

BergStak® 0.80mm Board-to-Board Interconnect System

BergStak® 0.80mm Mezzanine Connector

Extraordinary product range, Benchmark performance, Dual-source champion

FLEXIBLE SOLUTION FOR HIGH-DENSITY APPLICATIONS

Amphenol's BergStak® 0.80 mm is a flexible solution designed for high-speed and high-density, parallel board-to-board connector system with 16 PCB stack heights in 9 sizes up to 200 positions.

- Housing and terminal profile guarantees support of up to 12 Gb/s
- Vertical versus vertical mating configuration
- 20 to 200 position sizes in 20 position increments
- 5 mm to 20 mm stack heights in 1 mm increment



TARGET MARKETS



FEATURES

- Housing and terminal profile guarantees support of up to 12 Gb/s
- Vertical versus vertical mating configuration
- 20 to 200 position sizes in 20 position increments
- 5 mm to 20 mm stack heights in 1 mm increments
- 0.80 mm double-row contact pitch conserves printed circuit board space
- Scoop-proof feature housings
- Multiple plating options available
- Multiple packaging options available
- PCB locator pegs option
- Available in UL 94 V-0 material
- RoHS compliant and lead-free

BENEFITS

- Compatible with PCIe® Gen 2/3 and SAS 3.0 high-speed performance on selected stack heights
- Suitable for parallel board stacking applications
- Comprehensive range of sizes and stack heights to satisfy all needs
- High-density for all electrical applications needs
- Prevents reverse mating
- Satisfies different application requirement
- Suitable for varies feeding processing
- Facilitate ease and accuracy during manual assembly
- High flammability rating
- Meets environmental, health and safety requirements

TECHNICAL INFORMATION

MATERIAL

- Housing: Glass filled LCP, UL 94 V-0
- Contact Base Metal
 - Receptacle: Copper Alloy, High Spring
 - Plug: Brass
- Contact Area Finish: Gold or Gold flash over Palladium-Nickel (GXT®) over Nickel
- Solder Area Finish: Matte pure Tin over Nickel

MECHANICAL PERFORMANCE

- Durability: 100 mating cycles
- Mating Force: 0.9 N max./contact
- Unmating Force: 0.1 N min./contact

ELECTRICAL PERFORMANCE

- Insulation Resistance:
 - Initial: 1000 M Ω min.
 - After Test: 100 M Ω min.
- Current Rating: 0.8 A/contact
- Contact Resistance:
 - Initial: 30 m Ω max.
 - After Test: 50 m Ω max.
- Voltage Rating: 100 V AC
- Signal Integrity (Differential pairs, connector and SMT pads only)
 - Impedance Range: 81 to 108 Ω @ 50 ps edge (10–90%)
 - Return Loss: < 10 dB up to 5 GHz
 - Insertion Loss: < 1.5 dB up to 5 GHz
 - NEXT: $\leq$ 4.0% for a 50 ps edge (10–90%)
 - FEXT: $\leq$ 2.4% for a 50 ps edge (10–90%)

ENVIRONMENTAL

- Temperature Range: –40 °C to +125 °C
- High Temperature Life: 105 °C $\pm$ 5 °C for 1000 hours
- Humidity: 90–95% relative humidity for 96 hours
- Mixed Flowing Gas Class 2a (30 GXT®)

SPECIFICATIONS

- Product Specification: GS-12-547
- Test Report: DGS-29-010

PACKAGING

- Tape & Reel
- Tubes

TARGET MARKETS/APPLICATIONS



IP Phone
Router



Server

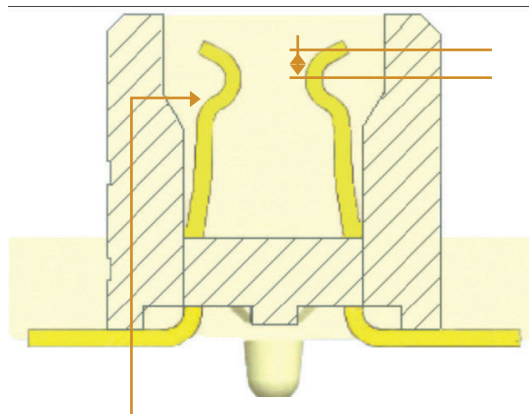


Industrial and Instrumentation Office
Equipment
Point-Of-Sale Terminal Portable
Industrial Terminal Test and
Measurement



