

PowerPlus™ (SSI)

Expandable -

Power & Signal



# PowerPlus™ (SSI) Expandable Power & Signal Connectors

## INTRODUCTION

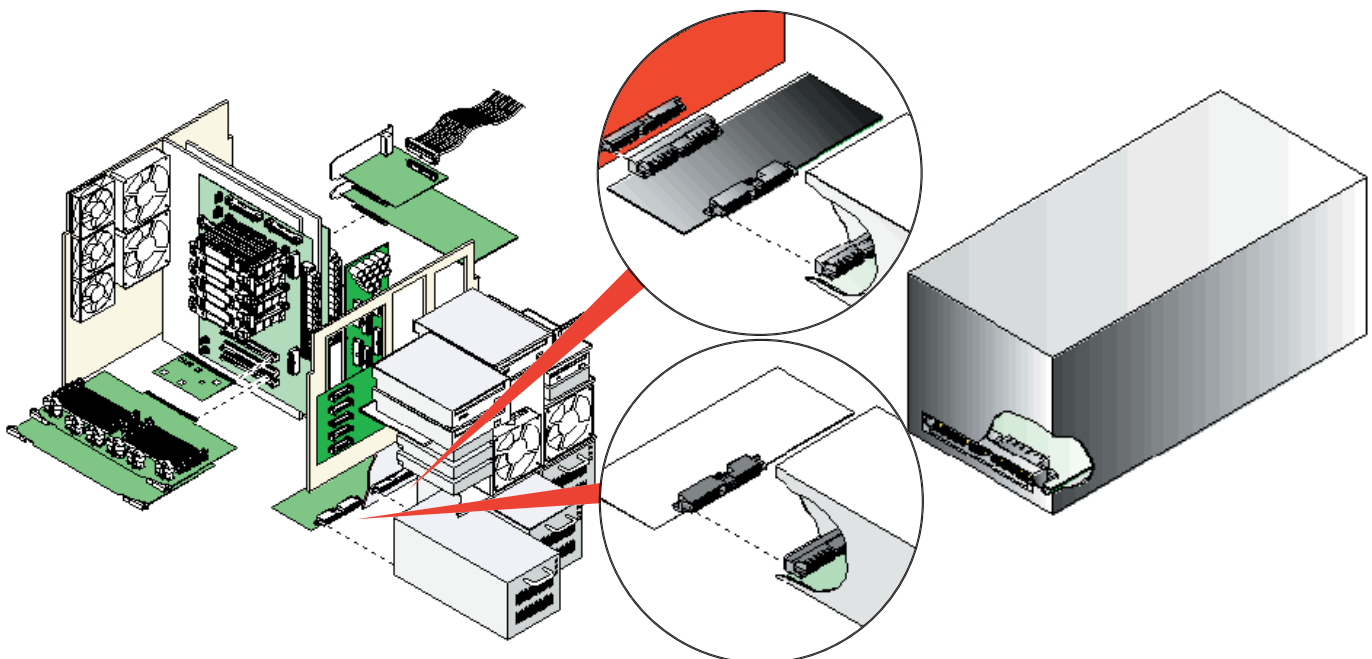
Molex's successfully introduced a new series of power connectors that conform to Server System Infrastructure (SSI) open specification (<http://www.ssiforum.org>). The DPS and MPS offer a standard variation of 2 & 11 power blades with mixed layout of 24 signal pins. The contact support up to 30 amperes of current. With demand for more flexibility and options in variations, Molex have further expanded the series to cater to the needs and requirement from our customers.

They feature recessed signal-pins and sequential mating (Last-Mate-First-Break) that allows hot-swapping of power supply units on the male side. The receptacle could also provide for LMFB with recess power blade. The selection options include any number of power (up to 20) or signals (up to 128), placing power or signal at different location, fork lock or screw mount, AC or DC current (different pitch), Guide post option, Standard and Long Power blades. Molex offers standard through-hole right angle headers and receptacles as well as through-hole and press fit vertical receptacles.

## FEATURES AND BENEFITS

- Recessed pins-sequential mating (Last-Mate-First-Break) allows hot swapping of power supply units
- Guide Pockets (headers) or guide posts (receptacles) facilitate easy blind-mating
- Shrouded headers prevent contact damage
- Stamped and selectively plated power contacts provide greater electrical reliability
- Rigid tails for easy PCB insertion
- Metal forklocks or screw mounts for strong board retention reduce board warpage during soldering
- High temperature thermoplastic housing material ensures thermal reliability

