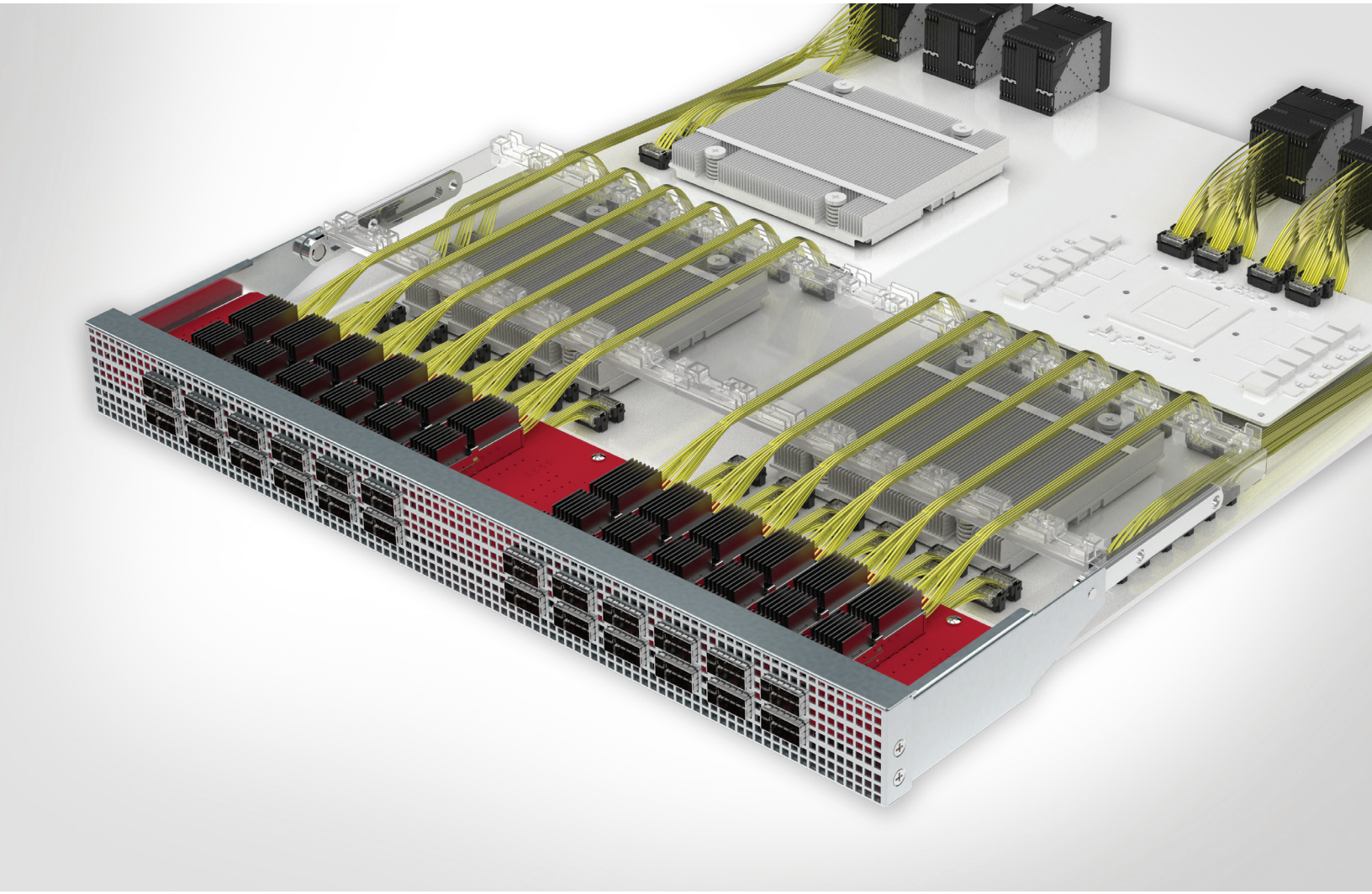
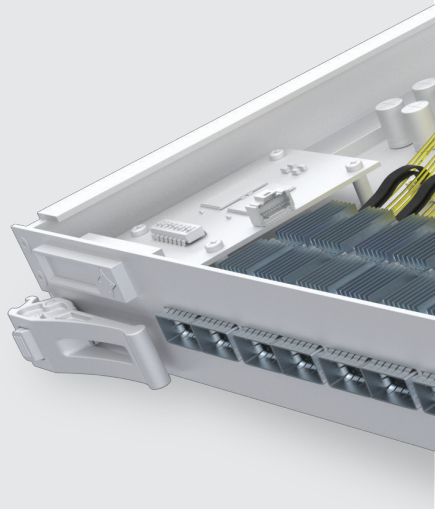
MOLEX BIPASS I/O AND BACKPLANE HIGH-SPEED SOLUTIONS ›



