Multiport RF Connectors

INTRODUCTION
Carlisle Interconnect Technologies has added several Multiport RF Connectors to the standard push-on interconnect interfaces to facilitate a higher packaging density for today’s RF/Microwave systems. The product range consists of multiple sized 2-, 4- and 6-port board connectors, as well as, panel mount connectors that enable quick connect/disconnect of several RF connections at once. This helps reduce the form-factor of today’s packages, while simultaneously simplifying assembly time to reduce overall complexity of these systems.

FEATURES
» Frequency Range: DC - 65 GHz
» 50Ω Impedance; Blindmateable configuration
» MIL-PRF-39012 compliant
» Low mating forces
» Board-mount and panel-mount configurations with complementary straight and right angle cable connectors
» Custom Multiport Solutions

MATERIALS AND FINISH (PCB CONNECTORS)

<table>
<thead>
<tr>
<th>Metal</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Pin/Body</td>
<td>BeCu (Beryllium Copper) ASTM B196 and/or ASTM B197</td>
</tr>
<tr>
<td></td>
<td>Brass ASTM B36, B121, B16, B190</td>
</tr>
<tr>
<td>Insert/Oxwell Pins</td>
<td>Stainless Steel ASTM A484/ A582 or A555/581</td>
</tr>
<tr>
<td>Insulator</td>
<td>PTFE Fluorocarbon ASTM D1710 and ASTM D1457</td>
</tr>
<tr>
<td></td>
<td>Polyamide-Imide ASTM D5204 Group 2 Class 1</td>
</tr>
<tr>
<td>Finish</td>
<td>Gold ASTM-B488 Type 1, Class 1</td>
</tr>
<tr>
<td></td>
<td>Nickel (50μ in. Typ.) SAE AMS-QQ-N-290</td>
</tr>
<tr>
<td></td>
<td>Passivation ASTM A967</td>
</tr>
</tbody>
</table>

DETENT FORCES FOR CONNECTORS

<table>
<thead>
<tr>
<th></th>
<th>Force to Engage Max</th>
<th>Force to Disengage Min</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Limited Detent</td>
<td>Smooth Bore</td>
</tr>
<tr>
<td>SMP</td>
<td>7 lbs</td>
<td>2 lbs</td>
</tr>
<tr>
<td>SSMP*</td>
<td>6.5 lbs</td>
<td>2.5 lbs</td>
</tr>
<tr>
<td>WMP*</td>
<td>2.5 lbs</td>
<td>1.5 lbs</td>
</tr>
</tbody>
</table>

*Limited Detent Smooth Bore
### Multiport RF Connectors

#### SMP (MALE) PCB MOUNT (CONTINUED)

**6-Position SMP (male) PCB Surface Mount / P703B6**

**2-Position SMP (male) PCB Surface Mount / P775B2**

**4-Position SMP (male) PCB Surface Mount / P775B4**

---

**Part Number** | **Interface**
---|---
1CC | Limited Detent
2CC | Smooth Bore

---

**Recommended PCB Foot Print**

---

**Part Number** | **Interface**
---|---
1CC | Limited Detent
2CC | Smooth Bore

---

**SSMP® (MALE) PCB MOUNT**

**2-Position SSMP (male) PCB Edge Mount / P51B2**

---

**Part Number** | **Interface**
---|---
1CC | Limited Detent
2CC | Smooth Bore

---

**Recommended PCB Foot Print**

---

**Part Number** | **Interface**
---|---
1CC | Limited Detent
2CC | Smooth Bore

---

**Recommended PCB Foot Print**

---

**Part Number** | **Interface**
---|---
1CC | Limited Detent
2CC | Smooth Bore
Multiport RF Connectors

SSMP® (MALE) PCB MOUNT (CONTINUED)

Multiport RF Connectors

4-Position SSMP (male) PCB Edge Mount / P351B4

Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore

2-Position SSMP (male) PCB Surface Mount / P312B2

Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore

4-Position SSMP (male) PCB Surface Mount / P312B4

Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore

2-Position SSMP (male) PCB Surface Mount / P350B2

Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore

Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore

8X SSMP MALE INTERFACE

Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore

Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore

Recommended PCB Foot Print*

Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore

Part Number | Interface
---|---
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Part Number | Interface
---|---
1CC | Limited Detent
2CC | Smooth Bore
Multiport RF Connectors

SSMP® (MALE) PCB MOUNT (CONTINUED)

4-Position SSMP (male) PCB Surface Mount / P316B4

2-Position WMP (male) PCB Surface Mount / WP312B2

4-Position WMP (male) PCB Surface Mount / WP312B4

2-Position WMP (male) PCB Surface Mount / WP350B2

Mounting Hole Pattern
Dimensions shown are for Rogers RO3003 PCB material. These dimensions may vary depending on PCB material used.

Recommended PCB Foot Print
Dimensions shown are for Rogers 4350 PCB material. These dimensions may vary depending on PCB material used.

Part Number Interface

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Interface</th>
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<tbody>
<tr>
<td>-1CC</td>
<td>Detent</td>
</tr>
<tr>
<td>-2CC</td>
<td>Smooth Bore</td>
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Multiport RF Connectors

WMP® (MALE) PCB MOUNT

4-Position WMP (male) PCB Surface Mount / WP350B4

CUSTOM

P100-Special Panel Mount Adapter

Panel/PCB Mounting Cutout

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Detent</td>
</tr>
<tr>
<td>200</td>
<td>Smooth Bus</td>
</tr>
</tbody>
</table>

* A wide variety of transmission line analysis, PCB board parameters that are dielectric constant, substrate thicknesses and board stackups are applied by the customer. These parameters have an impact on the RF performance of the device. These layouts are not optimized to fit all board configurations regarding RF performance, it represents a recommendation for optimum solderability of the device. To guarantee high RF performance of the device, an RF analysis of the device to the board transition is recommended.
### Part Number * Description Options

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>P606B2</td>
<td>2-POSITION SMP (male) PCB EDGE MOUNT</td>
<td>Detent and Smooth Bore options available (See outline drawings)</td>
</tr>
<tr>
<td>P606B4</td>
<td>4-POSITION SMP (male) PCB EDGE MOUNT</td>
<td></td>
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<tr>
<td>P703B2</td>
<td>2-POSITION SMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P703B4</td>
<td>4-POSITION SMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P703B6</td>
<td>6-POSITION SMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P775B2</td>
<td>2-POSITION SMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P775B4</td>
<td>4-POSITION SMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P351B2</td>
<td>2-POSITION SSMP (male) PCB EDGE MOUNT</td>
<td>Detent and Smooth Bore options available (See outline drawings)</td>
</tr>
<tr>
<td>P351B4</td>
<td>4-POSITION SSMP (male) PCB EDGE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P312B2</td>
<td>2-POSITION SSMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P312B4</td>
<td>4-POSITION SSMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P350B2</td>
<td>2-POSITION SSMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>P350B4</td>
<td>4-POSITION SSMP (male) PCB SURFACE MOUNT</td>
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</tr>
<tr>
<td>WP312B2</td>
<td>2-POSITION WMP (male) PCB SURFACE MOUNT</td>
<td>Detent and Smooth Bore options available (See outline drawings)</td>
</tr>
<tr>
<td>WP312B4</td>
<td>4-POSITION WMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>WP350B2</td>
<td>2-POSITION WMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
<tr>
<td>WP350B4</td>
<td>4-POSITION WMP (male) PCB SURFACE MOUNT</td>
<td></td>
</tr>
</tbody>
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* Part numbers should also include a suffix to indicate desired detent. See outline drawings.