

Paladin® HD

112G Backplane Interconnect System

DENSITY AND PERFORMANCE OPTIMIZED

The Paladin® HD interconnect system provides world class bandwidth through industry leading density at 112Gb/s performance, supporting up to 144 differential pairs orthogonally within 1U spacing. Paladin HD utilizes a balanced pair structure; built with individually assembled and discretely shielded differential pairs which have a revolutionary hybrid board attachment for maximized density. The mating interface is designed to optimize space and eliminate the traditional orthogonal “twist”. Paladin HD utilizes a common mating interface between orientations and can support orthogonal and cable applications.

- World class bandwidth with 144 orthogonal pairs within 1RU at 112Gb/s
- Industry leading transmission-to-crosstalk performance
- Revolutionary hybrid board attach allows for flexible board routing
- Impedance control over a 1.50mm connector de-mate

FEATURES

- World class orthogonal density
- Industry standard performance for 112G systems
- Linear transmission beyond 40GHz
- Hybrid board attachment with press-fit grounds and compression mount signals allow for traditional manufacturing processes
- Maximized routing channels to minimize board layers
- Consistent Signal Integrity performance over the connector’s mechanical mating range
- Mechanically matched and electrically balanced signals within each differential pair
- Common and symmetrical mating interface
- Leverages proven Paladin® differential pair architecture and mating interface



TARGET MARKETS



BENEFITS

- 144 differential pairs within 1RU card spacing, including room for airflow
- More than 40dB IL to XTalk margin at 25GHz
- No stub resonances out to 40GHz
- Optimized for maximum pair-to-pair density, signal integrity performance, and differential pair routing access at top layers of the board
- 144 differential pair orthogonal can route in 6 high speed layers, up to 2 pairs per layer
- Less than 5Ω of impedance change while the connector is de-mated up to 1.50mm
- Skew-less design with low mode conversion with conventional trace breakout
- Supports Orthogonal applications in both 90° / 270° along with male and female cable
- Optimized reliability, robustness, quality, and real world 112G applications

TECHNICAL INFORMATION

MATERIAL

- Contact Finish Area: Gold
- Contact Base Metal: High performance copper alloy
- Housings: High performance engineering thermoplastic

ELECTRICAL PERFORMANCE

- Signal Contact Current Rating: 0.5A
- Contact Resistance Change: 10mΩ max.
- Dielectric Withstanding Voltage: 250V AC peak

MECHANICAL PERFORMANCE

- 2.00mm signal wipe
- Housing Capture: 1.00mm X and Y
- Guide Capture: 2.00mm X and Y
- Durability: 250 mating cycles

APPROVALS AND CERTIFICATIONS

- UL94 V-0

PACKAGING

- PVC Trays (ESD)

ENVIRONMENTAL

- Operating Temperature Range: -40°C to 85°C

SPECIFICATIONS

- Paladin HD Direct Orthogonal General Guidelines
- Paladin HD Routing Guidelines
- Paladin HD General Product Specification
- Paladin HD Daughtercard Press-Fit Installation Process
- Paladin HD Daughtercard and Direct Ortho Module Removal and Replacement Process
- Paladin HD Connector Design Guidelines

TARGET MARKETS/APPLICATIONS



Hubs
Switches
Routers
Optical Transport
Wireless Infrastructure



Servers
Storage
Supercomputers

