

# Amphenol

COMMUNICATIONS SOLUTIONS

## FloatCombo™ Series

Nov. 2023



# FloatCombo™ series



Stacking height: 8~15mm



Stacking height: 18~30mm

Specification	B329/B324	B329/B322	B329/B344	B329/B326	B04R/B06P	B04R/B13P	B04R/B07P	B04R/B04P
Pitch	0.5mm							
Mating Height	8.0mm	10.0mm	13.0mm	15.0mm	20.0mm	21.0mm	25.0mm	30.0mm
Pin count available	60/100/140p (20 ~ 140)	40/60/80/100p (20 ~ 140)	100p (20 ~ 140)	60/80/100/120p (20 ~ 140p)	20/60/80/100/120p (20 ~ 120p)	100p (20 ~ 120p)	60/100/120p (20 ~ 120p)	60/80/100/120p (20 ~ 120p)
Dielectric withstanding voltage	Signal 250V, Power 600V							
Opera. Temp.	-55 to 125 °C							
Vol & Current	50V, Signal 0.5A/pin, Power 5A*4pin							
Insulation resistance	100MΩ Min.							
Durability	100cycles							
Compliance	USCAR-2 T3V2							
Contact resistance	Signal PIN<60 mΩ, Power PIN<20mΩ				Signal PIN<70 mΩ, Power PIN<20mΩ			
Floating Allowance	X,Y±0.6mm; Z±0.5mm				X/Y: ±0.80mm, Z±0.60mm			
Mating/Unmating Force	1.0N Max. per PIN / 0.03N Min. per PIN				0.4N Max. per PIN / 0.05N Min. per PIN			
Transmission Rate	10.0 Gbps				PCIe Gen4 16Gbps			
Configurations	Parallel, SMT				Parallel, SMT+PIP			
Picture								

# Floating BTB Connector

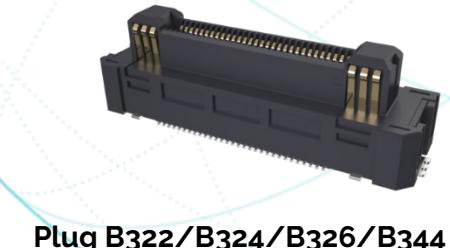
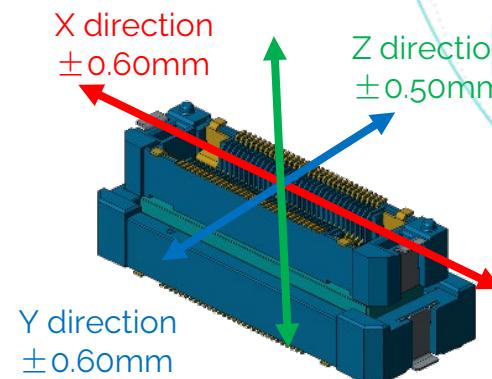
## FloatCombo™ Series Pitch 0.5mm/SH8~15mm

### ■ Product Specification

- Pitch (mm) : 0.50mm
- Pin Count : 20-140p
- Layout L (mm) : (N-1)\*0.5+15mm
- Layout W(mm) : 10.50mm
- Stacking Height(mm) : Available 8/10/13/15mm, range 8~15mm
- Floating range(mm) : X direction  $\pm 0.6$ mm  
Y direction  $\pm 0.6$ mm  
Z direction  $\pm 0.5$ mm
- Operating temperature : -55°C~125°C (Including T-Rise)
- Rating voltage : AC/DC 50V
- Rating current : 0.5A/pin
- Power current : 5A(Per power pin\*4)
- Contact resistance : 60mΩ
- Insulation Resistance : DC 250V/60s/500MΩ
- Dielectric withstanding voltage : Signal 250V, Power 600V
- Transfer speed (Data rate): **10Gbps**
- Mating Force(N) : 1.0 Max./pin
- Unmating Force(N) : 0.03 Min./pin
- Mating Cycles : 100 times
- USCAR-2 : T3/V2

