

# BERGSTAK® 0.8MM MEZZANINE CONNECTORS

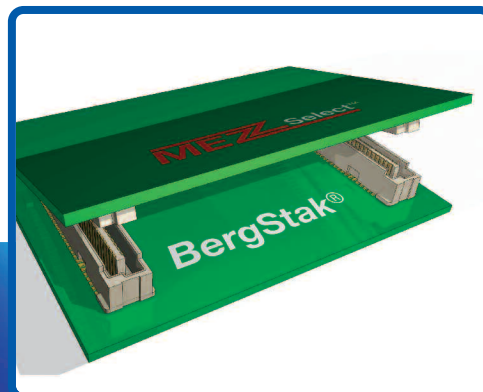
Extra-ordinary Product Range; Benchmark Performance; Dual-source Champion

## DESCRIPTION

Versatile, high density parallel-board-to-board connector system offers twelve PCB stack heights in nine sizes up to two hundred positions.

Stack height flexibility supports evolving designs and emerging mechanical requirements with a common mating interface.

Special housing and blade-on-beam terminal features provide easy PCB assembly, worry-free mating and long-term reliability.



## FEATURES & BENEFITS

- 0.8mm double-row contact pitch conserves printed circuit board space
- Vast range of sizes and stack heights support diverse electronic packaging schemes
  - 40 to 200 position sizes in 20 position increments
  - 5mm to 16mm stack heights in 1mm increments
- Choice of gold-based and palladium-based platings provide protection in different environments and applications
- Tapered PCB locator pegs increase the ease and accuracy of hand assembly
- Blade-on-beam contacts allow peeling for safer, easier un-mating
- Tape and Reel packaging supports high speed automated assembly
- PCIe® Gen.2 high speed performance on some stack heights
- Fully inter-matable with similar competitive connectors

## PLUS

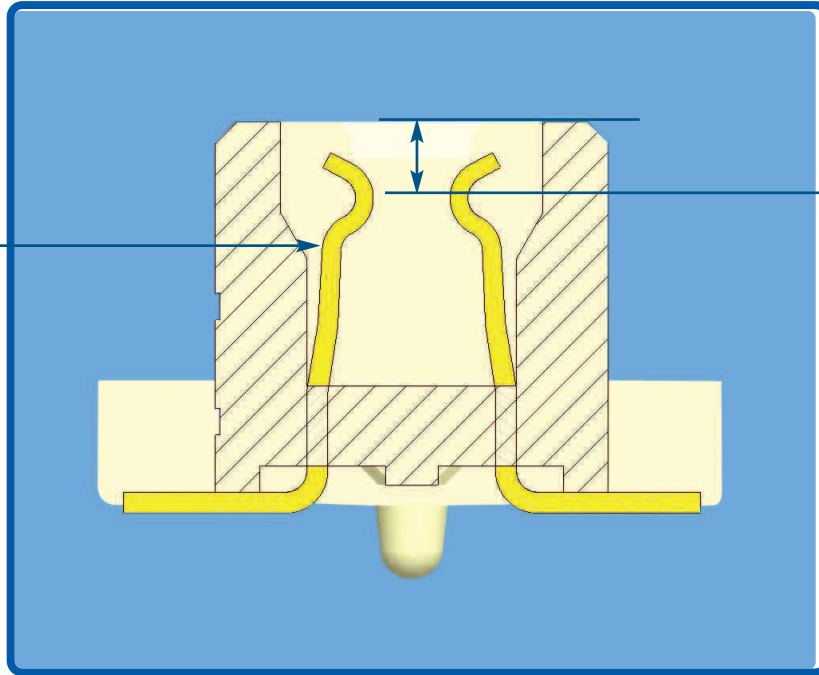
- Optimized "blade-on-beam" contact mating maximizes connection integrity
  - Early receptacle contact point increases mating wipe and allows early engagement/late disengagement
  - Precision-tapered contacts control mating stress while providing reliable, high normal force
  - Coined contact tips assure smooth, safe wiping action during connector mating
  - Connector polarization, generous lead-in angles and precise contact positioning ensure precise mating alignment and reliability

## TARGET MARKETS / APPLICATIONS

- Routers
- Servers
- Telecom/Datacom equipment
- Office equipment
- IP phones
- Test and Measurement
- Point-of-Sale terminals
- Portable industrial terminals