## APPLICATIONS



# PowerPlus™ (SSI) Expandable Power & Signal Connectors

## SELECTION GUIDE

(1) Gender	<ul style="list-style-type: none"> <li>- Plug (Male)</li> <li>- Receptacle (Female)</li> </ul>
(2) Connector Orientation	<ul style="list-style-type: none"> <li>- Vertical</li> <li>- Right Angle</li> </ul>
(3) Termination Method	<ul style="list-style-type: none"> <li>- Through Hole</li> <li>- Press-Fit</li> </ul>
(4) Type	<ul style="list-style-type: none"> <li>- Power-Signal-Power (P-S-P)</li> <li>- Power(Alpha)-Signal (Pa-S)</li> <li>- All Power (AP)</li> <li>- Signal-Power(Beta) (S-Pb)</li> <li>- AC Power/DC Power (AC/DC)</li> </ul>
(5) Power & Signal	<ul style="list-style-type: none"> <li>- Number of power at Alpha. Example, 2 power pins at Alpha = 2 Pa</li> <li>- Number of Signal pins. Example, 24 signal pins = 24 S</li> <li>- Number of power at Beta. Example, 3 power pins at Beta = 3 Pb</li> </ul>
(6) Recess	<ul style="list-style-type: none"> <li>- Recess Power only on Receptacle Power Alpha or Beta. Example, Recess Pa #1, Pb #3 etc.</li> <li>- Recess Signal only on Plug. Example, Recess Signal at A3, B4 etc.</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p><b>1 2 3 4 5 6</b></p> <p>Plug Recess Signal</p> </div> <div style="text-align: center;"> <p>Receptacle Recess Power</p> </div> </div>
(7) Retention to PCB	<ul style="list-style-type: none"> <li>- Board Lock</li> <li>- Screw Mount</li> </ul>
(8) Guide Post	<ul style="list-style-type: none"> <li>- With Guide Post</li> <li>- Without Guide Post</li> </ul>
(9) Pitch	<ul style="list-style-type: none"> <li>- DC Power: 6.35mm (.25") Pitch / 5.08mm(.20") Pitch</li> <li>- AC Power: 7.62mm (.30") Pitch</li> </ul>

# PowerPlus™ (SSI) Expandable Power & Signal Connectors

## SPECIFICATIONS

### Electrical

Voltage:

Power – 48V

Signal – 48V

Current:

Power – 30A

Signal – 2.5A

Contact Resistance:

Power – 0.5 mΩ max.

Signal – 20 mΩ max.

Dielectric Withstanding Voltage:

Power – 2,500V AC

Signal – 1,000V AC

Insulation Resistance:

Power – 20,000 MΩ min.

Signal – 5,000 MΩ min.

### Mechanical

Mating Force:

Power – 6.95N (1.56 lb) per pin

Signal – 1.00N (.22 lb) per pin

Unmating Force:

Power – 2.23N (.50 lb) per pin

Signal – 0.10N (.022 lb) per pin

Durability: 100 cycles

### Physical

Unmated Height: 12.09mm (.476")

Housing: Black High Temperature Thermoplastic, Glass-filled, UL 94V-0

Contact: Copper (Cu) Alloy

Plating:

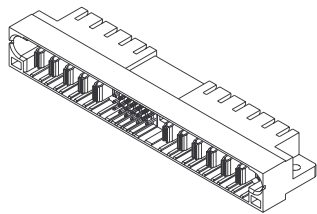
Contact – 0.76µm (30µ") Gold (Au)

Tail – 2.54µm (100µ") Tin/Lead (Sn/Pb)

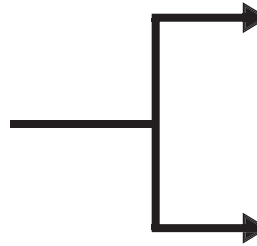
Underplating – Nickel (Ni)

Operating Temperature: -40 °C to +105

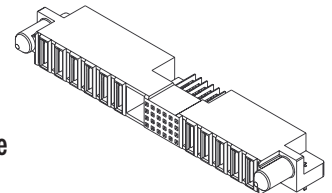
## SSI - MPS



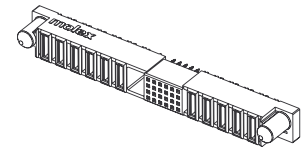
**87615**  
Right Angle,  
Through Hole Header



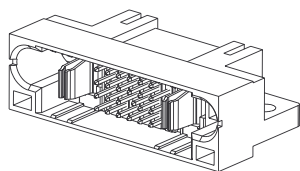
**87616**  
Right Angle,  
Through Hole Receptacle



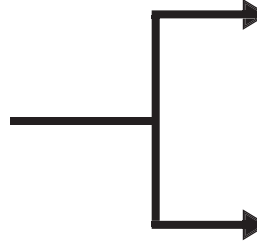
**87665**  
Vertical,  
Press-Fit Receptacle



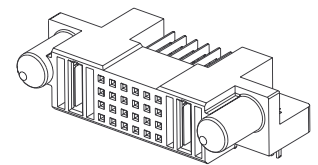
## SSI - DPS



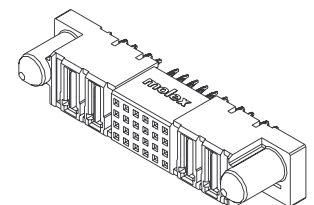
**87606**  
Right Angle,  
Through Hole Header