molex

TODAY'S SPEEDS AND FEEDS › DEMAND SMARTER SOLUTIONS



The need for greater speed in tighter spaces is rapidly growing. Today's engineers are challenged with finding solutions that maximize efficiency, reliability and data rates — while avoiding the high cost of optical and PCB solutions.

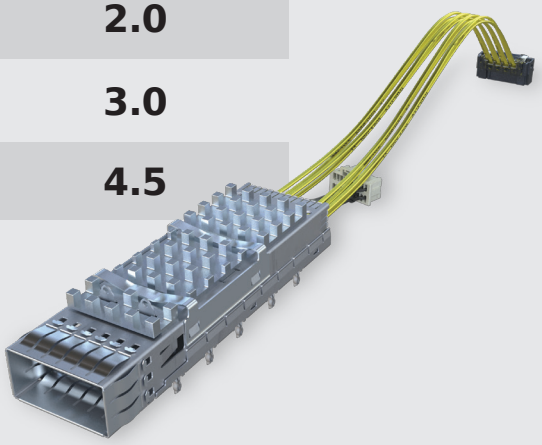
Molex BiPass enables
400 Gb/port, 3+ meter long, passive copper channels

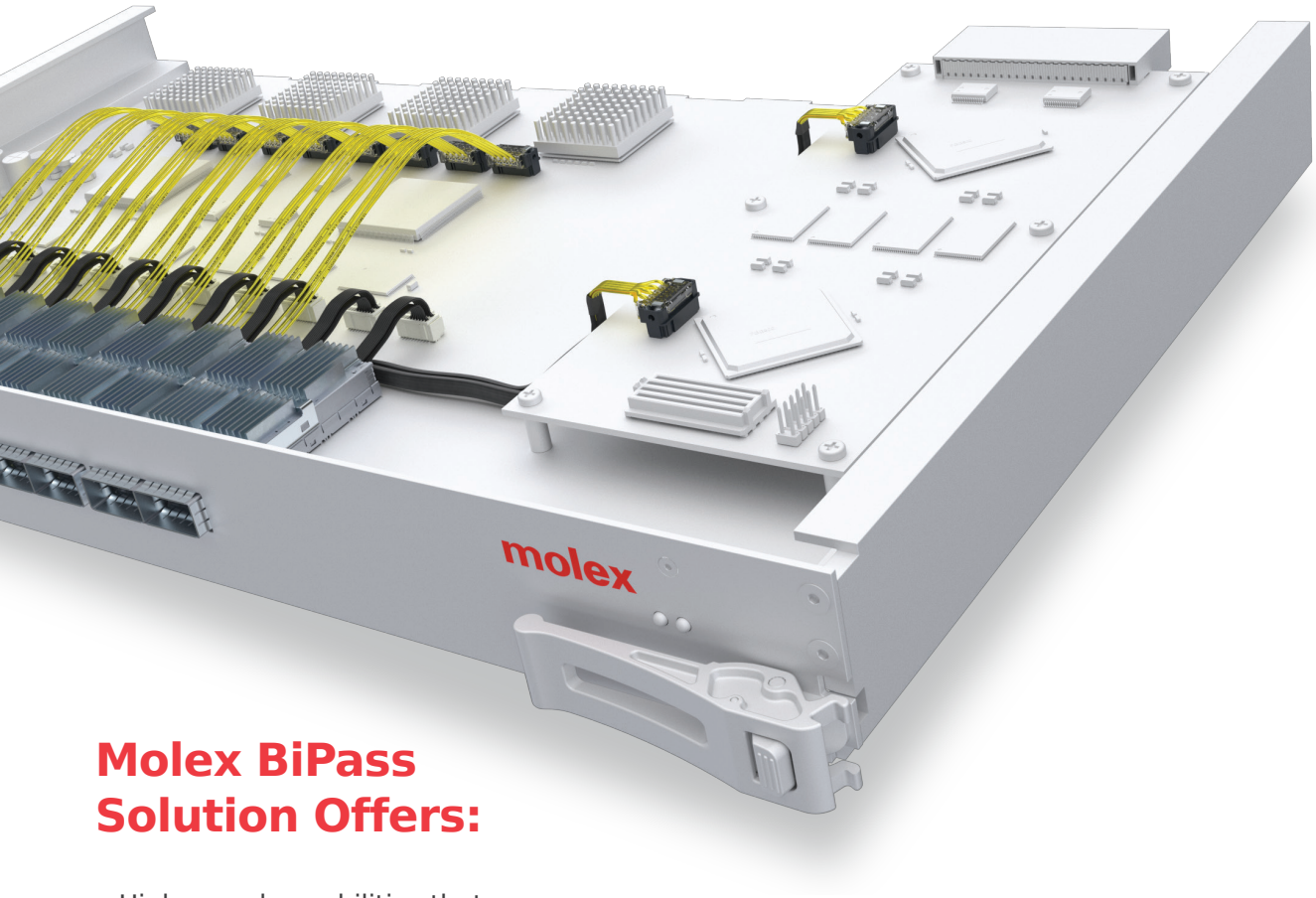
INSERTION LOSS ANALYSIS

(AT 12.5 GHZ)

	FR4	Megtron 6	**Twinax (34 AWG)**
IL for 4"	6.7	3.2	**1.0**
IL for 8"	13.3	6.3	**2.0**
IL for 12"	20.0	9.5	**3.0**
IL for 18"	30.0	14.2	**4.5**

Approximate Values





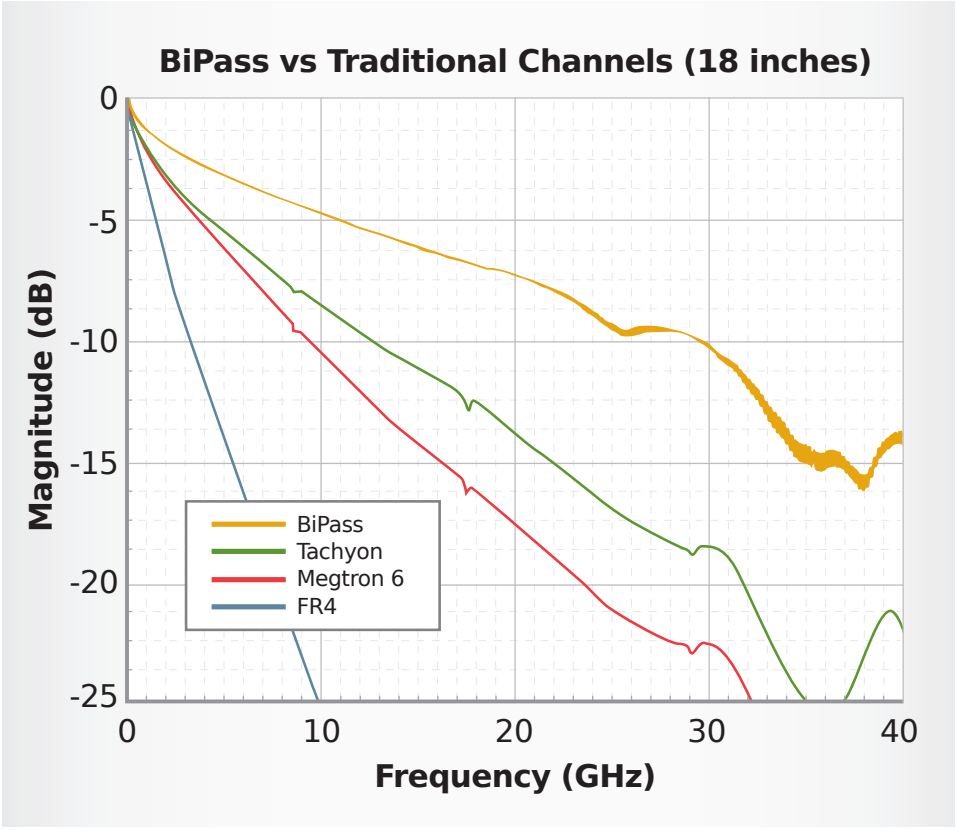
Molex BiPass Solution Offers:

