Impel Plus Backplane Connectors and Cable Assemblies

Impel Plus Backplane Connector System achieves data rates up to 56 Gbps with superior signal integrity performance and enables backward and forward compatibility with compact compliant pins

Features and Advantages

- **Compact, compliant-pin 56-Gbps backplane connector**
  - Enables backward and forward compatibility with various high-end copper and cable architectures

- **Option for short compliant pin allowing 0.65mm backdrill and access to top layers for high-speed routing**
  - Offers better signal integrity performance due to shallow PCB hole. Lowers PCB costs by reducing layers

- **92 Ohms nominal impedance**
  - Minimizes impedance discontinuities in the channel

- **Small compliant pin (0.31mm ± 0.05)**
  - Reduces crosstalk by enabling optimized routing or use of pinning via innovative signal beam interface
  - Improves insertion loss compared to in-line signal beams. Pushes interface resonance frequency past 30 GHz

- **Molex patent-pending Impel Connector technology with tightly coupled differential-pair structure**
  - Provides optimal signal integrity and mechanical isolation through the connector system

- **IEEE 10GBASE-KR and Optical Internetworking Forum (OIF) Stat Eye Compliant Channel**
  - Demonstrates end-to-end channel performance compliance

- **3-, 4- and 6-pair daughtercards available with a range of column sizes**
  - Delivers design flexibility

- **Complete mechanical, electrical and testing capabilities available to deliver a complete backplane solution**
  - Offers value-added cable trays

- **High-speed automation line is available for high-volume production of cable**
  - Controlled manufacturing process provides cables with reliable and consistent signal integrity performance

- **Assemblies with Impel Cables up to 3.0m long can be configured with 3-, 4- and 6-pair Impel Plus Daughtercards**
  - Supports design flexibility to maximize density of differential pairs with cables
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Applications

Telecommunications/Networking
  - Servers
  - Switches
  - Routers

Data Center Solutions
  - Servers
  - Storage Systems

Medical
  - Patient monitoring

Specifications

REFERENCE INFORMATION
Packaging: Tray
UL File No.: [Details]
Mates With: Impel Vertical Backplane Headers (see other available Impel header options)
OD Daughtercard (Series 171510) mates with OD Header (Series 173460)
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

ELECTRICAL
- Electrical
- Voltage (max): 150V AC RMS
- Current (max): 0.75A
- Contact Resistance: 100mA; 20mV
- Dielectric Withstanding Voltage: 500V AC
- Insulation Resistance: 500V

MECHANICAL
- Insertion Force to PCB (max.): 26.69N per tail
- Mating Force: 60g per signal; 80g per shield
- Unmating Force (min.): 60g
- Durability (min.): 200 Cycles

PHYSICAL
- Housing: LCP
- Contact: Copper Alloy
- Plating:
  - Contact Area — 0.76 µm (30µ") Gold (Au)
  - Solder Tail Area — select Matte Tin (Sn)
  - Underplating — Nickel (Ni)
- PCB Thickness (min.): 1.00mm
- Operating Temperature: -55˚ to +85°C

Ordering Information

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<th>Series No.</th>
<th>Component</th>
<th>Pitch (mm)</th>
<th>Number of Pairs</th>
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<th>Component</th>
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<td>Orthogonal Direct Daughtercard</td>
<td>Right Angle</td>
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<td>173460</td>
<td>Orthogonal Direct Header</td>
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<tr>
<th>Custom Product</th>
<th>Description</th>
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<tr>
<td>Contact Molex</td>
<td>Assemblies with Impel Plus Daughtercard and Impel Cables</td>
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www.molex.com/link/impel.html

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Order No. 987651-4041 Rev. 2  USA/04/GF/2018.06  © 2018 Molex