Diagnostics System

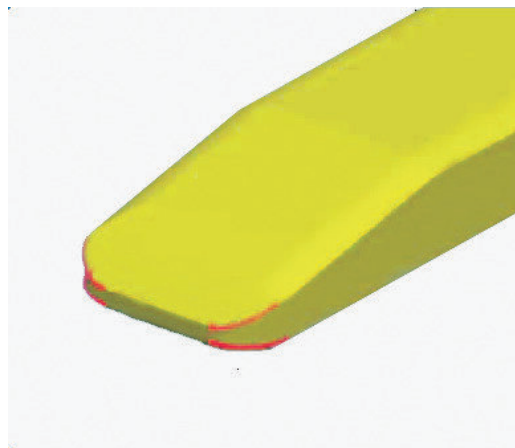
RECEPTACLE



Early-contact point allows early engagement/ late disengagement and increases mating wipe

Precision-tapered contacts control mating stress while providing reliable, high normal force

HEADER



Coined contact tips assure smooth, safe wiping action during connector mating

P

Firm

2

Receptacle	61082
Plug	61083

XX
TOTAL
POSITIONS

X
HOUSING
HEIGHT

X
PLATING
CODE

X
PEG
OPTION

X
PACKAGING
OPTION

X

LF

20 pos	02
40 pos	04
60 pos	06
80 pos	08
100 pos	10
120 pos	12
140 pos	14
160 pos	16
180 pos	18
200 pos	20

Tube without metal cap	0
Tape & Reel with metal caps	2
Tape & Reel without metal cap (with Kapton tape)	6
Tube with metal caps	9

Includes polarization pegs	0	Lead-free, RoHS compatible	LF
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Gold 0.2 μm min./Pure Tin 2 μm min. (Lead-free) Nickel underplate overall 1.27 μm min.	4
Gold 0.38 μm min./Pure Tin 2 μm min. (Lead-free) Nickel underplate overall 1.27 μm min.	5
Gold Flash (0.1 μm min.) over Palladium-Nickel 0.76 μm min./Pure Tin 2 μm (Lead-free) Nickel underplate overall 1.27 μm min.	6

X	FOR PLUG, SEE DWG. NO. 61083			
COMBINATION OF MATED HEIGHT	Plug 1 	Plug 2 	Plug 3 	Plug 4 
Recep 1 				
Recep 2 				
Recep 3 				
Recep 4 				

BergStak® 0.80mm BMI Connector System

FLEXIBLE SOLUTION FOR HIGH-DENSITY APPLICATIONS

BergStak® 0.80mm BMI is a flexible board-to-board connector solution designed for high-speed, high-density, self-aligning applications. It is available in 6, 20, and 80 signal position configurations and supports data rates up to 12 Gb/s. Housing and terminal profile guarantees support data rates up to 12 Gb/s.

- Vertical-to-vertical mating configuration
- Available in 6/20/80 signal position configurations
- Current rating up to 0.8 A per pin (all pins powered)
- Meets USCAR-2 vibration requirements and Shock Class V2



TARGET MARKETS



FEATURES

- Housing and terminal profile guarantees support of up to 12 Gb/s
- Vertical-to-vertical mating configuration
- Available in 6/20/80 signal position configurations
- 0.8mm double-row contact pitch conserves printed circuit board space
- Scoop-proof feature housings
- Multiple plating options available
- Multiple packaging options available
- PCB locator pegs option
- Available in UL 94 V-0 material
- Metal hold down option
- RoHS compliant and lead-free