- High-speed capabilities that handle current data rates of 56 Gbps over passive copper
- Compliance with high-performance 112 Gbps PAM-4 protocols
- Reliable signal integrity, enabling protocols that require low signal-to-noise ratios
- Custom tray and panel assemblies of multiple BiPass units, allowing for complete, tailored solutions

Molex BiPass enables 25, 56 and

112G

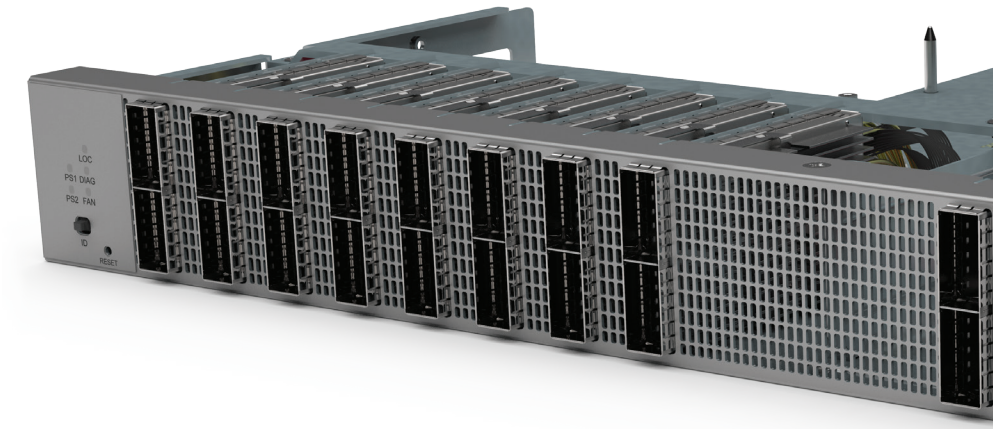
applications by bypassing lossy PCBs



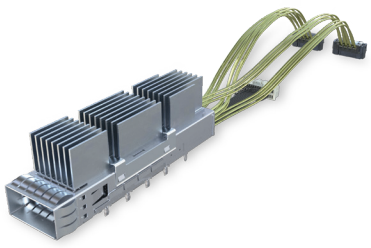
END-TO-END SOLUTIONS › FOR FASTER, MORE EFFICIENT PROCESSING

BiPass System Encompasses 3 Application Categories:

- I/O to ASIC
- ASIC to ASIC
- ASIC to Backplane



QSFP28 (4 Channel)



QSFP-DD (Double Density - 8 Channel)

