

# Impel Backplane Connectors

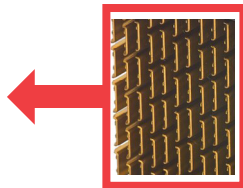


Delivering industry-leading signal integrity and density while providing a scalable price and performance path for future data-rate enhancements, the Impel Backplane Connectors and Customized Cable Assemblies enables OEM equipment to operate at today's data rates

## Features and Advantages

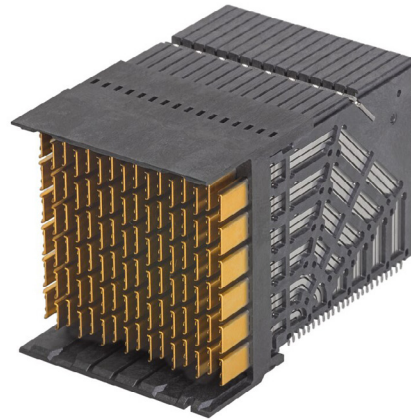
### Staggered header pin interface

Provides robust mechanical isolation from the signal pins. Mitigates the concern for bent pins in the field. Provides first-mate-last-break capabilities



### Compact, compliant-pin backplane and daughtercard connectors with data rates scalable from 25 to 40 Gbps

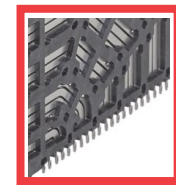
Enables backward and forward compatibility with various high-end Copper and cable architectures



Impel Header, 6-by-16 Differential Pairs

### IEEE 10GBASE-KR and Optical Internetworking Forum (OIF) stat eye compliant channel

Demonstrates end-to-end channel performance compliance



### Impel Connector technology with tightly coupled differential-pair structure

Provides optimal signal integrity and mechanical isolation through the connector system

### Enhanced 0.36mm plated-through-hole diameter

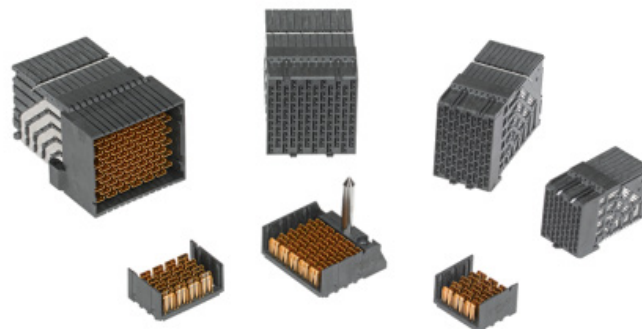
Meets manufacturing aspect ratio while providing improved electrical performance

### Two compliant-pin attach options and 18 to 72 differential pairs per orthogonal node

Provide customers ultimate flexibility to optimize their designs for superior mechanical and electrical performance

### 90 Ohms nominal impedance

Minimizes impedance discontinuities in the channel



Impel Backplane Connectors

### Custom cable assemblies available

Provides a full channel solution for all Impel headers and receptacles. Provides design flexibility per application specifications

### Multiple pitch options available:

- 1.90mm-pitch broad-edge-coupled
- 2.35mm-pitch orthogonal
- 3.00mm-pitch quad-route

Delivers superior density and electrical performance, low crosstalk, low insertion loss and minimal performance variations across all channels and frequencies to 20 GHz. Offers printed circuit board designers the flexibility to quad route the signal traces (two pairs per layer), reducing the PCB layer count

### Skewless design

Eliminates the need for compensating connector skew on PCB routing

# Impel Backplane Connectors



## Applications

### Telecommunications/Networking

- Central Office
- Switches
- Routers
- Cellular Infrastructure and Multi-Platform Service (DSL, Cable Data)

### Data Center Solutions

- Servers
- Storage Systems



High-End Server

## Specifications

### REFERENCE INFORMATION

Packaging: Tray  
 UL File No.: E28179  
 Mates with:  
 See Ordering Information chart below  
 Designed In: Millimeters  
 RoHS: Yes  
 Halogen Free: Yes

### ELECTRICAL

Voltage —  
 Daughtercard Receptacle (max.):  
 150V AC RMS  
 Cable Assembly (max.): 30V AC RMS  
 Current (max.): 0.75A  
 Contact Resistance (max.): 100mA; 20mV

Dielectric Withstanding Voltage:  
 Headers/Receptacles: 500V AC  
 Cable Assembly: 300V DC  
 Insulation Resistance —  
 Daughtercard Receptacle: 500V

### MECHANICAL

Insertion Force to PCB:  
 Backplane Header — 26.69N  
 Daughtercard Receptacle — 17.80N  
 Mating Force:  
 60g per signal; 80g per shield  
 Unmating Force (min.): 15g  
 Durability (min.): 200 cycles

### PHYSICAL

Housing: LCP  
 Contact: Copper Alloy  
 Plating:  
 Contact Area — 30µ  
 Compliant Pin Area — select Matte Tin  
 Underplating — Nickel  
 PCB Thickness (min.): 1.00mm  
 Operating Temperature: -40 to +105°C

## Ordering Information

Backplane Headers* Series No.	Daughtercard Receptacles Series No.	Application	Pitch (mm)	Pairs
<a href="#">171755</a>	<a href="#">171760</a>	Quad Route	3.00	6
<a href="#">172005</a>	<a href="#">172010</a>	Standard	1.90	5
<a href="#">171315</a>	<a href="#">171990</a>	Standard	1.90	4
<a href="#">171745</a>	<a href="#">171750</a>	Standard	1.90	2
<a href="#">171495*</a>	<a href="#">171500</a>	Orthogonal	1.85/2.35mm	6
<a href="#">171335</a>	<a href="#">171320</a>	Standard	1.90	3
<a href="#">171325</a>	<a href="#">171329</a>	Quad Route	3.00	4
<a href="#">171395</a>	<a href="#">171400</a>	Standard	1.90	6

\*Midplane Headers

Series No.	Component	Application	Pitch (mm)	Pairs
<a href="#">172130</a>	Right-Angle Male	Standard	1.90	6
<a href="#">171740</a>		Orthogonal	2.35	6
<a href="#">Custom</a>	Cable Assembly	-	-	-

[www.molex.com/link/impel.html](http://www.molex.com/link/impel.html)

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