NeoScale™ High-Speed Mezzanine System

Delivering the market’s cleanest signal integrity at 56+ Gbps, Molex’s modular NeoScale™ Mezzanine System features a high-speed triad wafer design with Solder Charge Technology™ for customized PCB routing in high-density system applications.

Features and Advantages

- **High-speed triad wafers** comprise 3 pins per differential pair (2 signal pins and 1 shielded ground pin).
- **Provide stand-alone 56 Gbps fully shielded differential pairs with dedicated grounds.**

- **Modular triad wafer design with 4 triad configurations and high-speed differential pairs (in both 85 and 100 Ohm impedance), high-speed single-ended traces, low-speed single-ended lines and power contacts.**
- **Provides a customized system for design flexibility.**

- **Tombstone structures incorporated within the receptacle housing.** Prevents terminal damage by protecting the mating contact interface.

- **Connectors have a density of 82 differential pairs per square inch.** Offers ultra-high-density signal solution with optimal signal integrity performance.

- **Housing design based on honeycomb construction.** Isolates each differential pair for optimal performance and customization.

- **Reliable mating interface with 2.00mm wipe.** Gives sufficient conductive wipe for clean signal transmission and enhanced performance.

- **Mirror-image triad layout enables the PCB routing in 1 or 2 layers for 4- and 6-row housings, respectively.** Provides ease in PCB routing and lowers overall system costs by decreasing the number of PCB layers required for signal routing.

- **Innovative PCB connection using patented Solder Charge Technology™.** Proven surface mount technology (SMT) attachment method for highly reliable and robust solder joints.

- **Available in 12.00 to 40.00mm stack heights, circuit sizes of 24 to 120 triad wafers in 4 and 6 rows and 85 or 100 Ohm impedance.** Provides design flexibility to address engineering constraints in system envelopes.

- **Durable housing material.** Delivers a robust system with mechanical stability.
NeoScale™ High-Speed Mezzanine System

Applications

Telecommunication Applications
- Hubs
- Servers

Enterprise Networking
- NAS towers
- Rackmount servers

Industrial Controllers
- Personality cards

Medical and Military
- High data-rate scanning

Specifications

REFERENCE INFORMATION
Packaging: Tray
Mates With:
- NeoScale™ Vertical Plug (Series 170807) mates with NeoScale Vertical Receptacle (Series 170814)
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

ELECTRICAL
Voltage (max.): 30V AC RMS
Current (max.): 8.0A in power triads
Contact Resistance (max.): 10 milliohm
Dielectric Withstanding Voltage: 200V AC RMS
Insulation Resistance (min.): 1000 Megohms

MECHANICAL
Contact Retention to Housing: 1N
Mating Force (max.): 0.75N
Unmating Force (min.): 0.25N
Durability (min.): 100 Cycles

PHYSICAL
Housing: High-Temperature LCP
Contact: Copper (Cu)
Plating:
- Contact Area — 30µ”
- Solder Tail Area — 15µ”
Underplating — 45µ” Nickel (Ni)
Operating Temperature: -55 to +85°C

Ordering Information

PLUG

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<thead>
<tr>
<th>Series No.</th>
<th>Plating</th>
<th>Connector Height (mm)</th>
<th>Triad Wafer Configuration (Row by Column)</th>
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<td>170807</td>
<td>30µ” Gold</td>
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RECEPTACLE

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www.molex.com/link/neoscale.html