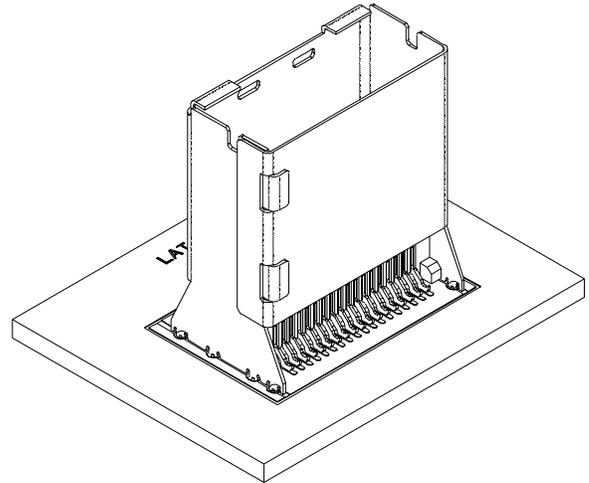
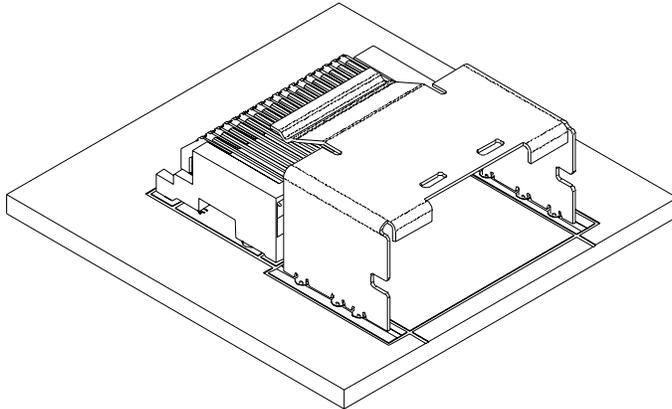




# APPLICATION SPECIFICATION

## IPASS™ 0.8mm PITCH I/O CONNECTOR w/SHELL



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# APPLICATION SPECIFICATION

## 1.0 SCOPE

This Application Specification covers the processing and handling requirements for the iPass™ connector family with shell for internal cabling applications (75783 / 75784 series).

## 2.0 PRODUCT DESCRIPTION

### 2.1 PRODUCT NAME AND SERIES NUMBER

Product Name: iPass™ Connector Family  
Series Number: 75783 / 75784

### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawing for information on dimensions, materials, plating and marking, and footprint patterns.

## 3.0 REFERENCE DOCUMENTS

### 3.1 MOLEX DOCUMENTS

PK-75783-001 Packaging Specification  
SD-75783-001 iPass™ Right Angle with Shell  
SD-75784-001 iPass™ Vertical with Shell  
SMES-152 Solderability

## 4.0 PROCEDURE

### 4.1 GENERAL REQUIREMENTS

#### 4.1.1 PACKAGING

The Molex iPass™ connector is supplied on tape and reel packaging for high-speed assembly. Connector and shell are integrated with a pre-positioning device such that both parts can be placed as a single unit.

#### 4.1.2 BOARD THICKNESS

There is no required minimum board thickness for single-sided printed circuit boards.

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## 4.1.3 BOARD LAYOUT

The board layout must conform to the appropriate industry standard requirements. See the aforementioned sales drawings for the specific connector footprint and keep-out areas.

## 4.2 ASSEMBLY INSTRUCTIONS

### 4.2.1 BOARD LAYOUT

The board layout must conform to the appropriate industry standard requirements. See the aforementioned sales drawings for the specific connector footprint and keep-outs.

The Molex iPass™ connector shall be placed on the host printed circuit board using the aligning posts. The terminals shall be lined up on the printed circuit board in such a way that the solder feet shall be placed over the solder pads on the host printed circuit board.

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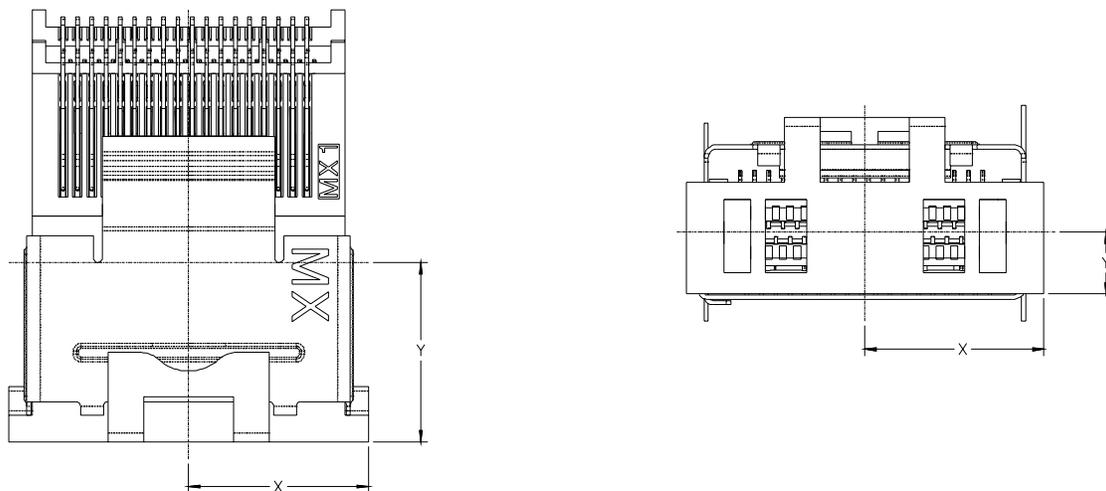