### ■ Targeted Segments

- Automotive (Cockpit Domain controller, ADAS/AD Domain Controller, HPC),  
LED Display, Medical Equipment

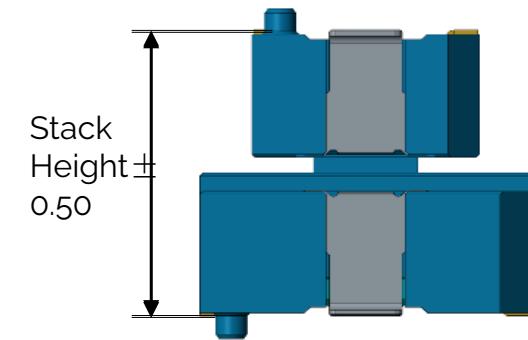


Plug B322/B324/B326/B344



Receptacle B329

Series	SH mm
B324/B329	8.0
B322/B329	10.0
B344/B329	13.0
B326/B329	15.0

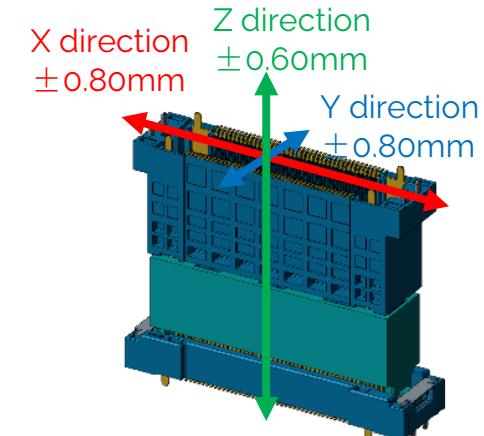


# Floating BTB Connector

## FloatCombo™ Series, Pitch 0.5mm / SH18~30mm

### ■ Product Specification

- Pitch (mm) : 0.50mm
- Pin Count : 20 – 120p
- Layout L (mm) : (N-1)\*0.5+15mm
- Layout W(mm) : 10.50mm
- Stacking Height(mm) : Available 20/21/25/30mm, range 18~30mm
- Floating range(mm) : X direction±0.8mm  
Y direction±0.8mm  
Z direction±0.6mm
- Operating temperature : -55°C~125°C (Including T-Rise)
- Rating voltage : AC/DC 50V
- Rating current : 0.5A/pin
- Power current : 5A(Per power pin\*4)
- Contact resistance : Signal PIN<70 mΩ, Power PIN<20mΩ
- Insulation Resistance : 100MΩ
- Dielectric withstanding voltage : Signal 250V, Power 600V
- Transfer speed (Data rate): **PCIe Gen 4 16Gbps**
- Impedance resistance : 85 Ω or 100Ω
- Mating Force(N) : 0.4N Max./pin
- Unmating Force(N) : 0.05N Min./pin
- Mating Cycles : 100 times
- USCAR-2 : T3/V2



**USCAR**  
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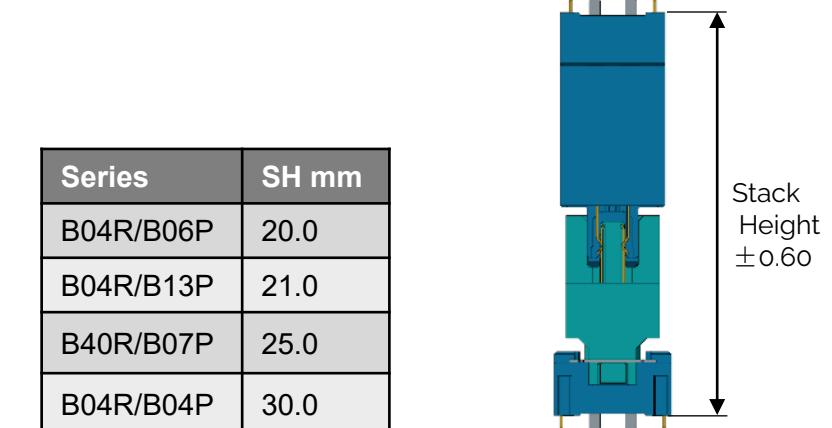
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Plug Bo4P/B06P



