BergStak HS™ 0.50mm

FINE PITCH/WIDE RANGE/ ANTI–VIBRATION/HIGH SPEED BOARD–TO–BOARD CONNECTOR

FLEXIBLE SOLUTION FOR HIGH SPEED APPLICATIONS

Amphenol's FCI Basics BergStak HS™ connector family is known for its fast data transmission, high signal quality, and time–proven reliability under extended periods of application. BergStak HS™ 0.50mm connector family with 0.50mm pitch enables high–speed data applications with up to PCIe® Gen 5 32Gb/s.

- Fine pitch of 0.5mm
- Support from 5mm to 20mm stack height, 20–120 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

- 0.5mm double–row contacts

- High–speed performance up to 32Gb/s

- Options from 20 to 120
- Options for 5mm and 20mm

- Open pin design, available in single GND and double GND

- Self–alignment feature

- RoHS compliant, halogen and lead free

- UL94V–0 high temperature LCP material

BENEFITS

- High–density connector, suitable for applications with space constraints

- Meets SAS 4.0 and PCIe® Gen 5 standards

- Application flexibility

- Design flexibility

- Supports blind mating and automatic assembly cost–effectively

- Meets health, safety and environment requirements

- With–stand harsh environment

TECHNICAL INFORMATION

MATERIAL

▪ Housing: High temperature thermoplastic LCP, Black (UL94V–0)

▪ Terminal: Copper Alloy

▪ Plating: Gold flash, 15µin GOLD/GXT®, 30µin GOLD/GXT®

ELECTRICAL PERFORMANCE

▪ Current Rating: 0.5A per contact (all contacts powered)

▪ Insulation Resistance: 100mΩ min.

▪ Voltage Rating: 100VAC/VDC

▪ LLCR: 50mΩ max.

▪ Data rate: 32Gb/s

MECHANICAL PERFORMANCE

▪ Mating and Un–mating Force: 0.5N max. & 0.02N min./contact

▪ Durability: 100 cycles

▪ Mechanical Shock : SAE/USCAR–2 V2

▪ Vibration: SAE/USCAR–2 V2

ENVIRONMENTAL

▪ Operating Temperature Range: –55°C to +125°C

▪ Thermal Shock: SAE/USCAR–2, 100 cycles

▪ Temperature Life: USCAR2–7, 125C, 500 hours

APPROVALS & CERTIFICATION

▪ UL E66906

SPECIFICATIONS

▪ Product Specification: GS–12–1727

PACKAGING

▪ Tape & Reel

TARGET MARKETS/APPLICATIONS

Advanced Driver Assistance Systems (ADAS)

Server
Storage
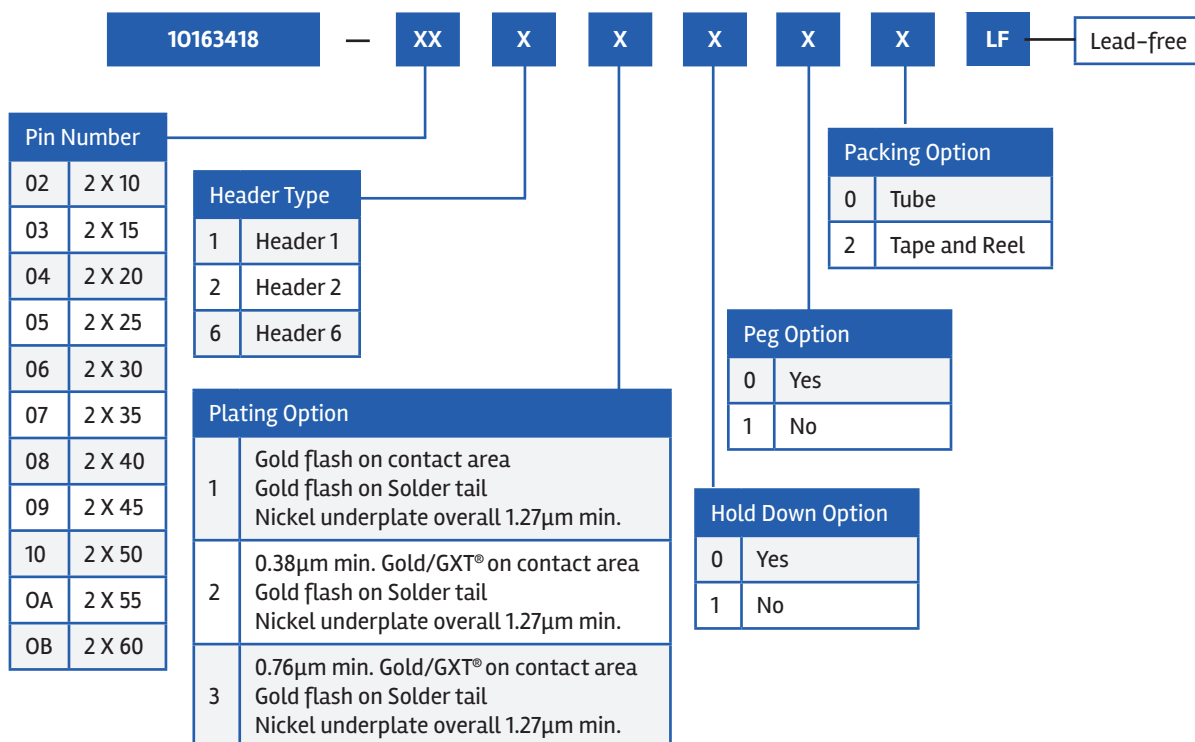Artificial Intelligence (AI)