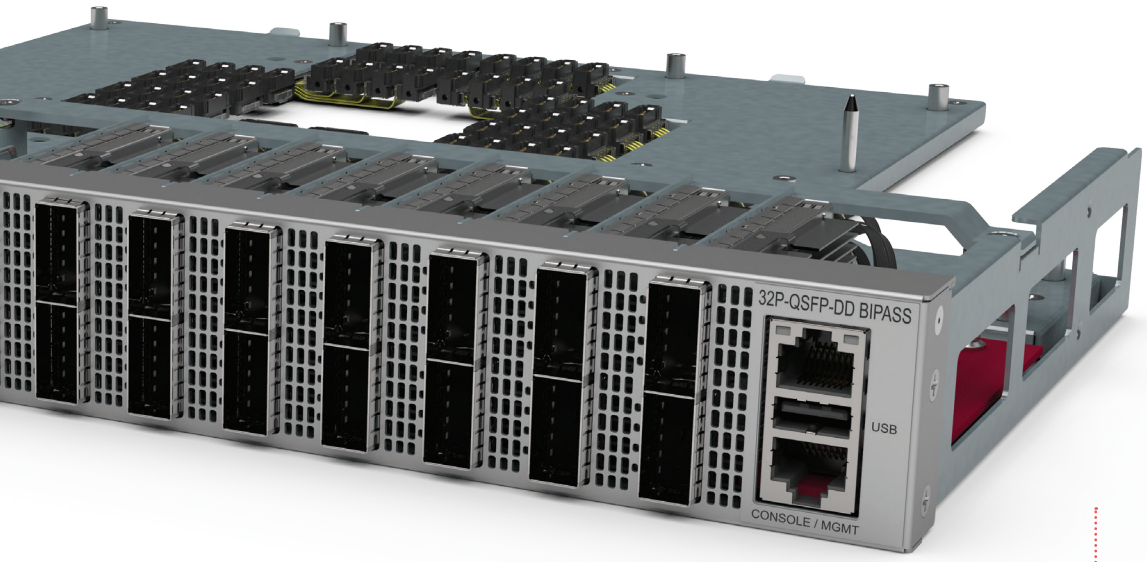
BiPass I/O to ASIC Solutions

Applications:

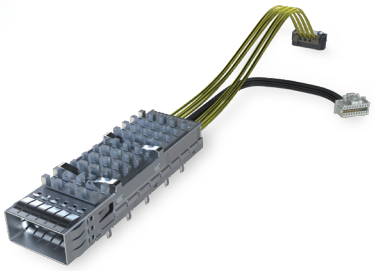
- Front I/O to ASIC
- I/O to NIC cards
- I/O to mezzanine cards
- I/O to memory

Benefits and Features:

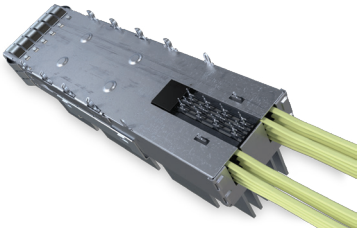
- Greater channel margin (COM >6)
- Cost-effective alternatives to expensive PCBs
- Reduces board layers and smaller PCBs
- Eliminates retimers
- Reduces ASIC energy consumption
- Design flexibility (place ASIC anywhere)
- Better thermal management



Enable **design freedom** with low speed/power options, and increase port density and air flow with vertical mounting.

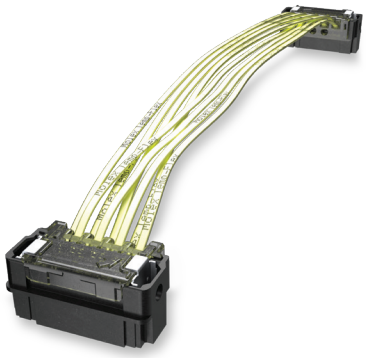


Separate Low Speed/ Power Connector



Low Speed/Power from PCB via Press-fit Pins

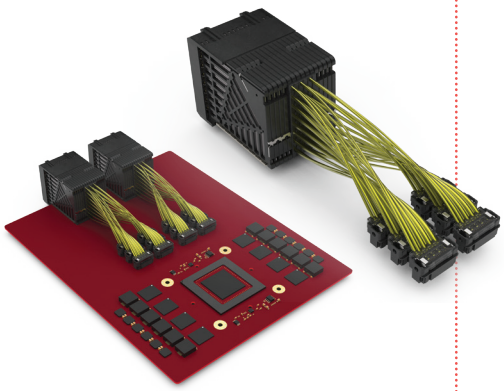
GREATER VERSATILITY ›
OPTIMAL PERFORMANCE



