

BergStak[®] 0.50mm Self-Alignment Board to Board Connector

Product Presentation

Amphenol Information Communications
and Commercial Products

 **FCi Basics**

Amphenol ICC

- Value Proposition
- Product Overview
- Product specifications
- Features & Benefits
- Part Numbers
- Market Applications
- Collaterals

BergStak® 0.50mm Self-Alignment

Value Proposition

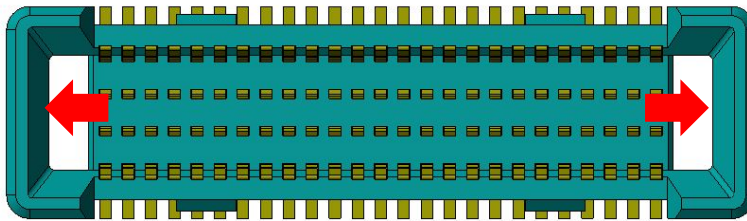
- BergStak® 0.50mm Self-Alignment Connectors have ultra-chamfered housings together with lead-in feature that allow customers to use in the applications which needs blind mating.
- Scoop-proof housings which ensure terminals are not damaged during mating that can minimize the contact damage and improve the manufacturing quality.
- Fine pitch design at 0.50mm provide a high signal density applications when space is a constraints.
- BergStak® 0.50mm Self-Alignment currently has a stack height of 3mm on 50 positions, and positions are extendable from 20 to 60 upon request.
- BergStak® 0.50mm Self-Alignment type is ideal for Automotive, Industrial.

BergStak[®] 0.50mm Self-Alignment Product Overview

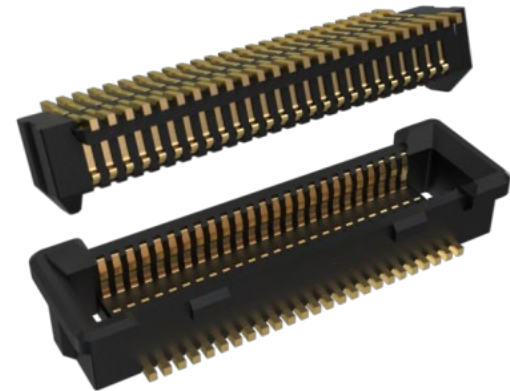
FCi Basics

- BergStak[®] 0.50mm **Self-alignment** connector features a wide guide distance for mating of **± 0.85 mm in the pitch direction and ± 1.29 mm in the width direction**

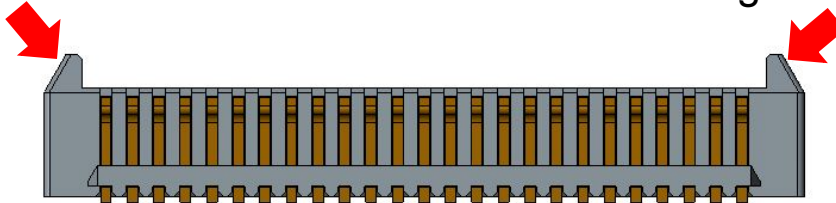
Ultra-chamfered Receptacle Housing



Header



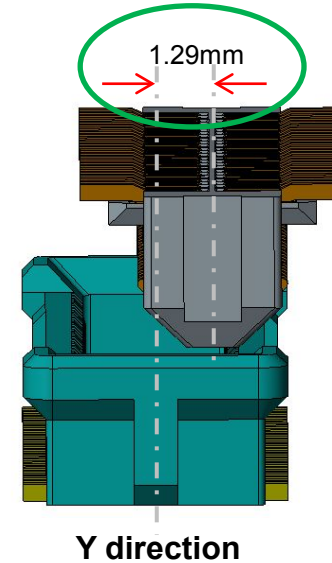
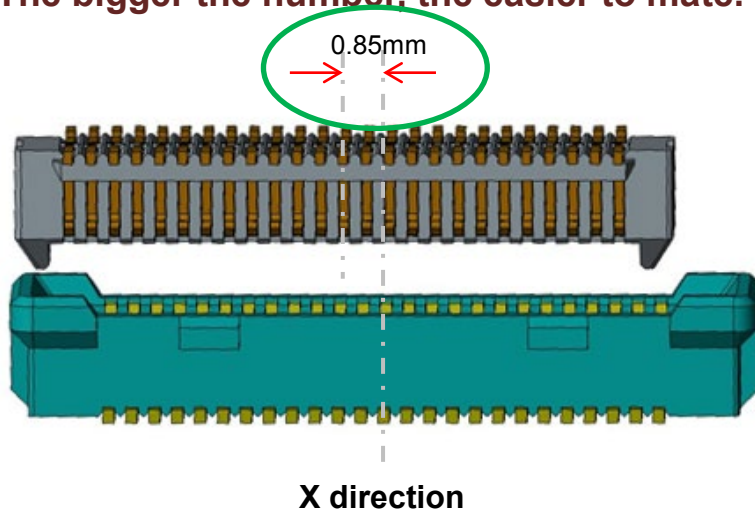
Lead in Feature on Header housing



Receptacle

BergStak® 0.50mm Self-Alignment Product Overview

- Misalignment analysis by X/Y direction (Pitch and Width)
The bigger the number, the easier to mate.