Embedded Computer

Server
Storage

▶ BergStak HS™ 0.50mm

PART NUMBER SELECTOR

| 10163418 | — | XX | X | X | X | X | X | LF | → | Lead-free |

Pin Number

02	2 X 10
03	2 X 15
04	2 X 20
05	2 X 25
06	2 X 30
07	2 X 35
08	2 X 40
09	2 X 45
10	2 X 50
OA	2 X 55
OB	2 X 60

Header Type

1	Header 1
2	Header 2
6	Header 6

Plating Option

1	Gold flash on contact area Gold flash on Solder tail Nickel underplate overall 1.27µm min.
2	0.38µm min. Gold/GXT® on contact area Gold flash on Solder tail Nickel underplate overall 1.27µm min.
3	0.76µm min. Gold/GXT® on contact area Gold flash on Solder tail Nickel underplate overall 1.27µm min.

Packing Option

0	Tube
2	Tape and Reel

Peg Option

0	Yes
1	No

Hold Down Option

0	Yes
1	No

PART NUMBERS

Description	Part Numbers
BergStak HS™ 0.50mm, 40 Position, Header, 5/8mm stack height	10163418-0411002LF
BergStak HS™ 0.50mm, 60 Position, Header, 5/8mm stack height	10163418-0611002LF
BergStak HS™ 0.50mm, 80 Position, Header, 5/8mm stack height	10163418-0811002LF
BergStak HS™ 0.50mm, 120 Position, Header, 5/8mm stack height	10163418-0B11002LF
BergStak HS™ 0.50mm, 20 Position, Header, 17/20mm stack height	10163418-0241002LF
BergStak HS™ 0.50mm, 40 Position, Receptacle, 5/9/17mm stack height	10163419-0411002LF
BergStak HS™ 0.50mm, 60 Position, Receptacle, 5/9/17mm stack height	10163419-0611002LF
BergStak HS™ 0.50mm, 120 Position, Receptacle, 5/9/17mm stack height	10163419-0B11002LF
BergStak HS™ 0.50mm, 20 Position, Receptacle, 8/12/20mm stack height	10163419-0241002LF
BergStak HS™ 0.50mm, 40 Position, Header, 9/12mm stack height	10163418-0422002LF
BergStak HS™ 0.50mm, 80 Position, Header, 9/12mm stack height	10163418-0823002LF
BergStak HS™ 0.50mm, 40 Position, Receptacle, 8/12/20mm stack height	10163419-0442002LF
BergStak HS™ 0.50mm, 80 Position, Receptacle, 8/12/20mm stack height	10163419-0843002LF
BergStak HS™ 0.5mm board-to-board, Vertical Header, 50 Positions, Single GND, 25Gb/s version	10138650-058202SLF
BergStak HS™ 0.5mm board-to-board, Vertical Header, 50 Positions, Double GND, 32Gb/s version	10138650-058202DLF
BergStak HS™ 0.5mm board-to-board, Vertical Receptacle, 50 Positions	10138651-051202LF

Find part number details using the search box on