FutureHStak™ 0.50 mm

2 ROW FINE PITCH, PARALLEL, HIGH-SPEED, MEZZANINE, PCIE® GEN 6, BOARD-TO-BOARD CONNECTOR

FLEXIBLE SOLUTION FOR HIGH-SPEED APPLICATION

Amphenol's FCI Basics FutureHStak™ 0.50 mm connector family is known for its fast data transmission, high signal quality, and time-proven reliability under extended periods of application. The new FutureHStak™ 0.50 mm connector family with 0.50 mm pitch enables high-speed data applications. This high-speed mezzanine connector supports up to PCIe® Gen 6 64 Gb/s. Supporting data centers and server applications, this high-density connector includes the following features:

- **Fine pitch of 0.5 mm**
- **Support from 5 mm to 20 mm stack height, 20-120 positions; begin from 5 mm stack height, 40 and 120 positions**
- **Polarization feature and self-alignment feature to improve mating performance**
- **Side walls to protect the contacts during mating**
- **High-speed performance**

TARGET MARKETS

FEATURES	BENEFITS
▪ 0.5 mm double row contacts	▪ High-density connector, suitable for applications with space constraints
▪ High-speed performance up to 64 Gb/s	▪ Meets SAS 4.0 and PCIe® Gen 6 standards
▪ 40 and 120 positions, with options from 20 to 120 ▪ 5 mm stack height, with options for 5 mm and 20 mm	▪ Provides application flexibility
▪ Open pin design, available in single GND and double GND	▪ Provides design flexibility
▪ Self-alignment feature	▪ Supports blind mating and automatic assembly cost-effectively
▪ RoHS compliant, halogen and lead-free	▪ Meets health, safety, and environment requirements
▪ UL 94 V-0 high temperature LCP material	▪ Can withstand harsh operating environments

TECHNICAL INFORMATION

MATERIAL

- Housing: High-temperature thermoplastic LCP, Black (UL 94 V-0)
- Terminal: Copper alloy
- Plating Options:
  - Gold flash
  - 15 µin Gold/GXT®
  - 30 µin Gold/GXT®

MECHANICAL PERFORMANCE

- Mating and Un-mating Force: 0.5 N max. & 0.02 N min./contact
- Durability: 100 cycles
- Mechanical Shock : SAE/USCAR-2 V2
- Vibration: SAE/USCAR-2 V2

ELECTRICAL PERFORMANCE

- Current Rating: 0.5 A per contact (all contacts powered)
- Insulation Resistance: 100 mΩ min.
- Voltage Rating: 100 V AC/V DC
- LLCR: 50 mΩ max.
- Data Rate: PCIe® Gen 6 64 Gb/s

PACKAGING

- Tape & Reel

ENVIRONMENTAL

- Operating Temperature: -55 °C to +125 °C
- Thermal Shock: SAE/USCAR-2, 100 cycles
- Temperature Life: USCAR2-7, 125C, 500 hours

SPECIFICATIONS

- Product Specification: GS-12-1727

APPROVALS & CERTIFICATIONS

- UL E66906

TARGET MARKETS/APPLICATIONS

Servers
Storage
AI
Graphics Processing Unit (GPU)

PART NUMBERS

Description	Part Numbers
FutureHStak® 0.50 mm HS Vertical Header, P1 40 pos, GF plating	10189888-4120000LF
FutureHStak® 0.50 mm HS Vertical Header, P1 120 pos, GF plating	10189888-C120000LF
FutureHStak® 0.50 mm HS Vertical REC, R1 40 pos, GF plating	10189889-4120000LF
FutureHStak® 0.50 mm HS Vertical REC, R1 120 pos, GF plating	10189889-C120000LF

Find part number details using the search box on www.amphenol-cs.com

PART NUMBER SELECTOR – HEADER

Find part number details using the search box on www.amphenol-cs.com

10189888	—	X	I	X	0000	LF	Lead-free

X	Position
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
A	100
B	110
C	120

X	Plating: Contact Area
1	Gold, 0.05 µm min.
2	Gold or GXT®, 0.20 µm min.
3	Gold or GXT®, 0.375 µm min.
4	Gold or GXT®, 0.75 µm min.

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10189889	—	X	I	X	0000	LF	Lead-free

X	Position
2	20
3	30
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5	50
6	60
7	70
8	80
9	90
A	100
B	110
C	120

X	Plating: Contact Area
1	Gold, 0.05 µm min.
2	Gold or GXT®, 0.20 µm min.
3	Gold or GXT®, 0.375 µm min.
4	Gold or GXT®, 0.75 µm min.

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