**87607**  
Right Angle,  
Through Hole Receptacle

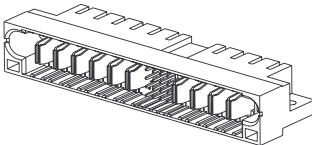


**87695**  
Vertical,  
Press-Fit Receptacle

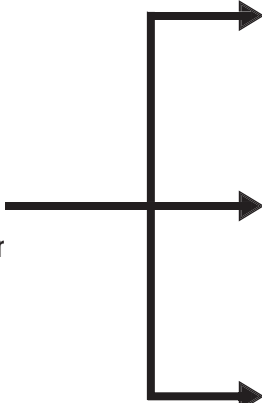


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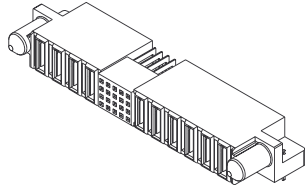
## Power-Signal-Power (P-S-P)



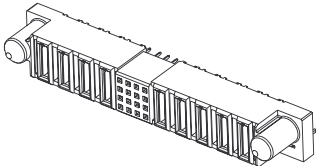
**87631**  
Right Angle,  
Through Hole Header



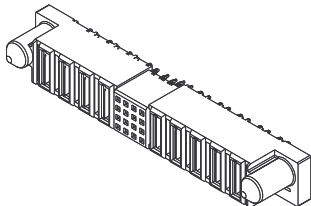
**87632**  
Right Angle,  
Through Hole Receptacle



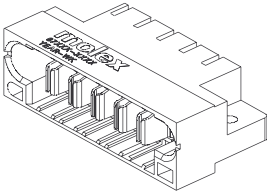
**87622**  
Vertical,  
Through Hole Receptacle



**87633**  
Vertical,  
Press-Fit Receptacle



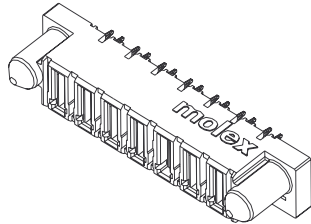
## All Power



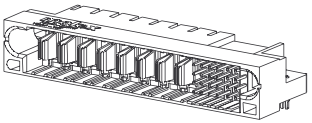
**87658**  
Right Angle,  
Through Hole Header



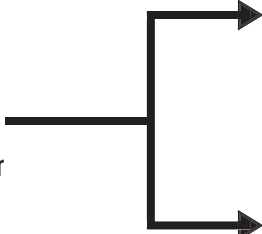
**87691**  
Vertical,  
Press-Fit Receptacle



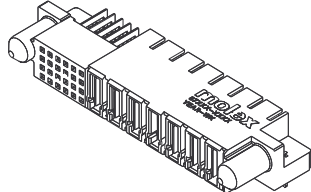
## Power(Alpha)-Signal (Pa-S)



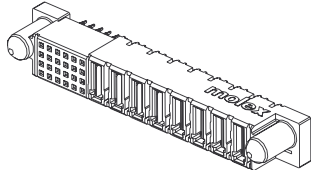
**87696**  
Right Angle,  
Through Hole Header



**87700**  
Right Angle,  
Through Hole Receptacle

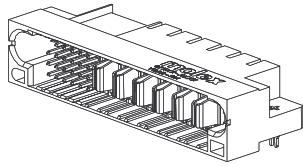


**87697**  
Vertical,  
Press-Fit Receptacle

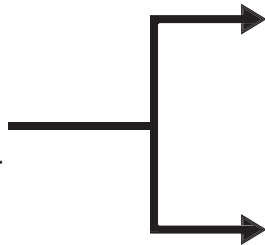


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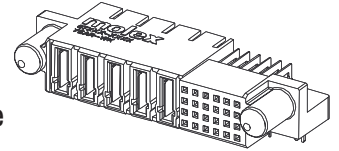
## Signal-Power(Beta) (S-Pb)



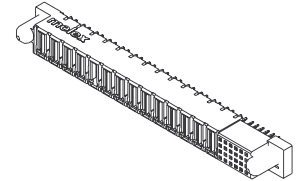
**87667**  
Right Angle,  
Through Hole Header



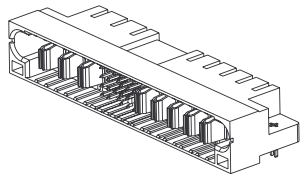
**87668**  
Right Angle,  
Through Hole Receptacle



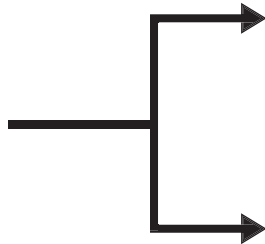
**87710**  
Vertical,  
Press-Fit Receptacle



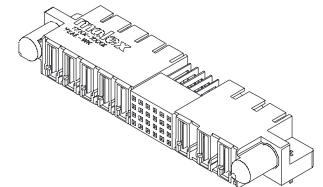
## AC/DC



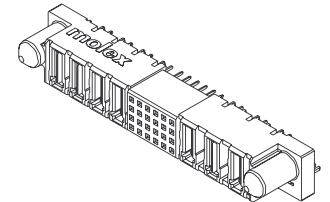
**87663**  
Right Angle,  
Through Hole Header



**87664**  
Right Angle,  
Through Hole Receptacle



**87734**  
Right Angle,  
Through Hole Receptacle



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