



Delivering industry-leading signal integrity and density while providing a scalable price and performance path for future data-rate enhancements, the Impel™ system of backplane connectors and customized cable assemblies offers OEMs the option for equipment to operate at today's data rates and costs

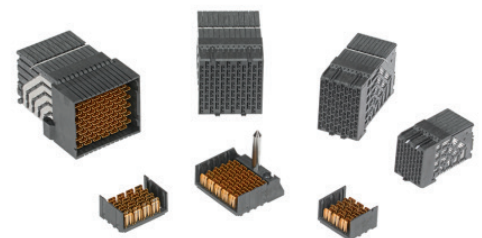
Features and Benefits

Compact, compliant-pin backplane and daughtercard connectors with data rates scalable from 25 to 40 Gbps	Enable backward and forward compatibility with various high-end system architectures
Molex patent-pending Impel™ connector technology with tightly coupled differential-pair structure	Provides optimal signal integrity and mechanical isolation through the connector system
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 cross-talk, 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
92 Ohms nominal impedance	Enables customers to minimize impedance discontinuities
Enhanced 0.36mm plated-through-hole diameter	Meets manufacturing aspect ratio while providing improved electrical performance
Skew-less design	Eliminates the need for compensating connector skew on PCB routing
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
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
IEEE 10GBASE-KR and Optical Internetworking Forum (OIF) Stat Eye Compliant Channel Performance	Demonstrates end-to-end channel performance compliance
Custom cable assemblies available	Provides a full channel solution for all Impel headers and receptacles; provides design flexibility per application specifications

Impel™ Backplane Interconnect System

Headers, Receptacles and Custom Assemblies

- 171755** 6-Pair 3.00mm Quad-Route Backplane Headers
- 171760** 6-Pair 3.00mm Quad-Route Daughtercard Receptacles
- 172130** 6-Pair 1.90mm Right-Angle Male
- 172005** 5-Pair 1.90mm Backplane Headers
- 172010** 5-Pair 1.90mm Daughtercard Receptacles
- 171315** 4-Pair 1.90mm Backplane Headers
- 172140** 4-Pair 1.90mm Right-Angle Male
- 171320** 4-Pair 1.90mm Daughtercard Receptacles
- 171745** 2-Pair 1.90mm Backplane Headers
- 171750** 2-Pair 1.90mm Daughtercard Receptacles
- 171500** 6-Pair 2.35mm Orthogonal Daughtercard Receptacles
- 171495** 6-Pair 1.85/2.35mm Orthogonal Midplane Headers
- 171740** 6-Pair 2.35mm Orthogonal Direct Right-Angle Male (OD RAM)
- 171335** 3-Pair 1.90mm Backplane Header Assemblies
- 171990** 3-Pair 1.90mm Daughtercard Receptacles
- 171325** 4-Pair 3.00mm Quad-Route Backplane Headers
- 171329** 4-Pair 3.00mm Quad-Route Daughtercard Receptacles
- 171395** 6-Pair 1.90mm Backplane Headers
- 171400** 6-Pair 1.90mm Daughtercard Receptacles
- Custom** Cable Assemblies



Market and Applications

- Telecommunication Applications
 - Hubs, switches, routers
 - Central office, cellular infrastructure and multi-platform service, (DSL, Cable Data)
- Data Networking Equipment
 - Servers
 - Storage systems
- Industrial Equipment
- Military/Aerospace Equipment



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	Mating Component	Application	Pitch (mm)	Pairs
172130	Right-Angle Male	171400	Coplanar	1.90	9
172140		171320	Coplanar	1.90	4
171740		171500	Orthogonal	2.35	6
Custom	Cable Assemblies	-	-	-	-

www.molex.com/link/impel.html