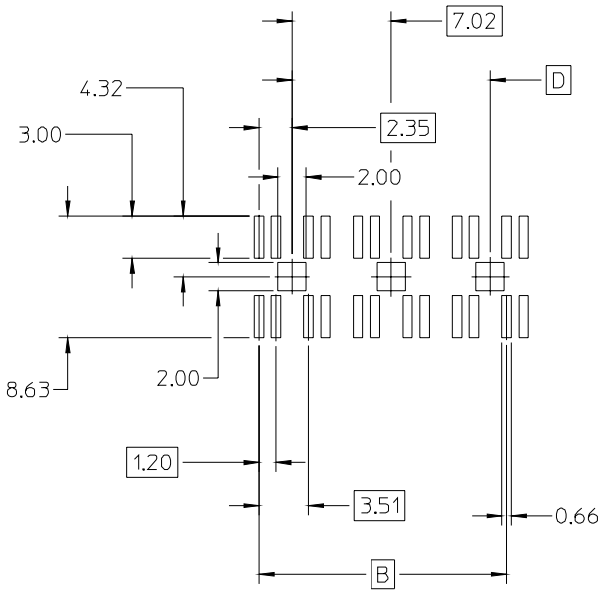
Step 4

Mating Height = C1 + C2 (C1 and C2 are the same as Dimension C on the Sales Drawing)

5.0 Application to PCB

This product is designed for Pin thru Paste attachment and recommended for convection or IR reflow processing. Refer to the following sections for information on the proper solder stencil layout, reflow temperatures, appropriate PCB thickness's, and inspection of the attachment.

5.1 Recommended Stencil Layout:



12 Pair Stencil Shown for Reference
(Dimensions B and D are equivalent to Dimensions B and D on the Sales Drawings.)

Note: The 2.00x2.00mm Apetures should be centered over the ground peg plated thru holes.

5.2 Recommended Reflow and Rework Temperatures:

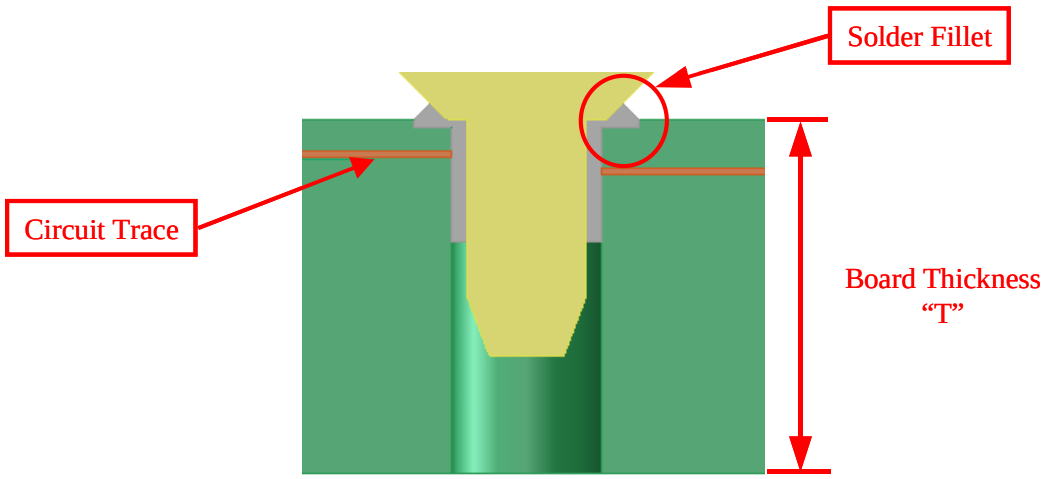
Initial Attach:

1) Maximum Reflow Temperature: 240°C for no longer than 30 seconds.
2) Maximum Reflow Shear Rate: 2°C/second

Rework:

1) Rework of the connector requires a full replacement.
2) Rework of the connector requires that after removal of the initial part all Thru Holes and SMT pads must be fully cleaned. No debris or solder is allowed.
3) Rework of the connector requires that a proper solder stencil be used to apply the paste for attaching the new connector. See Section 5.1 for a recommended stencil layout.
4) Rework of connector requires following the same temperature restrictions as the Initial Attach. A maximum reflow temp of 240°C and a maximum shear rate of 2°C/second.

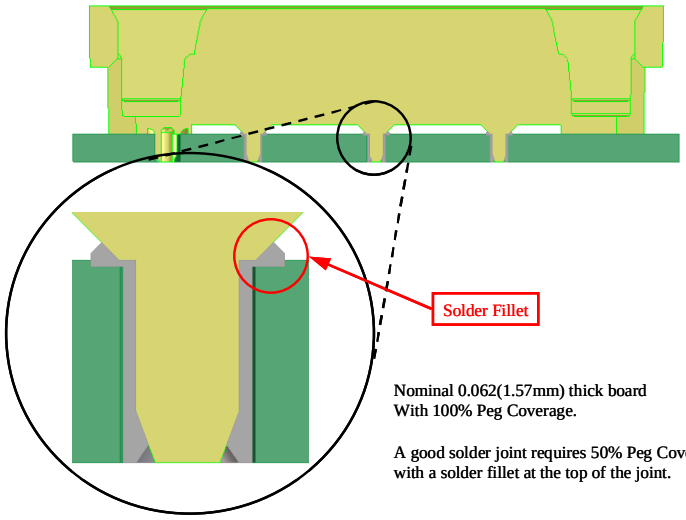
5.3 Recommended PCB Thickness:



