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Solving next-generation network data-transmission requirements, Molex's zCD™ Interconnect System will deliver 400 Gbps, with reaches up to 4km while ensuring excellent thermal performance

Supporting next-generation 400 Gbps Ethernet applications, Molex's zCD Interconnect System will transmit 400 Gbps data rates (25 Gbps per-serial-lane) with excellent signal integrity (SI), electro magnetic interference (EMI) protection and thermal cooling.

The zCD connector will offer the densest, fastest interconnect in the market and is currently being defined by the new CDFP multi source agreement (MSA).

The connector will be offerd in two styles: style 1 (short body) for passive or active copper cables; style 2 (long body) for optics such as active optical cables (AOCs) or pluggable transceivers.

The zCD passive copper cable assemblies will offer the densest 25 Gbps copper solution in the market when used with the zCD style 1 connector. The small and highly flexible assembly will use proven individual twinax and braid construction for short-reach 400 Gbps Ethernet (GbE) or legacy and proprietary applications.

The zCD AOCs will deliver 16-by-28 Gbps, or 400 Gbps of bandwidth, in a compact CDFP MSA standard interface. The zCD AOC design is based on singlemode silicon photonics technology and will transmit up to 4km for a fraction of the cost and power of long-reach optical modules. Primarily designed for 400 Gbps Ethernet applications, zCD AOCs will function with InfiniBand* and proprietary protocol applications.

PRELIMINARY zCD™ Interconnect System

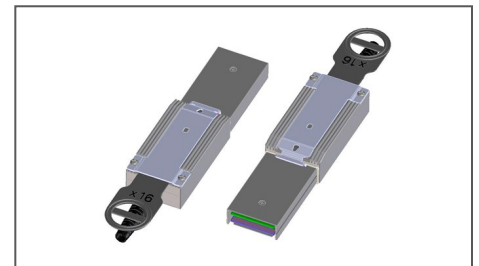Passive Connectors (Style 1)

Active Connectors (Style 2)

Passive Copper Cable Assemblies

Active Optical Cables

Passive Connector (Style 1)

Active Optical Cable

Passive Cable Assembly

*InfiniBand is a registered trademark of the InfiniBand Trade Association

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.

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Features and Benefits

Connectors

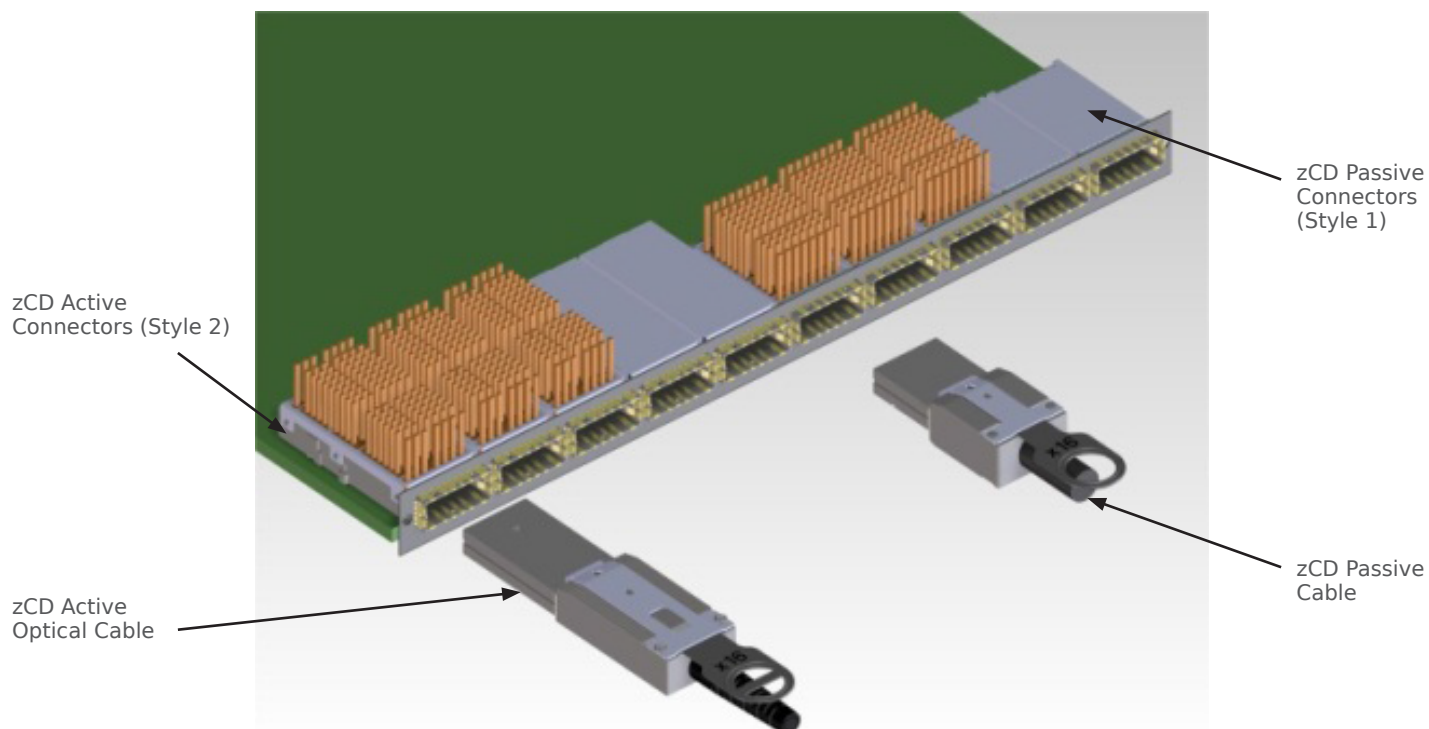|	
Data rates scalable up to 400 Gbps (25 Gbps over 16 lanes)	Supports high-bandwidth (fat pipe) next-generation applications. Enables 4.4 TBps with 11 modules on a line card. Supports next-generation 400 GbE
Designed to accept a broad range of customer-specified thermal modules and heat sinks	Provides excellent thermal management
Two versions will be available: style 1 (short body) accepts passive and active copper cables; style 2 (long body) accepts active optical cables (AOCs)	Accommodates program-specific requirements
Straight, back-route footprint with 0.75mm pitch	Provides industry-leading port-count density with close placement along panel. Small pitch eliminates footprint side-routing
Press-fit connector	Ensures a robust and simple board termination
Elastomeric gasket	Provides superior EMI containment and suppression