BiPass ASIC to ASIC Solutions

Applications:

- ASIC to memory
- ASIC to mezzanine cards
- Memory to memory



BiPass ASIC to Backplane Solutions

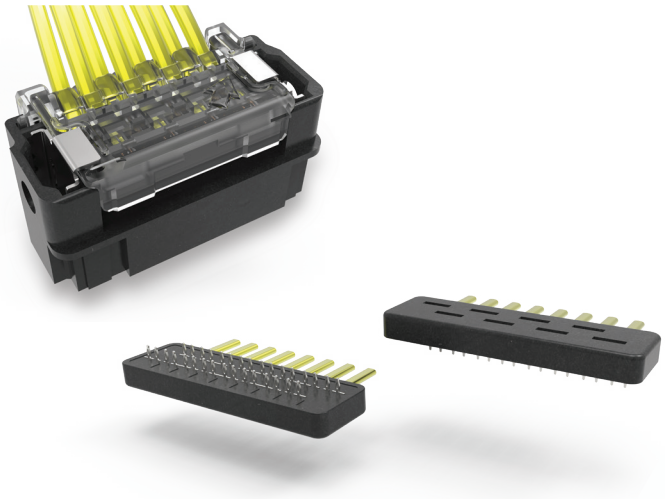
Applications:

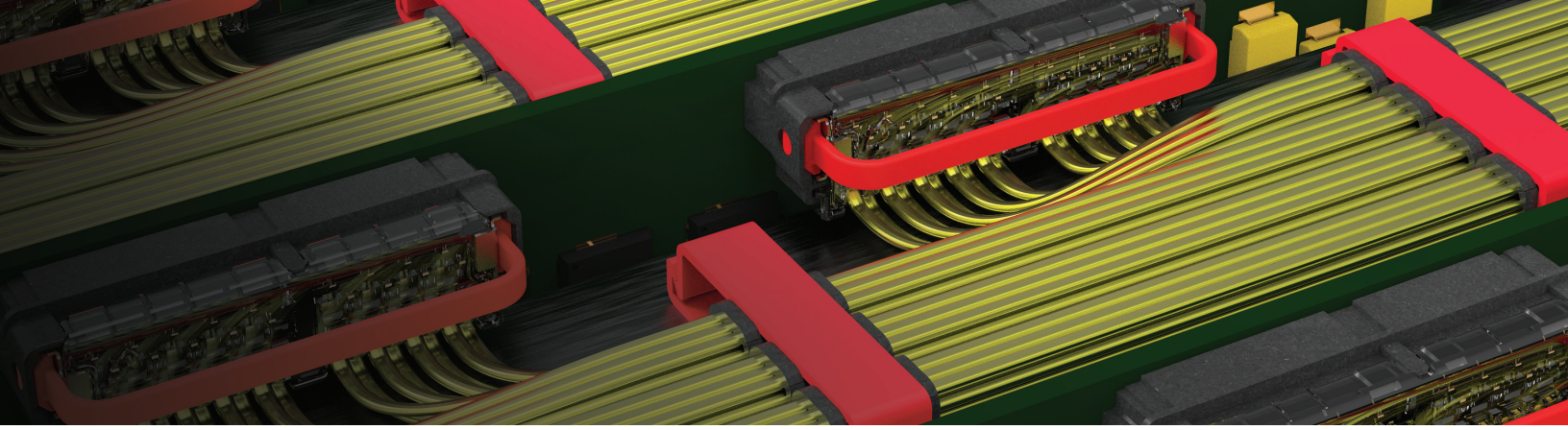
- Backplane to ASIC
- Backplane to mezzanine cards

