NearStack PCIe Connectors and Cable Assemblies are designed to provide superior signal integrity to support PCIe Gen 5 data rates (32 Gbps) and enable an alternative option to PCB routing while providing optimized height, density and robustness.

Features and Advantages

Built with direct-to-contact twinax termination
Removes the PCB paddle card from the assembly, improving manufacturing efficiencies, repeatability, and signal integrity.

Unique contact interface with flexing beams on NearStack cable receptacle
Affords no chance for preloaded beam relaxation through reflow. Has less potential for damage to hard-to-rework PCB side. Offers reduced stub lengths compared to traditional cantilever on PCB pad.

Capable of PCIe Gen 5 32 Gbps performance
Supports PCIe Gen 5 requirements, with regards to both signal speed (32 Gbps NRZ) and number of pins.

x8 version available, which is a single-bay, two-wafer connector
• Delivers 18 differential pairs (GSSGSSG) and 16 single-ended signals (72-pins total)
• Single ground between DPs maximizes density.

Metal shroud on plug
• Allows for positive thumb latch interface and solder tail attachment
• Provides rugged, reliable PCB retention

Protected interface
Signal pins are protected from “scoop” mating and angled misalignment of up to 6 degrees.

NearStack PCIe Cable Receptacle Connector

Differential Pair Section of Connector

Single-Ended Section of Connector

NearStack PCIe PCB Plug Connector

Fully Shrouded housing

Through-Hole Solder Legs

NearStack PCIe
NearStack PCIe Connectors and Cable Assemblies

Markets and Applications

Data Centers
- Servers
- Storage
- High performance computing
- Accelerator hardware (graphics, AI)

Specifications

REFERENCE INFORMATION
- Designed In: Millimeters
- RoHS: Yes
- Halogen Free: Yes

ELECTRICAL
- Voltage (max.): 29.9V RMS
- Current (max.): 0.65A (30AWG Twinax) per Mated contact pair, no grouping restrictions
- Single Ended Discrete Wire TBD
- Contact Resistance: 20 mΩ max (from initial)
- Dielectric Withstanding Voltage: 1000V AC RMS
- Insulation Resistance: EIA-364-21 1000 Megaohms
- Signal Continuity: No interrupts greater than 1 microsecond

MECHANICAL
- Mating Force: 2N Max per mated diff 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

ENVIRONMENTAL
- Temperature Rise: 0.25A thru 8 adjacent ckt's with a max temp rise of 30°C

PHYSICAL
- Plug Housing: LCP
- Plug Shell: Stainless steel
- Plug Wafers: LCP & Copper Alloy
- Plug Vacuum Cap: LCP
- Receptacle Housing: LCP
- Receptacle Wafers: LCP & Copper Alloy
- Receptacle Cover: LCP
- Receptacle Top Retainer: Polycarbonate (clear)
- Receptacle Bottom Retainer: Polycarbonate (clear)
- Receptacle Latch: Stainless Steel
- Receptacle Protective Cover: Polypropylene (PMS Blue 2192C)
- Contact: Copper (Cu)
- Plating:
  - Contact Area — 0.76µ (30µ") over 1.72µ Nickel overall
  - SMT Tail Area — 2.54µ Selective Tin (Sn) over 1.27µ (50µ") Nickel (Ni) Overall
- Operating Temperature: -40 to +85°C

Note: Molex reserves the right to delay or cancel production of the depicted product without additional notice. Please contact your Molex customer service representative for product availability.

www.molex.com/link/nearstack.html

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