- Misalignment performance comparison **VS** current BergStak 0.5mm type (without self-alignment feature)

Misalignment Tolerance Comparison	BergStak® 0.50mm Self-Alignment Type	BergStak® 0.50mm Type
Misalignment Tolerance of X axis	+/-0.85mm	+/-0.15mm
Misalignment Tolerance of Y axis	+/-1.29mm	+/-0.06mm

BergStak[®] 0.50mm Self-Alignment Product Specifications



Performance Characteristics

- Durability: **50 cycles**
- Mating Force: 0.8N max . per contact
- Un-mating Force: 0.15N min. per contact
- Contact Retention Force: 1N min. per contact
- Current Rating: **0.5A** per contact
- Voltage Rating: 100VAC
- LLCR : Initial: 30mΩ max. After test: 50mΩ max
- Insulation Resistance: 1000 MΩ min.
- Support speed PCIe Gen1 with **2.5Gb/s**

Materials

- Housing: High temperature thermoplastic LCP, Black (UL94V-0)
- Terminal base material
 - Receptacles: Copper Alloy
 - Headers: Copper Alloy

Environmental

- Operating temperature: **-40°C ~ 125°C**
- Salt Spray, 5±1% salt concentration 48±4 hours 35±2°C

Technical Documents

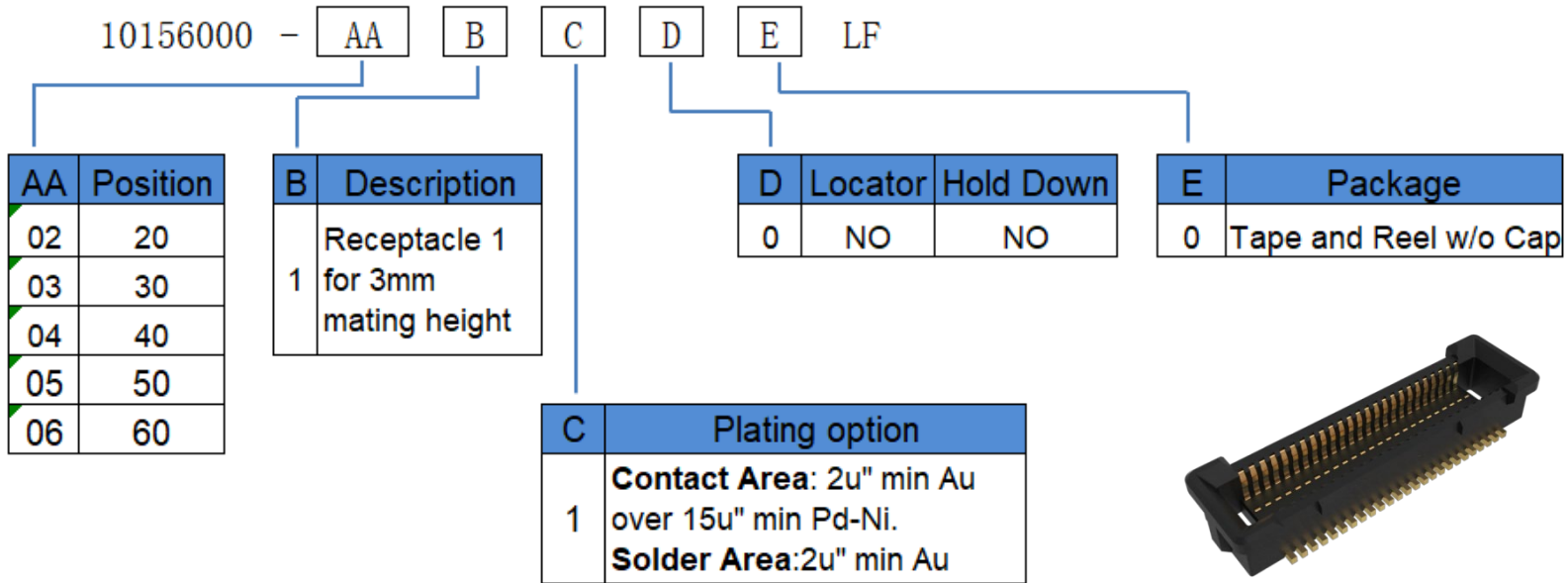
- Product Spec.: GS-12-1298

BergStak[®] 0.50mm Self-Alignment Features & Benefits



Features	Benefits
Self-alignment feature	Supports blind mating and automatic assembly with cost effective.
50 positions available, and extendable from 20 to 60 positions in increments of 10	Application flexibility
Scoop-proof housings	Prevents terminal mating damage
0.5mm double row contacts	High density connector, suitable for applications with space constraints
Vertical mating configuration	Suitable for parallel board stacker applications
UL94V-0 high temperature LCP material	High flammability rating
Halogen-free products	Aid efforts to minimize the use of environmentally sensitive materials in the electronics industry
RoHS compliant and lead-free	Meets environmental, health and safety requirements