Receptacle Bo4R



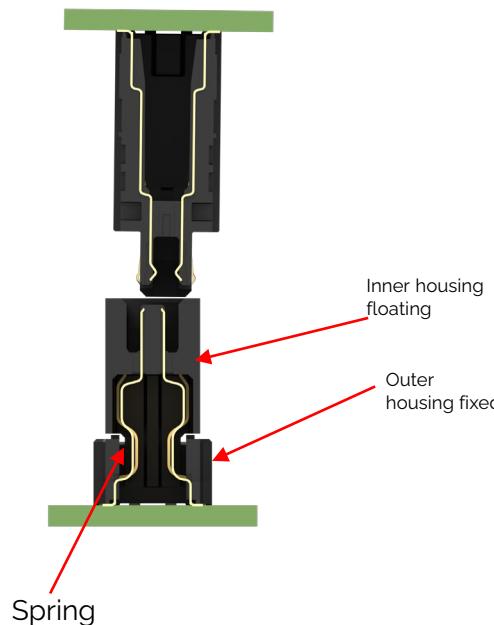
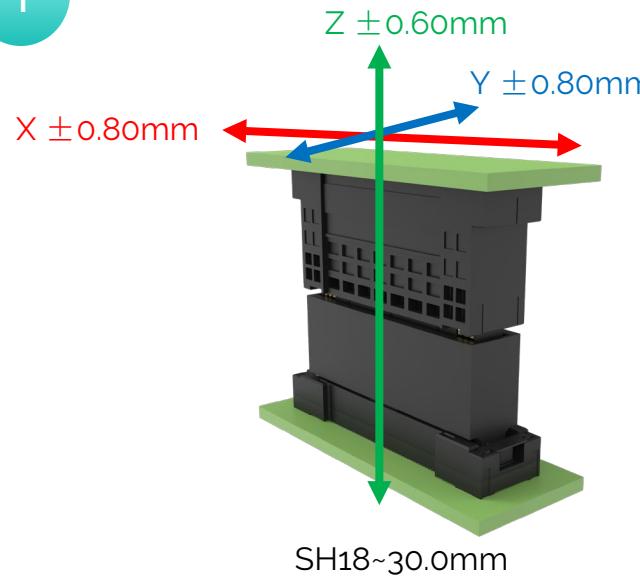
### ■ Targeted Segments

- Automotive (Cockpit Domain controller, ADAS/AD Domain Controller, HPC)

# Amphenol Floating BtB Solution

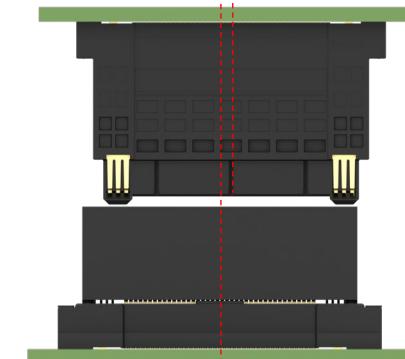
## Features and Advantages of FloatCombo™ Series