Passive Copper Cable Assemblies

Next-generation cable construction design	Delivers superior signal-integrity performance supporting data rates over 25 Gbps
32 pairs (16 channels) per input/output (I/O) port at 25 Gbps	Provides the most bandwidth-dense solution available at 400 Gbps throughput per I/O port
Dual paddle-card system	Improves cross-talk performance through the cable interface. Enhances manufacturing process for consistent construction
Designed for use with 30 AWG twinax cable	Ensures the cable bundle (up to 32 pairs) is kept to a small size. Improves bend radius and flexibility
Embedded micro-controller cable-management interface	Allows custom host-management capabilities through standard I2C bus
Available with or without paddlecard DC blocking caps	Can be optimized for legacy standards or other specific requirements

Active Optical Cables (AOCs)

16 bi-directional channels operating at up to 28 Gbps	Provides 400 Gbps data-transfer rate. Compatible with multiple protocols
Singlemode fiber technology	Delivers reaches in excess of 4km, enabling deployment in data center and campus environments
Silicon photonics technology	Offers a high level of integration. Enables excellent performance and long-term reliability
Hot-pluggable transceiver	Allows insertion and removal of devices without powering down the system
Input and output equalization	Enables optimization of performance for each host system
In-module clock data recover (CDR) on transmit (Tx) and receive (Rx) which can be bypassed	Optimizes a power-vs-performance trade-off for each type of host system

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Additional Product Features - Typical Product Configuration

zCD Passive Connectors (Style 1)

zCD Active Connectors (Style 2)

zCD Passive Cable

zCD Active Optical Cable

Note: Heatsink and non-heatsink connector versions shown.
Heatsinks will be sold separately (not supplied by Molex).

Applications
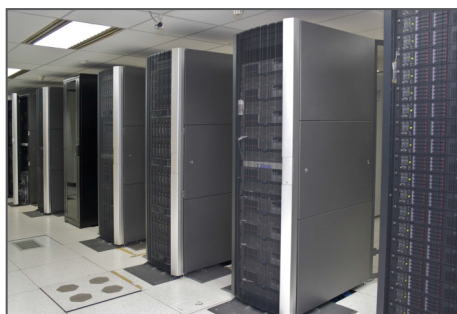
Telecommunication Applications
- Core Switches
- Routers
- Data Centers

Enterprise Computing
- Top of Rack (TOR) Switches

Any other Ethernet application requiring 400 Gbps interfaces

Data Center

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www.molex.com/link/zcd.html