

Impulse 112G Backplane Connector System >

The Impulse 112G Backplane Connector System provides a high-speed, scalable and modular solution for cable, conventional and orthogonal board-to-board connectivity at speeds up to 112Gbps. The high-density design improves airflow, enhances signal integrity (SI), and is uniquely suited to support cable backplane and cable midplane solutions for next-generation data center architectures.

ADVANTAGES AND FEATURES

Maximizes PCB space

The high-density design features 101 differential pairs (DPs) per square inch with 4.00mm DP-to-DP and 2.00mm column-to-column spacing, enabling designers to fit more circuits into limited spaces and supporting higher-density riser architectures.

Improves system performance by minimizing insertion loss (IL)

The innovative cantilever signal beam interface design improves IL over traditional beams, pushing interface resonances far beyond 35 GHz.

Offers robust, reliable mating

A stubless signal interface with available integrated guide pins supports consistent mating and helps ensure proper alignment in blind-mating applications.

Signal Speed	Up to 112Gbps PAM-4
Number of Circuits	Up to 128 differential pairs (DPs)
Density	101 DPs per square inch
Pitch	4.00mm DP to DP 2.00mm column to column
Impedance	90 Ohms
Operating Temperatures	-40 to +85°C

Enables high-bandwidth, low-latency cabled 112Gbps PAM-4 connectivity

Impulse cable solutions use low-loss twinax cable to deliver exceptional SI through the channel. This helps reduce system-level power consumption by removing re-timers and reducing PCB layer count.

Enhances design flexibility

Orthogonal solutions support 90- and 270-degree orientations, to help eliminate the need for midplane connectors and improve airflow by creating an open structure.

Supports scalability through a modular connector system

With various cable and connector options, the modular Impulse system helps streamline upgrades and accelerate AI-driven capacity improvements.



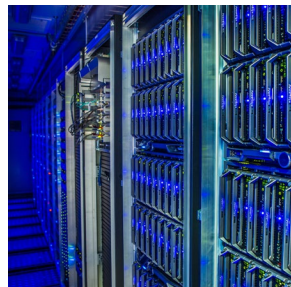
APPLICATIONS

Networking

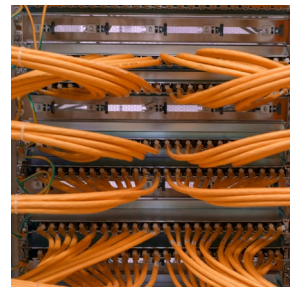
Data storage devices
Routers
Switches
Servers
Modular switches

Servers and Storage

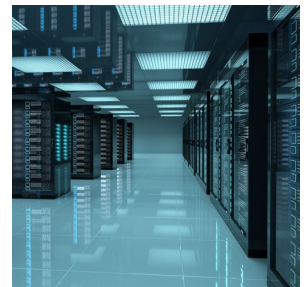
Rack servers



Data Storage Devices



Switches



Rack Servers

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SPECIFICATIONS

Reference Information

Packaging: Tray
 UL File No.: E28179
 Mates With: Impulse daughtercard (DC)
 mates with Impulse header
 Designed in: Millimeters
 RoHS: Yes
 Halogen Free: Yes

Electrical

Voltage (max.): 150V AC RMS
 Current (max.): 0.75A
 Contact Resistance: 100mA; 20mV
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 500V
 Impedance: 90 Ohms
 Frequency: 0 to 35 GHz

Mechanical

Insertion Force to PCB (nominal): 13.34N (3 lbs.)
 per tail
 Retention Force to PCB (nominal): 6.67N (1.5 lbs.)
 per tail
 Mating Force (max.): 1.96N (200g) per DP
 Unmating Force (max.): 1.77N (180g) per DP
 Durability: 200 cycles

Physical

Housing: LCP, 30% glass filled
 Contact: Copper alloy
 Plating:
 Contact Area—0.76µm gold
 Solder Tail Area—Select matte tin
 Underplating: Nickel
 PCB Thickness: 1.00mm
 Refer to application specifications
 for back-drilling information
 Operating Temperatures: -40 to +105°C

ORDERING INFORMATION

Orthogonal Connectors

DP COUNT	128DP	112DP	96DP	72DP	64DP		48DP		32DP			24DP
RAM* ORIENTATION	90°	270°	90°	90°	90°	270°	90°	270° GUIDED	90°	270°	270° GUIDED	90°
Orthogonal RAM Side:	8x16 173625- 2605	8x14 173520- 2425	8x12 173625- 2205	6x12 173530- 2205	8x8 173625- 9003	8x8 173520- 9003	6x8 173530- 2805	4x12 211130- 9002	4x8 173650- 2805	4x8 211130- 2825	4x8 211130- 9004	4x6 173650- 2305
DC (RAF**) Side:	8x16 173505- 1016	7x16 173620- 1016	6x16 173631- 1016	6x12 173631- 1012	4x16 173540-7016		4x12 173540- 7012	6x8 173631- 9002	4x8 173540-7008			3x8 208100- 9012

Conventional Connectors

DP COUNT	72DP	48DP	42DP	32DP
Backplane Header Side:	6x12 203940-0205	6x8 203940-0805	3x14 203930-0406	4x8 203920-0805
DC (RAF) Side:	6x12 173631-1012	6x8 173631-1008	3x14 208100-1054	4x8 173540-7008

*Right angle male

**Right angle female

Cable Connectors

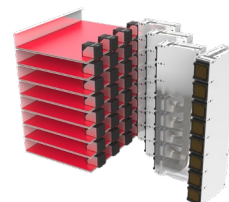
DP COUNT	128DP	64DP
Cable Side:	8x16 213111-8220	4x16 213111-4220
DC (RAF) Side:	8x16 173505-1016	4x16 173540-7016



Impulse to MicroBeam Cables



Impulse to CX2 Cables



Impulse Cabled Backplane Architecture

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