BergStak® 0.50mm Self-Alignment Part Numbers

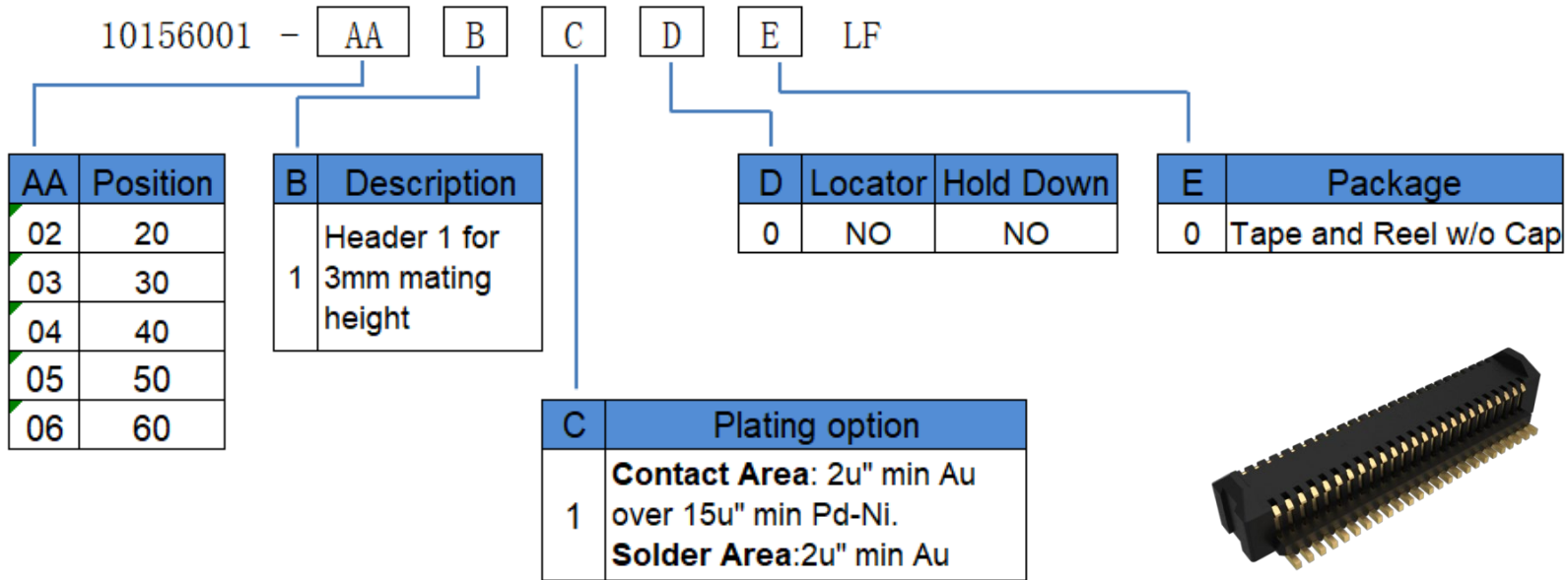


Description	Part Numbers
BergStak® 0.50mm Self-Alignment BTB Conn, Vertical Receptacle, 50 Positions	10156000-051100LF

Remark: More options can be extended according to the market needs

BergStak® 0.50mm Self-Alignment Part Numbers

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Description	Part Numbers
BergStak® 0.50mm Self-Alignment BTB Conn, Vertical Header, 50 Positions	10156001-051100LF

Remark: More options can be extended according to the market needs

BergStak[®] 0.50mm Self-Alignment Main Markets & Applications

FCi Basics

■ Industrial

High Definition Camera
Factory automation camera
Embedded computer

■ Communications

5G AAU

■ Automotive

Automotive Camera
Compact Radar

■ Consumer

Home automation, IoT Devices



- Available on Amphenol FCI website:
Technical Datasheet



BergStak® 0.50mm Self-Alignment Board-to-Board Connector

FINE PITCH SOLUTION WITH SELF-ALIGNMENT FEATURE

The BergStak® 0.50mm self-alignment connectors come with a stack height of 3mm and 50 positions extendable across 20 to 60 positions in increments of 10. It has a unique self-alignment feature that supports blind mating.

- 0.50mm pitch
- Self-alignment feature
- Housing with drainage feature



TARGET MARKETS



FEATURES	BENEFITS
• 0.50mm double row contact	• High density connector
• 20 to 60 positions in increments of 10	• Application flexibility
• Self-alignment feature	• Supports blind mating
• Housing with drainage feature	• Can be exposed to wash process after installation
• Scoop-proof housings	• Ensures terminals are not damaged during mating
• Supports speed performance up to 5Gb/s	• Meets PCIe® Gen 2 standards
• RoHS compliant, halogen and lead free	• Meets health, safety and environment requirements

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Thank You!