APPLICATION BRIEF

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MEZZANINE CONNECTORS

Molex Mezzanine Connectors Bring Together Personality Cards and Main Boards for Advanced Computing in Shrinking Boxes

Molex SpeedMezz and NeoScale connectors provide design engineers with height options while delivering high-speed data transmission rates and enhanced air flow

BUSINESS CHALLENGE

Maximize space and speed in order to meet the advanced technology demands found in today's telecommunications and data networking market

All around we see evidence of how technology is transforming the lives of consumers and businesses worldwide – mobile phones have increased their functionality; high-definition video over IP is growing; cloud computing is ubiquitous and the Internet of Things promises to connect everything from our automobiles to refrigerators. Despite all of the advanced technology that needs to be packed into these various devices, end users still want products that are small and light, creating an ongoing engineering challenge.

Mezzanine connectors provide a valuable solution by allowing system architects and designers to stack boards so that real estate and computing power can be expanded without increasing the device footprint. They are especially effective when adding a personality card, or the "brains" of a system which use a small chip or ASIC to define functionality. Personality cards enable architects and designers to customize a solution without having to redesign the "body," or the main board/motherboard, saving both time and research costs in applications such as:

- Embedded computers, micro-servers and open-compute architectures
- Networking: Routers, servers, storage, switches and NAS towers

SOLUTION

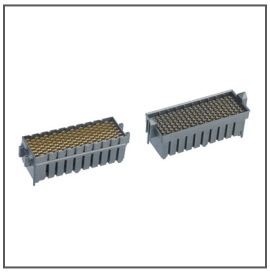
Molex SpeedMezz and NeoScale Mezzanine Connector Systems

Molex offers two styles of mezzanine connectors that are ideal for bringing together personality cards with the main board to drive higher data transmissions in space constrained applications:

SpeedMezz Mezzanine Connector System: The fastest mezzanine connector Molex offers, SpeedMezz connectors enable 56 Gbps with a low-profile stack heights of 4.00mm to 10mm, making it the right choice when the personality card and main board are very close together. The connectors are available in multiple circuit sizes (22, 60 and 120) with a range of 6 to 32 differential pairs to deliver a high-density signal solution with flexible pin counts.

NeoScale High-Speed Mezzanine System: NeoScale connectors provide a robust and flexible solution with more pins and taller stack heights ranging from 12.00 to 42.00mm and circuit sizes of 8 to 300 triad wafers in 2-, 4-, 6-, 8- and 10-rows and 85 or 100 Ohm impedance. The system delivers the market's cleanest signal integrity at data rates of 56 Gbps and the increased space allows for more efficient cooling.

NeoPress High-Speed Mezzanine System: NeoPress connectors also provide a robust and flexible solution with the installation ease of a press-fit eye of needle (EON) termination. This solution offers more pins ranging from 10.00 to 45.00 mm and circuit sides of 8 to 300 differential pairs in 2-, 4-, 6-, 8-, and 10-rows and 85 or 100ohm impedance. The system delivers a data rate up to 32+Gbps.



NeoScale

SpeedMezz

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BENEFITS AND ROI

Mezzanine board-to-board connectors from Molex help telecommunications and data networking providers deliver high transmission speeds in limited PCB real estate.

SpeedMezz and NeoScale connectors from Molex feature multiple height options and flexible pin counts to address the engineering challenges found in today's space constrained designs. Both connectors also provide optimal signal integrity, mechanical stability, efficient system cooling and durable housings for unmatched reliability. With such a wide range of product offerings, designers look to Molex as a "one stop shop" to meet their needs for a mezzanine solution.

To learn more visit www.molex.com/ab/mezzanine.html

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