NearStack High-Speed Connector System and Cable Jumper Assemblies

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.
- **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-Impulse Cable Jumper Assemblies**: Maximum Trace of 100.00mm. 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.
- **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.
- **NearStack Mated Connector Set**: 24-Differential-Pair. Mated NearStack Connector System, 8 Differential Pairs.
NearStack High-Speed Connector System and Cable Jumper Assemblies

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

Tin-plated, stainless steel solder nails are pin-through-paste processed
Provides robust PCB attachment

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

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 — 0.76µ (30µ")
- Compliant Pin Area — Selective Tin (Sn) over 1.27µ (50µ") 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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