Improve system airflow and reduce performance constraints by eliminating backplane and midplane connections with Molex’s Impact™ Orthogonal Direct connector system, ideal for next-generation data and telecommunication equipment with rates up to 25 Gbps.

Molex’s Impact™ Orthogonal Direct connectors are designed to connect vertical to horizontal add-in cards on the mating side, without the need for a midplane. The Impact broad-edge-coupled transmission technology enables low cross-talk and high-signal bandwidth while minimizing channel-performance variation across every differential pair within the system. Impact orthogonal direct connectors leverage the fieldproven Impact mating interface (lowest mating force in the industry) and compliant-pin technologies, providing customers ultimate flexibility to optimize their designs for superior mechanical and electrical performance.

Impact™ Orthogonal Direct connectors mate with previously released Impact Orthogonal midplane daughtercard receptacles: 4-pair (series 76850), 5-pair (series 76990), 6-pair (series 76290).

For more information on Molex’s Impact offering, visit: http://www.molex.com/link/impact.html.

FEATURES AND BENEFITS

- Designed for a direct connection of PCBs using the same daughtercard connector which improves airflow and reduces board-space constraints compared to backplane and midplane connector systems, simplifies component management for contract manufacturers and designers and reduces midplane thickness and enhances high-speed performance.
- Shorter line cards and switch-module signal paths versus typical routed backplane connections allow for more overall robust signal channels.
- 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.
- Broad-edge-coupled, differential-pair system has superior density, low cross-talk, low insertion loss and minimal performance variation across high-speed channels.
- 4-through 6-pair configurations provide a complete range of guidance options for the PCB and mating interface plus easier PCB routing.
- Data rates scalable up to 25 Gbps support future system performance upgrades.
- Simple 2.15 by 1.35mm grid on both backplane and daughtercard reduces PCB routing complexity and costs and provides PCB routing flexibility.
- Designed to meet IEEE 10GBASE-KR and Optical Internetworking Forum (OIF) Stat Eye Compliant channel performance requirements to ensure end-to-end channel performance compliance.

SPECIFICATIONS

**Reference Information**

Packaging: Tray
UL File No.: E28179
Mates With:
- Impact Orthogonal midplane daughtercard receptacles: 4-Pair (series 76850)
  5-Pair (series 76990)
  6-Pair (series 76290)
Designed In: mm
RoHS: Yes, Compliant
Halogen Free: Yes

**Electrical**

Voltage (max.): 500V AC max.
Current (max.): 0.75A per pin
Insulation Resistance: 1,000 Megohms min.

**Mechanical**

Contact Retention to Housing: 3.56N (.800 lb) per compliant pin average min.
Insertion Force to PCB: 26.7N (6.00 lb) max. per contact
Mating Force: 35g
Unmating Force: 15g per pin
Durability (min.): 200 cycles

**Physical**

Housing: Liquid Crystal Polymer, UL 94V-0
Contact: High Performance Copper (Cu) Alloy
Plating:
- Contact Area — 0.76μm (30μ") Gold (Au) min.
- Solder Tail Area — Tin (Sn) or Tin/Lead (Sn/Pb)
Underplating — Nickel (Ni)
PCB Thickness: 1.60mm (.062") typical
Operating Temperature: -55 to +85ºC max.
**APPLICATIONS**

- Telecommunication equipment
  - Hubs, switches, routers
  - Central office, cellular infrastructure and multi-platform service (DSL, Cable Data)
- Data networking equipment
  - Servers
  - Storage
- Test and measurement equipment
- Medical diagnostic equipment

**ORDERING INFORMATION**

**Right-Angle Connector**

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<thead>
<tr>
<th>Order No.</th>
<th>Pairs</th>
<th>Guide</th>
<th>Rows</th>
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<tbody>
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<tr>
<td>76730-780*</td>
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<tr>
<td>76730-980*</td>
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<td>76735-720*</td>
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<tr>
<td>76735-920*</td>
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**Right-Angle Daughtercard Receptacles**

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