

NeoScale™ High-Speed Mezzanine System

molex®

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

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

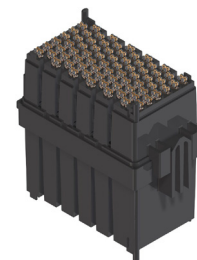
Housing design based on honeycomb construction
Isolates each differential pair for optimal performance and customization

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

Durable housing material
Delivers a robust system with mechanical stability

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



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Applications

Telecommunication Applications

Hubs
Servers

Enterprise Networking

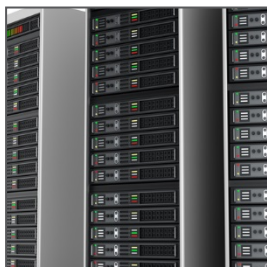
NAS towers
Rackmount servers

Industrial Controllers

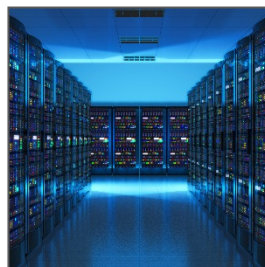
Personality cards

Medical and Military

High data-rate scanning



NAS Towers



Servers

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

Series No.	Plating	Connector Height (mm)	Triad Wafer Configuration (Row by Column)
170807	30μ" Gold	8	4 by 18
		12	6 by 8

RECEPTACLE

Series No.	Plating	Connector Height (mm)	Triad Wafer Configuration (Row by Column)
170814	30μ" Gold	8	4 by 18
		12	6 by 8

www.molex.com/link/neoscale.html