

NearStack HD Connector System >

The NearStack HD Connector System is a low-profile, high-density cable solution with a 64 Gbps PAM-4 data transfer rate that meets PCIe Gen-6 standards for internal cable applications and helps users support artificial intelligence (AI) and machine learning applications.



ADVANTAGES AND FEATURES

Maximizes real estate in high-density applications

with a low-profile connector that optimizes PCB real estate for space-constrained applications, including angled-exit options that reduce connector spacing from 20.50 to 16.00mm on center

Enhances signal integrity (SI) with direct-to-contact termination

featuring twinax wires welded directly to the signal contact wafers within the connector, which improves SI and delivers best-in-class crosstalk performance

Simplifies assembly and makes the connector more durable

with direct-to-contact termination that eliminates the need for a paddle card interface

Data Rate	PCIe Gen-6 (up to 64 Gbps PAM-4)
Impedance	85 Ohms
Circuits	56 (18 differential pairs)
Wire Size	34 AWG twinax
Height	9.50mm
Cable Lengths	110mm to 1.0m

Improves thermal performance

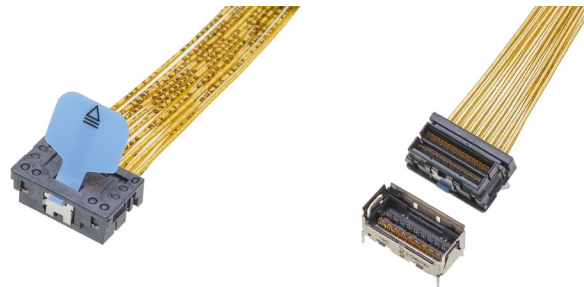
using small 34 AWG twinax cable that allows for better airflow, improving thermal management

Offers greater design flexibility

with 34 AWG twinax cable that afford easier cable routing compared to 30 AWG

Enables PCIe Gen-6 performance for AI and machine learning capabilities

with data rates of up to 64 Gbps PAM-4 that meet PCIe Gen-6 specifications and permit data centers to achieve next-generation performance



APPLICATIONS

Server and Storage

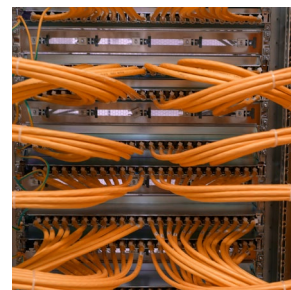
Data centers
Storage devices
Servers and machine learning
AI infrastructure

Telecommunications

AI systems
Networking devices
High-performance computing
Device control units



Storage Devices



Networking Devices

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SPECIFICATIONS

Reference Information

Product Series:

- NearStack HD PCB Header - 215980
- NearStack HD Right-Angle Exit Cable Assembly - 216000
- NearStack HD Angled-Exit Cable Assembly - 221028

Packaging: Tape and reel

Designed in: Millimeters

RoHS: Yes

Halogen Free: Yes

Electrical

Voltage (max.): 29.9V RMS

Current (max.): 0.65A per mated contact pair, no grouping restrictions

Contact Resistance: 20 milliohms max. (from initial)

Dielectric Withstanding Voltage: 1,000V AC RMS

Insulation Resistance: 1,000 Megohms

Signal Continuity: No interrupts greater than 1 microsecond

Environmental

Temperature Rise: 0.25A through 8 adjacent circuits, with a max. temp. rise of 30°C

Temperature Life: EIA-364-17 method A cond. 4

Thermal Shock: EIA-364-32 method A cond. 1

Cyclic Temperature and Humidity: EIA-364-31 method III

Mixed Flowing Gas: EIA-364-65 class IA option 2

Thermal Disturbance: EIA-364-110 cond. A duration A

Dust: EIA-364-91

Mechanical

Mating Force: 2N max. per differential pair

Unmating Force: 30N

Durability (min.): 100 cycles

Wafer Retention Force (Plug): 1.0N min. per married wafer set

Normal Force: 30N min. per signal contact

Mechanical Vibration: EIA-364-28 cond. VII

Mechanical Shock: EIA-364-27 method A

Physical

Housing: LCP

Wafers: LCP and Copper Alloy

Plug Shell: Stainless Steel

Plug Vacuum Cap: LCP

Receptacle Cover: LCP

Receptacle Top and Bottom Retainers:

Polycarbonate (clear)

Receptacle Latch: Stainless Steel

Receptacle Protective Cover: Polypropylene (PMS Blue 2192C)

Contact: Copper

Plating:

Contact Area – 0.76µm over 1.72µm

Nickel overall

SMT Tail Area – 2.54µm

Selective Tin over 1.27µm Nickel overall

Operating Temperatures: -40 to +85°C