

Impel Backplane Connectors

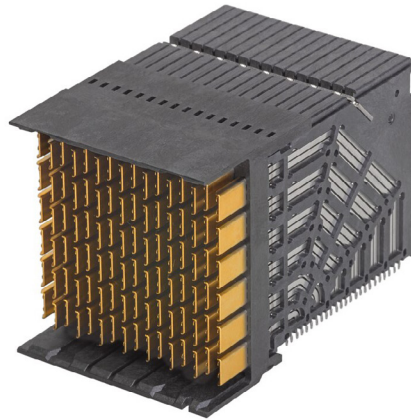
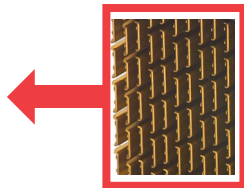


Delivering industry-leading signal integrity and density while providing a scalable price and performance path for future data-rate enhancements, the Impel Backplane Connectors and Customized Cable Assemblies enables OEM equipment to operate at today's data rates

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



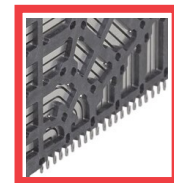
Impel Header, 6-by-16 Differential Pairs

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

Demonstrates end-to-end channel performance compliance

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 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

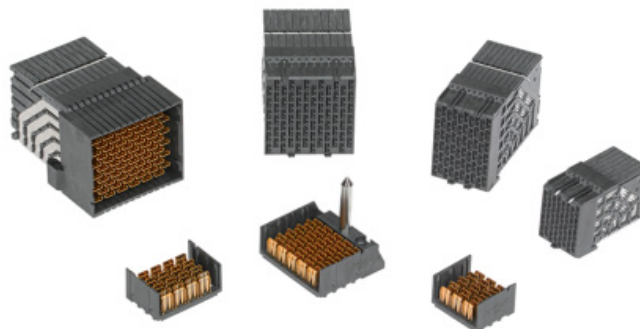
Meets manufacturing aspect ratio while providing improved electrical performance

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
171755	171760	Quad Route	3.00	6
172005	172010	Standard	1.90	5
171315	171990	Standard	1.90	4
171745	171750	Standard	1.90	2
171495*	171500	Orthogonal	1.85/2.35mm	6
171335	171320	Standard	1.90	3
171325	171329	Quad Route	3.00	4
171395	171400	Standard	1.90	6

*Midplane Headers

Series No.	Component	Application	Pitch (mm)	Pairs
172130	Right-Angle Male	Standard	1.90	6
171740		Orthogonal	2.35	6
Custom	Cable Assembly	-	-	-

www.molex.com/link/impel.html

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