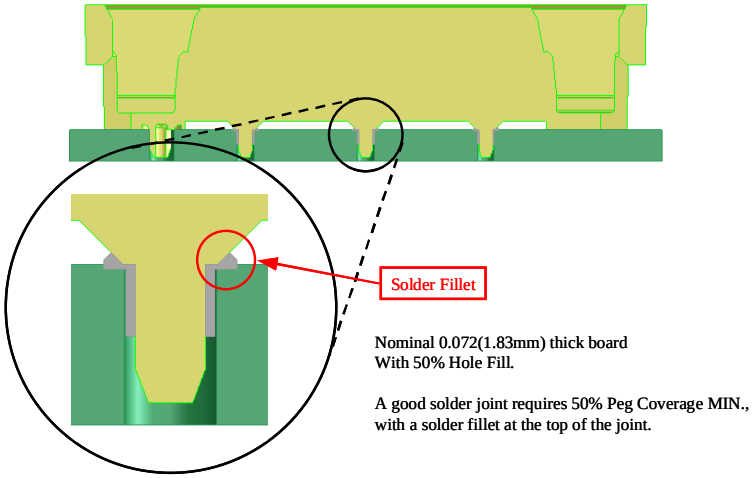
The recommended board thickness for the High Speed Mezzanine connector is 1.57mm thick.

However, the connector is fully capable of being used in thicker boards, the only limitations are that it maintain a minimum of 50% peg coverage with a solder fillet.

5.4 Inspection:



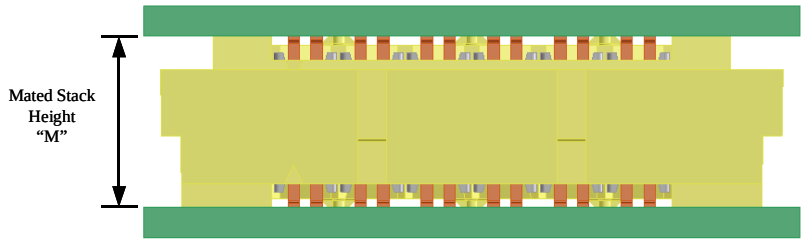
Best Case 100% Peg Coverage



Worst Case 50% Peg Coverage

NOTE: The Ground Peg has been tested and qualified without protruding below the surface of the PCB. This connector uses a Pin-thru-Paste application and only requires that >50% of the peg is covered with solder with a solder fillet at the top.

6.0 Mated Stack Height



Mated Stack Height (mm)	# of Differential Pairs	# of Circuits	Receptacle P/N	Plug P/N
9.00	6	12	75005-0304	Not Tooled
9.00	12	24	75005-0004	Not Tooled
9.00	24	48	75005-0104	Not Tooled
9.00	36	72	75005-0204	Not Tooled
10.00	6	12	75005-0304	75003-0305
10.00	12	24	75005-0004	75003-0005
10.00	24	48	75005-0104	75003-0105
10.00	36	72	75005-0204	75003-0205
11.00	6	12	75005-0304	Not Tooled
11.00	12	24	75005-0004	Not Tooled
11.00	24	48	75005-0104	Not Tooled
11.00	36	72	75005-0204	Not Tooled
12.00	6	12	75005-0306	75003-0305
12.00	12	24	75005-0006	75003-0005
13.00	6	12	75005-0304	75003-0308
13.00	12	24	75005-0004	75003-0008
13.00	24	48	75005-0104	Not Tooled
13.00	36	72	75005-0204	Not Tooled
*15.00	6	12	75005-0304	75003-0310
*15.00	12	24	75005-0004	75003-0010
*15.00	24	48	75005-0104	75003-0110
*15.00	36	72	75005-0204	75003-0210
15.00	6	12	75005-0306	75003-0308
15.00	12	24	75005-0006	75003-0008

*** Denotes Recommended Option**

Mated Stack Height (mm)	# of Differential Pairs	# of Circuits	Receptacle P/N	Plug P/N
*17.00	6	12	75005-0304	Not Tooled
*17.00	12	24	75005-0004	Not Tooled
*17.00	24	48	75005-0104	Not Tooled
*17.00	36	72	75005-0204	Not Tooled
17.00	6	12	75005-0306	75003-0310
17.00	12	24	75005-0006	75003-0010
17.00	6	12	Not Tooled	Not Tooled
17.00	12	24	Not Tooled	Not Tooled
17.00	24	48	Not Tooled	Not Tooled
17.00	36	72	Not Tooled	Not Tooled
18.00	6	12	Not Tooled	75003-0305
18.00	12	24	Not Tooled	75003-0005
18.00	24	48	Not Tooled	75003-0105
18.00	36	72	Not Tooled	75003-0205
19.00	6	12	Not Tooled	Not Tooled
19.00	12	24	Not Tooled	Not Tooled
19.00	24	48	Not Tooled	Not Tooled
19.00	36	72	Not Tooled	Not Tooled
21.00	6	12	Not Tooled	75003-0308
21.00	12	24	Not Tooled	75003-0008
21.00	24	48	Not Tooled	Not Tooled
21.00	36	72	Not Tooled	Not Tooled
23.00	6	12	Not Tooled	75003-0310
23.00	12	24	Not Tooled	75003-0010
23.00	24	48	Not Tooled	75003-0110
23.00	36	72	Not Tooled	75003-0210
25.00	6	12	Not Tooled	Not Tooled
25.00	12	24	Not Tooled	Not Tooled
25.00	24	48	Not Tooled	Not Tooled
25.00	36	72	Not Tooled	Not Tooled

*** Denotes Recommended Option**