

PRELIMINARY

NearStack High-Speed Connector System and Cable Jumper Assemblies **molex**

NearStack High-Speed Connector System and Cable Jumper Assemblies use twinax cables to deliver a PCB alternative with superior signal integrity and low insertion loss while enabling implementation of 56 Gbps NRZ and a path to 112 Gbps PAM-4

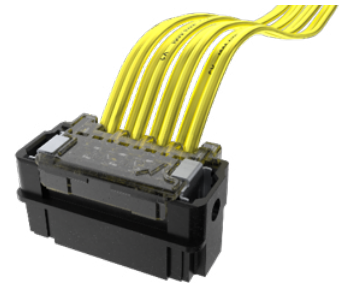
Features and Benefits

0.60mm pitch and tight stacking on 9.00-by-19.00 grid (high density with 30.2 differential pairs per square inch) Alleviates space constraints by taking up less PCB real estate

Minimum length: 150.00mm; maximum length: 1.5m. Custom lengths available

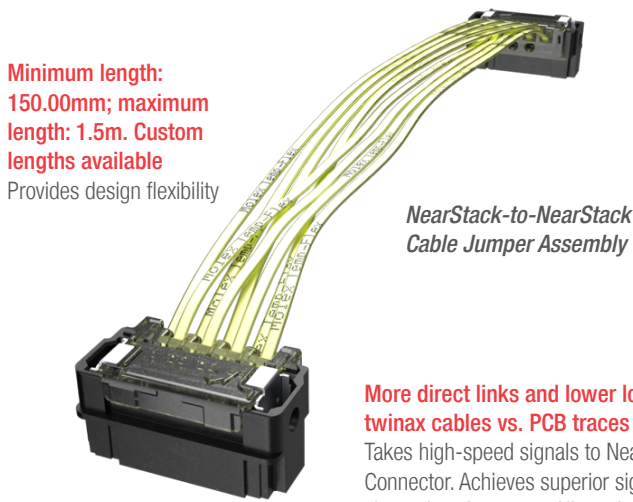
Provides design flexibility

Capable of 112 Gbps PAM-4 protocol
Offers cutting-edge performance



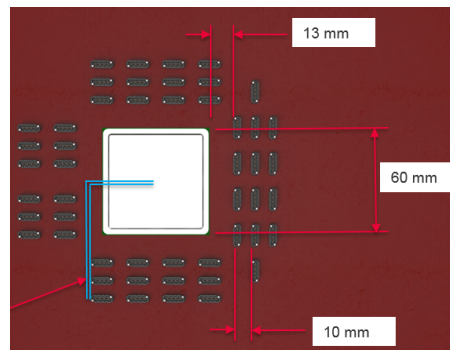
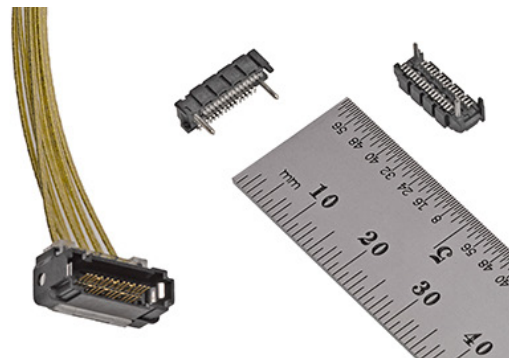
Larger circuit sizes: up to 6 by 7 (42 differential pairs)
Reduces PCB real estate. Increases density

Assemblies are 100 percent tested
Delivers a reliable cable assembly. Eliminates the need for the customer to conduct tests



NearStack-to-NearStack Cable Jumper Assembly

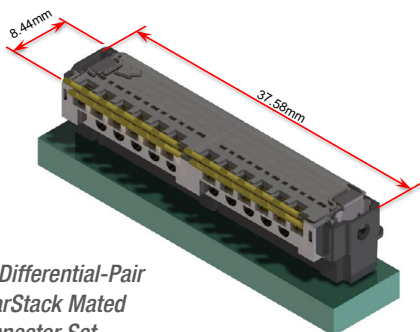
More direct links and lower loss with twinax cables vs. PCB traces
Takes high-speed signals to NearStack Connector. Achieves superior signal integrity channel performance. Allows for fewer layers of PCB material for greater cost effectiveness. Enables shorter channels compared with PCB traces