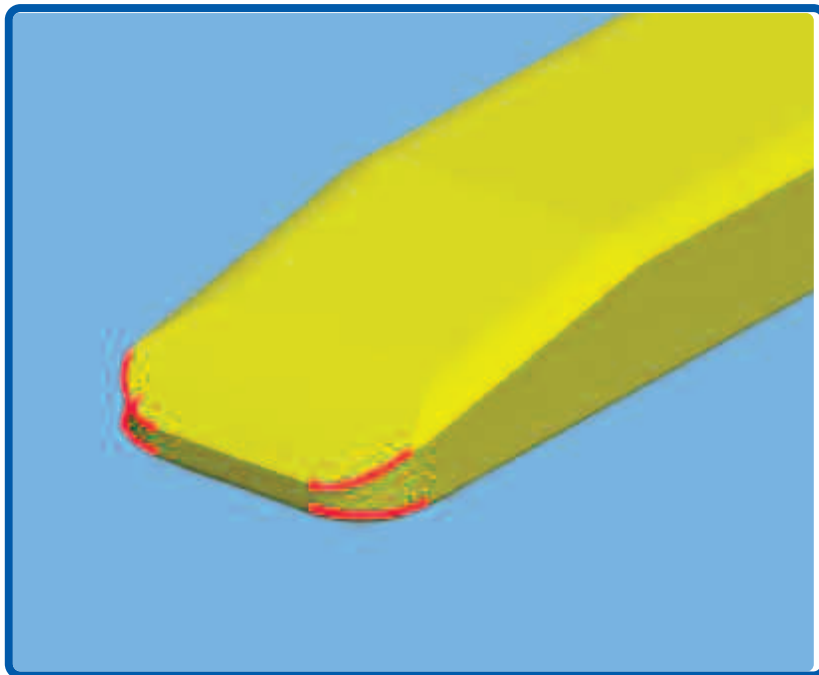
### RECEPTACLE

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



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

### PLUG



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

PART NUMBER SELECTOR

X X X X X	-	X X	X	X	X	X	X X
Base Part Number		Total Positions	Housing Height	Plating Code	Peg Option	Packaging Option	Lead-Free Indicator
61082=Receptacle 61083=Plug		04=40 pos. 06=60 pos. 08=80 pos. 10=100 pos. 12=120 pos. 14=140 pos. 16=160 pos. 18=180 pos. 20=200 pos.			0=Includes polarization pegs		LF= Lead-free RoHS Compatible
						0=Tubes without pickup caps 2=Tape and Reel with pickup caps 9=Tubes with pickup caps	
							4=Gold (0.2um) in mating area / matte pure tin on solder tail with Nickel (1.27um min.) underplate overall (lead free) 6=Palladium-Nickel (0.76um min.) with gold flash (0.1um min.) in mating area / matte pure tin on solder tail with Nickel (1.27um min.) underplate overall (Lead free)

HEIGHT SELECTOR

		<b>PLUGS</b>			
		61083-XX1XXXXX	61083-XX2XXXXX	61083-XX3XXXXX	61083-XX4XXXXX
		 4.70 mm (0.185 in.)	 5.70 mm (0.224 in.)	 6.70 mm (0.264 in.)	 7.70 mm (0.303 in.)
<b>RECEPTACLES</b>	61082-XX1XXXXX 3.70 mm (0.146 in.)	 5.00 mm (0.197 in.)	 8.00 mm (0.236 in.)	 7.00 mm (0.276 in.)	 8.00 mm (0.315 in.)
	61082-XX2XXXXX 7.70 mm (0.303 in.)	 9.00 mm (0.354 in.)	 10.00 mm (0.394 in.)	 11.00 mm (0.433 in.)	 12.00 mm (0.472 in.)
	61082-XX3XXXXX 11.70 mm (0.461 in.)	 13.00 mm (0.512 in.)	 14.00 mm (0.551 in.)	 15.00 mm (0.591 in.)	 16.00 mm (0.630 in.)
	<b>STACK</b>				
		<b>HEIGHTS</b>			

For special additional options and updates, consult drawings at [www.fci.com/bergstak](http://www.fci.com/bergstak)

## MATERIALS

- Housing
  - Glass filled LCP (UL94 V-0)
- Contact base metal
  - Receptacles: Copper Alloy, High Spring
  - Plugs: 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 cycles
- Mating force: 0.9N (90 gramf) maximum/contact
- Un-mating force: 0.1N (10 gramf) minimum/contact

## ENVIRONMENTAL

- Temperature range: -40°C to +85°C
- High temperature life: 105°C +/- 5°C for 1000 hours
- Humidity: 90-95% relative humidity for 96 hours
- Mixed Flowing Gas Class 2a (30 GXT)

## SPECIFICATION

- GS-12-547 BergStak 0.8mm Product Specification
- GS-29-010 Test report, Competitive inter-mating

## ELECTRICAL PERFORMANCE

- Insulation resistance:
  - Initial: 1000 M $\Omega$  minimum
  - After test: 100 M $\Omega$  minimum
- Current rating:
  - 0.8 amp/contact
- Contact resistance:
  - Initial: 30 m $\Omega$  maximum
  - After test: 50 m $\Omega$  maximum
- Voltage rating:
  - 100 V AC
- Signal Integrity  
(Differential pairs, connector and SMT pads only)
  - Impedance Range: 81 to 108 ohms @ 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%)
  - S Parameter models available at [www.fci.com/bergstak](http://www.fci.com/bergstak)

## APPROVALS AND CERTIFICATIONS

- UL certificate, file no. E66906
- CSA, file no. LR46923

## PACKAGING

- Tape and reel
- Tubes

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



Choose precisely what you need from FCI's MezzSelect™ product portfolio.

In-line and array-configured connectors satisfy a wide range of low-to-high pin count and low-to-high speed applications in many electronics segments.

The MezzSelect™ Connector Family is supported by simple, powerful web-based design tools and other resources to help customers expedite connector design work and improve time-to-market.

[www.mezzselect.com](http://www.mezzselect.com)