1

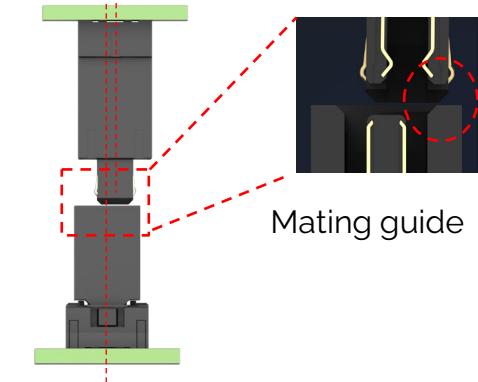


2

[X Direction]  
Misalignment  
1.2mm



[Y Direction]  
Misalignment  
0.85mm



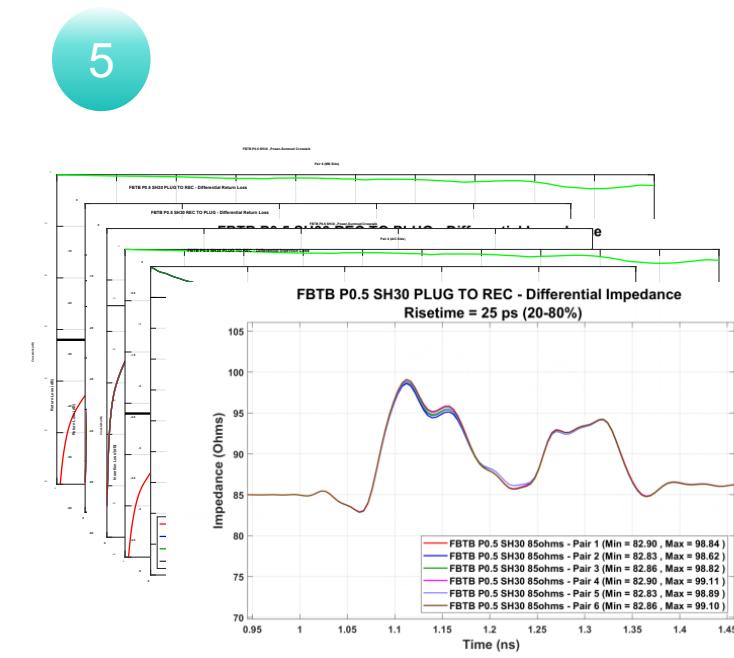
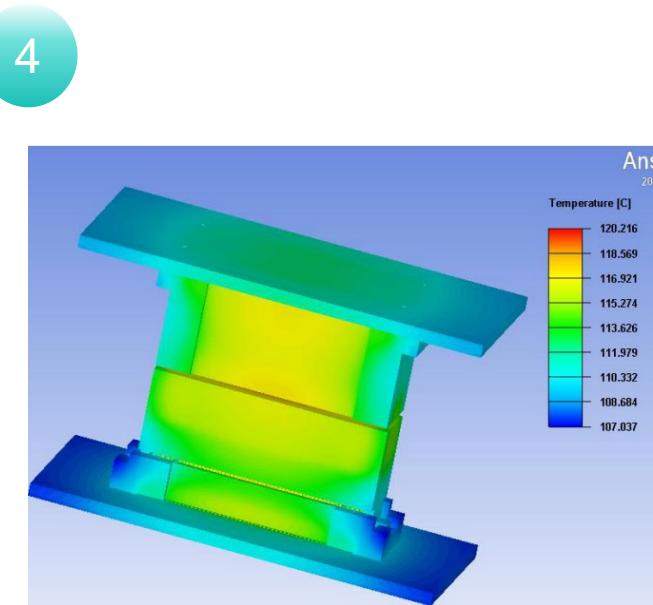
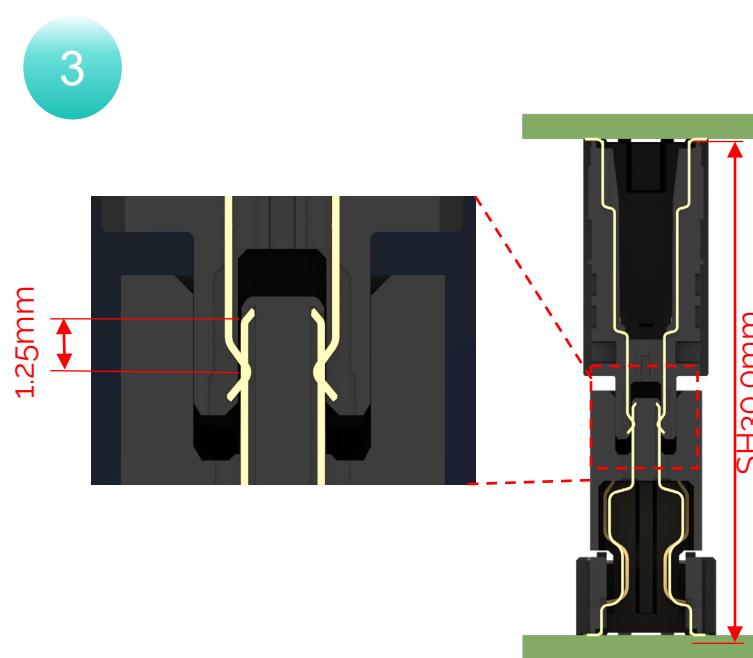
### High Floating Allowance:

- Floating features reduce stress generated during use, ensuring long-term reliability
- SH≤15mm: X/Y ±0.60mm & Z: ±0.50mm, SH18~30mm: X/Y ±0.80mm & Z: ±0.60mm

### Large size mating guide:

- Enables easier mating when center lines are not perfectly aligned with each other. Blind-mating is possible
- Supports automatic assembly, especially when multiple floating connectors are used on the same board
- SH≤15mm: X:±0.7mm & Y: ±0.85mm  
SH18~30mm: X:±1.2mm & Y: ±0.85mm

# Amphenol Floating BtB Solution Features and Advantages of FloatCombo™ Series



## Long wiping length:

- Long wiping length ensures reliable contact between receptacle and plug
- SH≤15mm: 1.28mm, SH18~30mm:1.25mm

## High Current transmission:

- Signal PIN can pass 0.5A/pin
- Power PIN can pass 5A/pin
- Suitable for products that need to supply high current separately and saving pins

## SI Simulation performance:

- Supports high-speed data rate up to **PCIe Gen4 (85ohm)**
- Meets general differential pair impedance resistance **1000ohm**
- Suitable for high data, high-speed transmission applications

# Target application/ Markets—Automotive

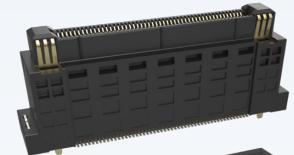
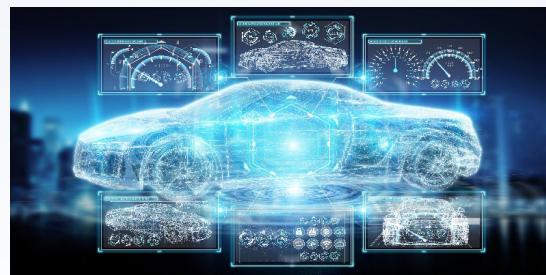
FloatCombo™ series is engineered to meet the immediate and future requirements of many automotive applications:

- ADAS/Autonomous driving(AD) sensor – LiDAR
- Head-up Display
- Cockpit/IVI(In-vehicle Infotainment ) Domain Controller
- ADAS/AD Domain Controller
- HPC/Super Controller (Central Supercomputer)

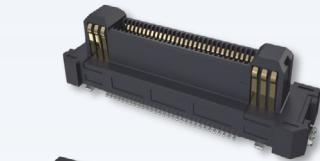
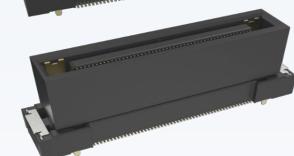
## Cockpit/IVI Domain Controller



## HPC



FloatCombo™ SH18~30mm



FloatCombo™ SH≤15mm

## FloatCombo™



Find more products and resources on  
the **FloatCombo™** webpage

## LiDAR



## HUD



# Target application/ Markets—Industrial

LED Monitor



LED Display



Automation- Robot Arm



FloatCombo™



Find more products and resources on  
the **FloatCombo™** webpage

# Thank you!

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