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

BENEFITS

- Compatible with PCIe® Gen 2/3 and SAS 3.0 high-speed performance on selected stack heights
- Suitable for parallel board stacking applications
- Comprehensive range of sizes and stack heights
- High density for all electrical applications is needed
- Prevents reverse mating
- Satisfies different application requirements
- Suitable for various feeding processing
- Facilitates ease and accuracy during manual assembly
- High flammability rating
- Improves mechanical stability
- Meets environmental, health and safety requirements

TECHNICAL INFORMATION

MATERIAL

- Housing Material: High-temp LCP, UL 94 V-0
- Receptacle Contact: Nickel Copper
- Header Contact: Brass
- Hold Down: Brass
- Metal Cap: Stainless Steel

MECHANICAL PERFORMANCE

- Durability: 100 cycles
- Mating Force: 0.9 N max. per contact
- Un-mating Force: 0.1 N min. per contact
- Contact Retention Force: 1 N min. per contact
- Wipe Length: 1.2 mm

ELECTRICAL PERFORMANCE

- Voltage Rating: 100 V AC
- Current Rating: 0.8 A per contact
- Insulation Resistance:
 - Initial: 1000 M Ω min.
 - After Test: 100 M Ω min.
- Contact Resistance:
 - Initial: 30 m Ω max.
 - After Test: 50 m Ω max.
- Signal Integrity:
 - Differential Impedance: 81–108 Ω @ 50 ps edge (10–90%)
 - Insertion Loss: < 1.5 dB up to 5 GHz
 - NEXT: $\leq$ 4.0% @ 50 ps edge (10–90%)

ENVIRONMENTAL

- Operating Temperature: –40 °C to +125 °C
- Temperature Life: 105 °C $\pm$ 5 °C, 1000 hours
- Cyclical Humidity & Temperature
- Mixed Flow Gas: EIA–364–65 Class IIA

SPECIFICATIONS

- Product Specification: GS–12–2242
- Application Spec: GS–20–1072

PACKAGING

- Tape & Reel
- Tubes

TARGET MARKETS/APPLICATIONS



Communications and Networking Equipment



Electronic Security
Energy Controller/Module/Display
Machine-to-Machine (M2M) Office
Equipment Point-of-Sale Equipment,
Scanning
Portable Meter/Instrument



Medical Diagnostics



Server Management Modules
Storage Systems
Network Switches
Power Distribution Modules
Control and Monitoring Boards

PART NUMBER SELECTOR

VERTICAL

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

XXXXXXX

XXX

X

X

X

X

X

BASE PART NUMBER

POSITION

HOUSING HEIGHT

CONTACT AREA PLATING

SOLDER TAIL PLATING

PACKAGING

POLARIZATION PEG/DATE CODE

Header	10196988
Receptacle	10196989

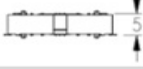
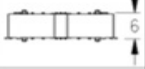
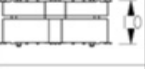
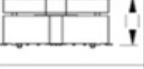
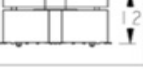
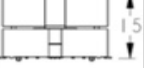
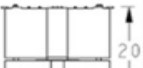
006	2×3
020	2×10
080	2×40

Gold 0.05 µm Min	8
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Matte Tin 2.54 µm min.	0
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T&R with Pick Up Feature	2
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With PEG / Without Date Code	LF
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X	FOR RECEPTACLE, SEE DWG. NO. 10196989			
COMBINATION OF MATED HEIGHT	HEADER 1 HEIGHT: 1.3	HEADER 2 HEIGHT: 2.3	HEADER 3 HEIGHT: 3.3	HEADER 4 HEIGHT: 4.3
RECEPTACLE 1 HEIGHT: 3.7				
RECEPTACLE 2 HEIGHT: 7.7				
RECEPTACLE 3 HEIGHT: 11.7				
RECEPTACLE 4 HEIGHT: 15.7				

WHERE INNOVATION CONNECTS

Scan to learn more 



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