NearStack Connector

The NearStack connector offers:

- High density, near-ASIC signal termination (30 differential pairs/inches^2)
- Low profile at only 9.00mm in height
- Small pitch (0.60mm)
- 112 Gbps PAM-4 capability

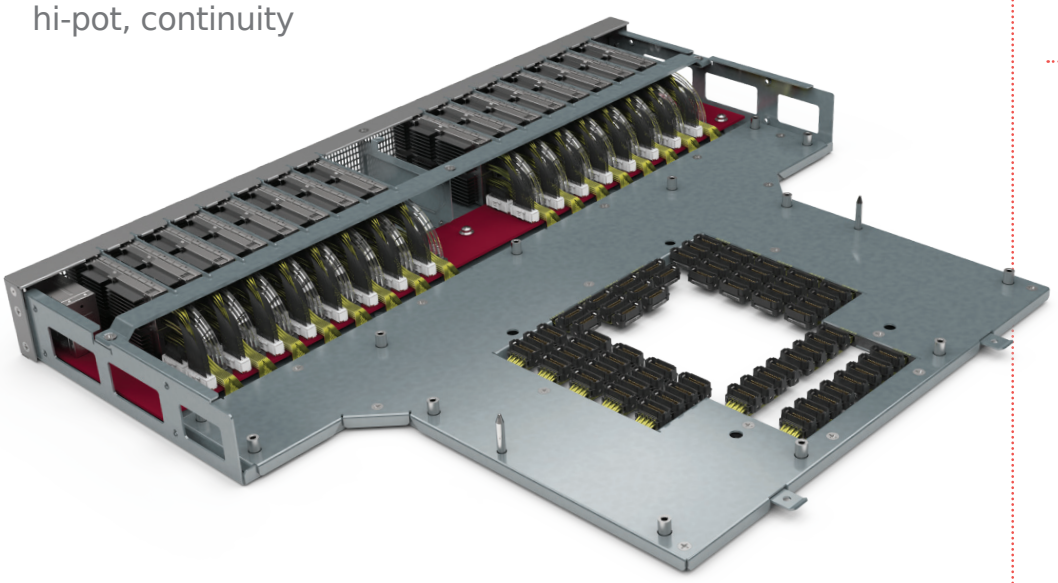


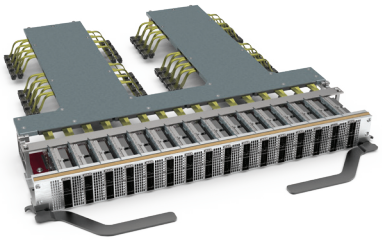


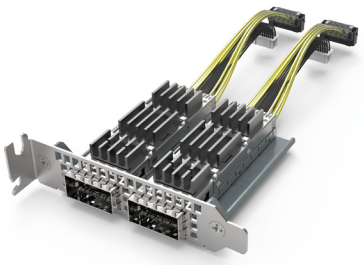
Custom Designs

Molex customizes trays to your application, offering:

- One orderable part number
- Simple installation by the contract manufacturer
- Fully tested units: S-parameters, hi-pot, continuity







Whether as standalone cables or as part of customized trays, the BiPass system offers superior 56/112 Gbps PAM-4 solutions for your front I/O, backplane and internal high-speed communication needs.

GET STARTED TODAY ›

The Molex Approach

At Molex, we take a multidimensional approach to develop complete, integrated solutions that turn your ideas into reality. Our global team of experts is constantly working to bring you reliable technologies that you can trust, including a total end-to-end high-speed channel solution.

Start designing your BiPass I/O and Backplane High-Speed solution today. Visit www.molex.com/link/bipass

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one company › a world of innovation

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