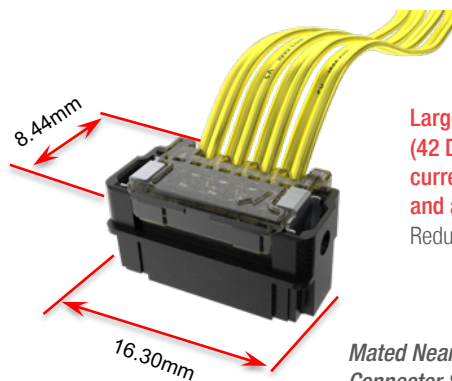
Maximum Trace of 100.00mm

NearStack Cable Assemblies available with other Molex connectors at opposite end (e.g., NearStack to Impulse, Impel, zQSFP+ and zQSFP DD Connectors)
Delivers versatile I/O, backplane solutions

NearStack-to-Impulse Cable Jumper Assemblies



24-Differential-Pair NearStack Mated Connector Set



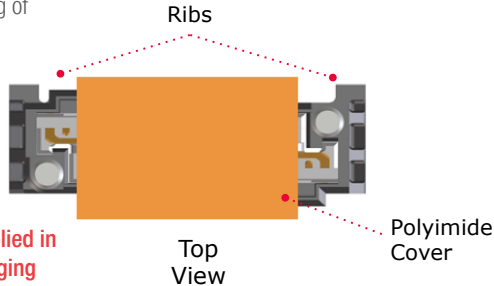
Mated NearStack Connector System, 8 Differential Pairs

Larger circuit sizes: up to 6 wafers by 7 DPs (42 DPs total); 2 wafers by 4 DPs (8 DPs total) currently tooled with a roadmap up to 6 wafers and a mixed 10-SE/4-DP wafer
Reduces PCB real estate. Offers high density

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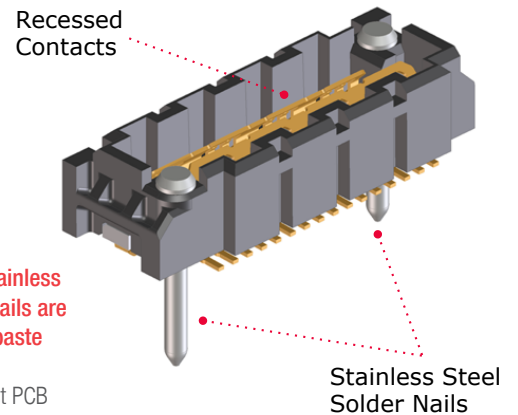
Features and Benefits

NearStack Plug's molded ribs provide polarization
Ensures correct mating of plug to receptacle



NearStack Plug supplied in tape-and-reel packaging and polyimide cover
Enables automated pick-and-place processing

Contacts are recessed in NearStack Plug housing
Prevents damage to contacts during mating



Passive latch release force is targeted for 30N.
Active latch in development
Ensure correct mating

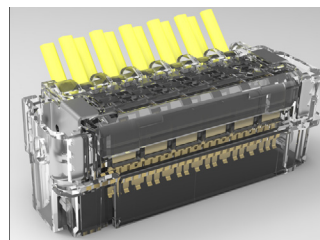
Applications

Telecommunications/Networking

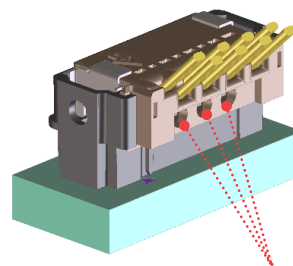
- Cell towers/remote radio unit applications
- Top-of-the-rack switches
- Core routers

Data Centers

- Switches

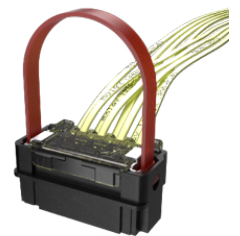


Twinax cables exit NearStack Receptacle at 45 degrees
Allows both vertical or horizontal escape with one connector. Allows for multiple rows of connectors to be placed around the ASIC



Potting material is injected around cables in NearStack Receptacle
Provides additional strain relief

Potting Material Injected Into These Ports



Optional bale available
Offers a pull strap for unplugging the receptacle assembly. When fully seated, it locks the receptacle latches to prevent unplugging until bale is pulled

Specifications

REFERENCE INFORMATION

Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

ELECTRICAL

Voltage (max.): 30V RMS
Current (max.): 0.5A
Contact Resistance: 20 milliohms
Dielectric Withstanding Voltage: 200V AC RMS
Insulation Resistance: 1000 Megohms

MECHANICAL

Mating Force: TBD
Unmating Force: 30N
Durability (min.): 100 Cycles

PHYSICAL

Housing: LCP
Contact: Copper (Cu)
Plating:
Contact Area — 0.76 μ (30 μ)
Compliant Pin Area — Selective Tin (Sn) over 1.27 μ (50 μ) Nickel (Ni) Overall
Operating Temperature: -55 to +105°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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