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## 4.2.2 VACUUM PICK UP

A pre-positioning device (PPD) is applied to the receptacle that positions the shell relative to the receptacle. This PPD must not be removed after placement of the receptacle/shell assembly on the PCB. The PPD must be removed after processing the receptacle/shell assembly to the PCB. The PPD is used as the vacuum pick and place surface for the vertical assembly. The shell is used as the vacuum pick and place surface for the right angle assembly.

The location of the centroid of the receptacle is given relative to the upper left corner. The upper left corner is defined with the receptacles solder tails to the bottom and the card slot to the top as you are looking at the PCB. See figure below for location of centroid. The table below lists the dimensional location of the centroid as a function of circuit size.



Dimension	Circuit Size – Right Angle (75783)				Circuit Size – Vertical (75784)			
	26	36	50	68	26	36	50	68
X (mm)	8.025	10.025	12.825	16.425	8.025	10.025	12.825	16.425
Y (mm)	10.00	10.00	10.00	10.00	3.50	3.50	3.50	3.50
Weight	2.89	3.48	4.21	5.14	3.74	4.46	5.37	6.54

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## 4.2.3 SOLDER TAIL SEATING

As the connector (and shell) posts are for clearance and fit only, the force required for seating the connector (and shell) is minimal. The connector must be seated and soldered so that there is no more than a 0.05mm (.002") gap between the housing and the printed circuit board. The gap between the lower edge of the shell and the printed circuit board should be no more than 0.1mm (.004").

## 4.2.4 RETENTION-FIT SEATING

For connectors with shells that incorporate retention fit tails, the insertion force is minimized and should not exceed 5 pounds.

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## 4.3 SOLDERING REQUIREMENTS

### 4.3.1 PROCESSING REQUIREMENTS

Peak reflow temperatures are not recommended to exceed 260°C (lead free application).

The recommended profile for soldering the receptacle to the PCB is:



### SMT Profile

<b>Ramp-Up:</b>	Average Rate of 3° C/second max
<b>Preheat Temperature:</b>	150° C min. to 200° C max. for 60-180 seconds
<b>Time maintained above:</b>	217° C for 60-120 seconds
<b>Peak Temperature:</b>	250° C
<b>Time within 5° C of actual Peak Temperature:</b>	20-40 seconds
<b>Ramp-Down:</b>	Average Rate of 6° C/second max
<b>Cycle Duration, 25° C to Peak Temperature:</b>	8 minutes maximum

### 4.3.2 STENCIL REQUIREMENTS

A minimum solder paste thickness of 0.13mm (.005") is recommended, yielding a solder volume on pad of 0.077mm<sup>3</sup> (.000004698828 in<sup>3</sup>).

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## 4.4 PRE-POSITIONING DEVICE REMOVAL

Removal of pre-positioning device is required after the solder process is completed and before insertion of plug and cable assembly. Removal is accomplished by either grabbing the sides of the pre-positioning device and pulling along its mating axis away from the receptacle or placing a finger below the latch area and pushing along the mating axis away from the receptacle.

## 4.5 REWORK INSTRUCTIONS

Rework receptacle as if it were a BGA device.

## 5.0 WORKMANSHIP REQUIREMENTS

Inspection of non-functional areas shall be made under normal artificial lighting, un-magnified, and viewed in a manner that duplicates the typical end use application. Normal viewing should be made at a distance no closer than 12 inches with a light source capable of 80-100 foot candles at the part surface. In general, non-functional areas are defined as any area that does not affect the mechanical or electrical function of the part. This criterion is valid for all areas designated as non-functional and may be, but are not required as such, on the sales drawing.

Inspection of functional areas shall be made under the same conditions as for non-functional, except for magnification, which shall be at a maximum of 10X. In general, functional areas are defined as any area that has a direct affect on the mechanical or electrical function of the part. This criterion is valid for all areas designated as functional and may be, but are not required to be designated as such, on the sales drawing.

Acceptable defects include: protrusions around the gate location(s); discoloration, color variation, flow marks inconsistent gloss of surface or knit/weld lines on all surfaces; sinks scratches, tool marks or parting line flash on non-functional surfaces.

The shell is made of a copper nickel alloy and will maintain color after processing and washing once. Additional wash cycles may cause discoloration of the shell itself.

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