BergStak HS™ 0.50mm Mezzanine Connector

Superior performance up to 32Gb/s

FLEXIBLE SOLUTION FOR HIGH SPEED APPLICATIONS

BergStak HS™ 0.50mm connector is a flexible solution designed for high speed and high density, parallel board-to-board applications with various heights in different sizes.

The BergStak HS™ 0.50mm connector series meets the new 25Gb/s and 32Gb/s performance requirement.

- Available in 50 positions
- Available in 12mm stack height
- 5mm and 8mm stack heights, and up to 120 pin configurations available upon request

TARGET MARKETS

FEATURES	BENEFITS
• Housing and terminal profile optimized to 25Gb/s and 32Gb/s	• Supports high speed performance up to 32Gb/s
• Extension of standard BergStak® 0.50mm	• Supports higher speed applications from PCIe® Gen 3, PCIe® Gen 4 to PCIe® Gen 5
• Vertical versus vertical mating configuration	• Suitable for parallel board stacking applications
• 50 position sizes, 12mm stack height available	• Varying positions and height specification meets 25Gb/s and 32Gb/s requirements
• 0.50mm double-row contact pitch conserves printed circuit board space	• High density for all electrical applications needs
• Scoop-proof feature housings	• Prevents reverse mating
• Multiple plating options available	• Satisfies different application requirement
• Multiple packaging options available	• Suitable for various feeding processing
• PCB locator pegs	• Facilitates ease and accuracy during manual assembly
• RoHS compliant and lead-free	• Meets environmental, health and safety requirements

*The PCIe® mark is a registered trademark of the PCI-SIG Corp

TECHNICAL INFORMATION

MATERIAL

▪ Housing: Glass filled LCP, UL94V-0

▪ Contact Base Metal:

▪ Receptacle: Copper alloy, high spring

▪ Plug: Copper alloy

▪ Solder Area Finish: Matte pure tin over nickel

ELECTRICAL PERFORMANCE

▪ Insulation Resistance:

▪ Initial: 100MΩ min.

▪ After Test: 50MΩ min.

▪ Current Rating: 0.5A/contact

▪ Contact Resistance:

▪ Initial: 50mΩ max.

▪ After Test: 70mΩ max.

▪ Voltage Rating: 50VAC

▪ Signal Integrity (Differential pairs):

▪ As simulated data

▪ Impedance: Supports both 85Ω and 100Ω applications

Test Category	25Gb/s	32Gb/s
Return Loss	−24dB @ 12.5GHz −17.5dB @ 8GHz	−12dB @ 16GHz
Insertion Loss	0.4dB @ 12.5GHz −0.37dB @ 8GHz	−1.2dB @ 16GHz
Power−summed NEXT	−65dB @ 12.5GHz −62.5dB @ 8GHz	−56dB @ 16GHz
Power−summed FEXT	−62.4dB @ 12.5GHz −63dB @ 8GHz	−42dB @ 16GHz

MECHANICAL PERFORMANCE

▪ Durability: 100 mating cycles

▪ Mating Force: 0.9N max./contact

▪ Unmating Force: 0.1N min./contact

ENVIRONMENTAL

▪ Operating Temperature Range: −40°C to +125°C

▪ High Temperature Life: 105°C ±5°C for 1000 hours

▪ Humidity: 90−95% relative Humidity for 240 hours

SPECIFICATIONS

▪ Product Specification: GS−12−1479

PACKAGING

▪ Tape & Reel

▪ Tube

TARGET MARKETS/APPLICATIONS

Datacom
Telecom

Server
Storage

Embedded Computer

PART NUMBERS

Positions	Description	Connector Height (mm)	Stack Height (mm)	Part Numbers
50	BergStak HS™ 0.5mm board−to−board, vertical header, 50 positions, single GND, 25Gb/s version	10.67	12	10138650−058202SLF
50	BergStak HS™ 0.5mm board−to−board, vertical header, 50 positions, double GND, 32Gb/s version	10.67	12	10138650−058202DLF
50	BergStak HS™ 0.5mm board−to−board, vertical receptacle, 50 positions	3.8	12	10138651−051202LF

BASICSBERGHS050919EA4