NearStack 100-Ohm Connector System and Cable Jumper Assemblies

NearStack 100-Ohm Connector System and Cable Jumper Assemblies use twinax cables and 0.06mm-pitch plugs to deliver a compact PCB alternative with optimized 56-Gbps PAM-4 performance and low insertion loss, making it ideal for telecommunication and data center applications.

Features and Advantages

- Built with contact wafers that are assembled into “bays”
- Allows for expansion of differential pair sizes with reduced tooling investment
- Double-ground structure between differential signal pairs (GSSGSSG)
- Optimizes electrical performance for 56 Gbps (PAM-4)
- Positive lock available in combination with pull bale
- Increases unlatch force to an estimated 50N
- Unique contact interface with flexing beams on NearStack cable receptacle
  - Affords no chance for preloaded beam relaxation through reflow. Less potential for damage to hard-to-rework PCB side.
  - Reduced stub lengths compared to traditional cantilever on PCB pad
- Optional PCB Polarizing Peg
- NearStack 100-Ohm 8 Differential Pair Cable Assembly to QSFP28 BiPass Connector
- Direct-to-contact weld termination with wires welded directly to signal contact
  - Removes paddle card from the assembly
  - Produces highly repeatable assemblies for predictable SI results
- Optional pull bale available for denser applications
  - Facilitates easy unplugging. Rotates from vertical to horizontal position
- Integrated dual “hasp” system
  - Provides a 25N retention force
- Tin-plated, stainless steel solder nails are pin-in-paste processed
  - Provide for robustness of the plug to PCB attachment
- 0.60mm pitch between contacts, and on plug contacts are opposite SMT tails within molded wafer structure. 2.40mm pitch between differential pairs
  - Provides compactness and PCB density
- Density ranges between 30 to 50 differential pair per square inch, depending on the product family and number of differential pairs within a single connector
  - Delivers high data rates within a small footprint. Eases PCB real estate issues
NearStack 100-Ohm Connector System and Cable Jumper Assemblies

Markets and Applications

Telecommunications/Networking
- Cell towers
- Remote radio units (part of 5G)
- Top of Rack Switches
- Core Routers
- Ethernet

Data Centers
- Cable Trays
- Switches

Specifications

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

**ELECTRICAL**
- Voltage (max.): 29.9 V AC RMS Max
- Current (max.): 0.25A
- Contact Resistance: 30 milliohms Max
- Dielectric Withstanding Voltage: 300V AC RMS
- Insulation Resistance: 10 Megaohms

**MECHANICAL**
- Mating Force: 2N Max
- Unmating Force: 25N
- Durability (min.): 100 Cycles

**PHYSICAL**
- Housing: LCP UL 94V-0, Black
- Contact: Copper (Cu)
- Plating:
  - Contact Area — 0.76µ (30µ")
  - Compliant Pin Area — Selective Tin (Sn) over 1.27µ (50µ") Nickel (Ni) Overall
- Operating Temperature: -40 to +85°C

www.molex.com/link/nearstack.html

Molex is a registered trademark of Molex, LLC in the United States of America and may be registered in other countries; all other trademarks listed herein belong to their respective owners.