

## Applications



Smartphone



Wearables



Laptops & Tablets



Multi-RF



EMI Prevention



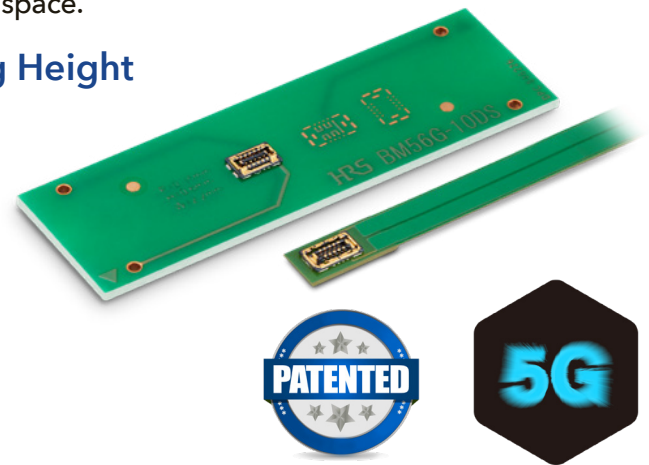
Full Armored

## Best In-Class Solution for Hybrid RF & Digital Signal Board-to-Board

The BM56 series from Hirose Electric is designed for compact devices requiring multi-RF compatibility. Showcasing a double shield for superior EMC performance and a compact design of 0.35mm pitch, 2.2mm width, and 0.6mm stacking height, these innovative connectors are perfect for smartphones, VR/AR headsets, and wearables that necessitate multiple RF signals in a confined space.

### 0.35mm Pitch / 2.2mm Depth / 0.6mm Stacking Height Multi-RF FPC-to-Board Connector

- Multi-RF capable FPC-to-Board connector, World's smallest width class Pitch: 0.35mm, Width: 2.2mm, Stacking height: 0.6mm
- Contact design ideal for both high speed digital transmission and RF signal
- Double shield enhanced EMI prevention
- Superior RF Signal Transmission
  - V.S.W.R. DC to 1GHz: 1.2 Max.
  - 1 to 6GHz: 1.3 Max.
  - 6 to 20GHz: 1.5 Max.
- Fully armored design prevents damage to housing

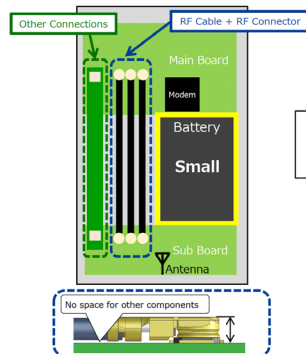


## Connection Image

Combining digital and RF signals into a single connector enables effective use of the board and contributes to increased battery capacity.

### Conventional Internal Connection

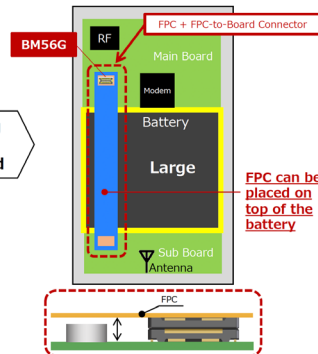
RF Connection: RF Cable + RF Connector  
Other Connections: FPC + Board-to-Board Connector



Integrating  
FPC and  
FPC-to-Board

### New Connection Proposal

Connect RF and Other Signals  
with FPC mounted BM56G



FPC can be  
placed on  
top of the  
battery

[CLICK HERE  
FOR MORE INFORMATION](#)

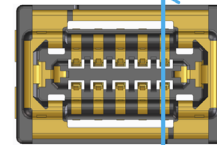
[CLICK HERE TO ORDER  
SAMPLE NUMBER:  
US-BM56SAMPLE-23](#)

## Noise Prevention

### Double Shield Enhances EMI Prevention

#### EMI Stimulation Result @10GHz

Cross Section  
(RF Signal)



Without Shield



Noise Emitted From Connector

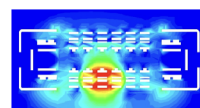
Double Shield



Connector Does Not Emit Noise

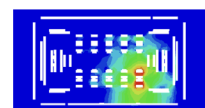
Top

Without Shield



Noise Emitted From Connector

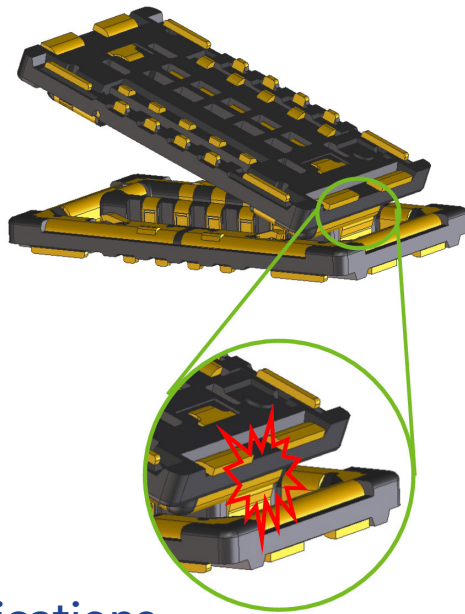
Double Shield



Connector Does Not Emit Noise

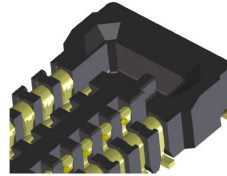
## Robust Design

### Fully Armored Design Prevents Housing Damage

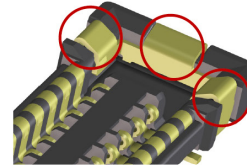


#### Conventional Product

No Metal Covering

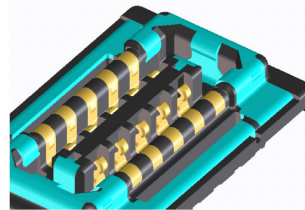


Only partially covered with metal.



Exposed Housing

<BM56G>



Housing is Covered by Metal

## Specifications

### MATERIAL AND FINISH

Component	Material	Finish, Remarks
Housing	LCP*	UL94V-0, Black
Contact	Copper Alloy	Gold Plated (Nickel Underplated)
Shield	Copper Alloy	Gold Plated (Nickel Underplated)

### PERFORMANCE CHARACTERISTICS

Rated Current	1.0A
Rated Voltage	30V AC/DC
Operating Temperature	-55 to +85°C (Includes the temperature rise due to current flow.)
Contact Resistance	100mΩ (Measured at 20mV AC, 1kHz, 1mA)
Withstanding Voltage	150V AC for 1 min.
Insulation Resistance	100MΩ Min. (100V DC)
Mating Durability	10 times
V.S.W.R.	DC to 1GHz : 1.2 Max. 1 to 6GHz : 1.3 Max. 6 to 20GHz : 1.5 Max.

- RoHS Compliant

\*This product satisfies halogen free requirements defined as 900ppm maximum chlorine, 900ppm maximum bromine, and 1500ppm maximum total of chlorine and bromine.

- Variation: 10pos. (Contact HRS for other pin counts.)