

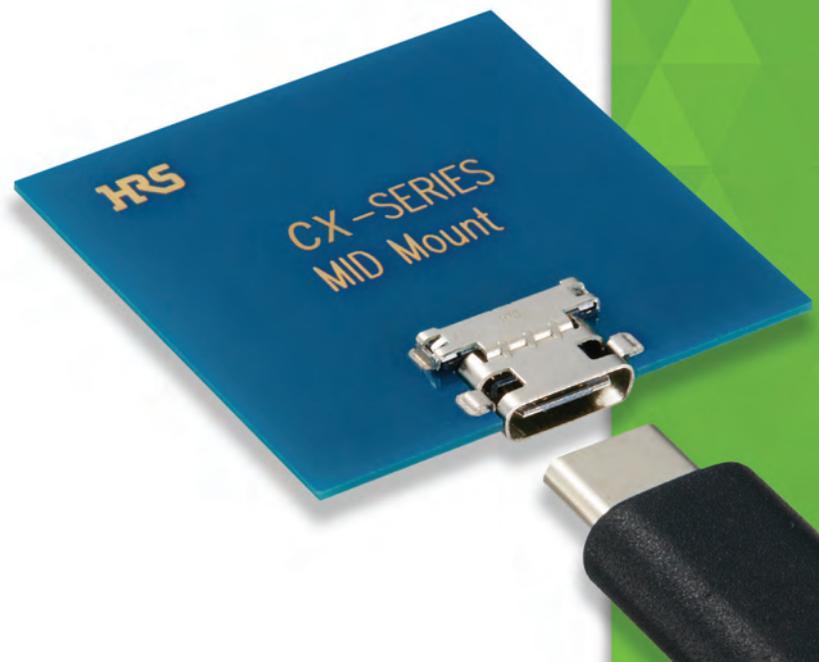


# Mobile Communication Connectors

Advanced Hirose technology  
for next generation mobile  
communication devices

**HRS** HIROSE  
ELECTRIC  
U.S.A.

CONNECTING THE FUTURE



# A WORLD LEADER IN INTERCONNECT TECHNOLOGY

Hirose provides innovative, cutting-edge solutions for your interconnect requirements. We specialize in the design, development & manufacturing of high-performance interconnect solutions supporting the automotive, consumer, medical, and industrial markets. With over 80 years experience, Hirose has established itself as a growing technology leader.

Positioned on the forefront of interconnect technology, Hirose works closely with its customers to develop innovations in miniaturization, high speed data transmission, signal integrity and robust mechanical design.

Hirose is a growing \$1.2 billion company, with approximately 4,800 employees worldwide. Top-tier engineers design high-quality, precision connectors. Customer support is provided through all stages of development.

## HIROSE MOBILE COMMUNICATION

Hirose is a key international supplier in the consumer electronics industry manufacturing rugged, reliable connectors to meet the needs of Mobile Communication devices. Our world-class engineering capabilities combined with cost-effective operations enables us to provide our customers with high-value automotive interconnect solutions and services.

By partnering with customers early in the design stage, we provide optimum products, expertise & world-class solutions:

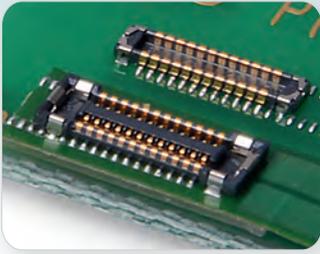
- ▶ Advanced Products
- ▶ High Performance
- ▶ Quality Management – continuous monitoring and evaluations within our manufacturing process



## APPLICATIONS

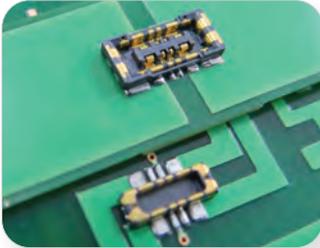
Your products demand quality, and Hirose connectors provide the manufacturing precision, durability, and design intelligence that allows you to increase efficiency during installation, decrease costs, and improve your overall operations.

"Small" is the name of the game in consumer electronics. Based on our advanced, micro engineering technology, Hirose offers the best in compact, low-profile and high-speed signal connectors that are optimized solutions for the next generation of mobile communications devices.



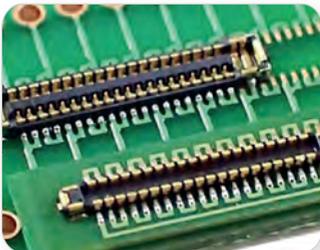
## BM23 Series Board-to Board Connectors

- Space Savings: 0.35mm pitch, 1.98mm depth
  - "FR" in 0.6mm & 0.8mm Stacking heights
  - "PF" in 0.8mm Stacking Height
- Robust design with metal solder retention tabs
- Large vacuum pick & place area
- Clear tactile click
- Highly reliable 2-point contact design generating high retention force
- Increased self-alignment range with metal guide
- Supports USB 3.1 gen.2 (10Gbps) transmission
- Solder wicking prevention, contact protection against dust



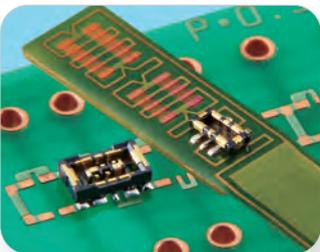
## BM25 Series Board-to Board Connectors

- Low-profile design with the capability of high current power supply, suitable to connecting battery for a mobile device
- Rated current: 9A for power contact, 1A for signal contact
- Stacking height: 0.7mm, Depth: 2.6mm
- Minimized contact resistance to facilitate power saving
- Multipoint contact with clipping contacts for high reliability
- Original metal guide structure for high robustness
- Wide self alignment range to realize smooth mating operation
- Integrally molded header and receptacle to prevent solder wicking



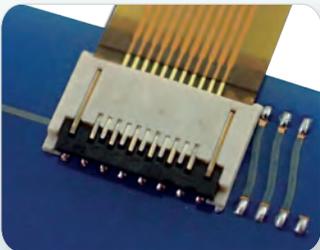
## BM28 Series Board-to Board Connectors

- 0.35mm pitch, 0.6mm height
- 5A rated current
- Tactile "click" increases mating integrity
- Supports USB3.1 Gen.2 (10Gbps transmission)
- 2-point contact system on both power and signal contacts



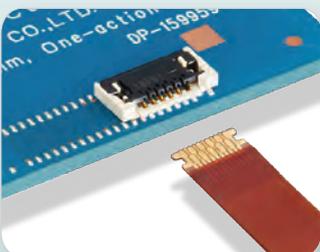
## BM29 Series Board-to Board Connectors

- 0.35mm pitch, 1.5mm depth, 0.6mm stacking height
- Rated current
  - 3A power contact
  - 0.3A signal contact
- 30VAC/DC rated voltage
- Contact resistance (measured at 20mVAC, 1kHz, 1mA)
  - 30mΩ power contact
  - 100mΩ signal contact
- 40 to +85°C operating temperature range
- Unique metal guides prevent housing damage due to offset mating
- Secure mating with clear tactile click



## FH64 Series FPC/FFC Connectors

- Super low profile, top contact
- Space-saving design
- Smooth FPC insertion
- High FPC retention force
- Detects unmated FPC via proprietary mechanism



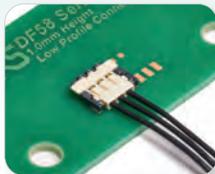
## FH72 Series FPC/FFC Connectors

- Space-saving design
- Automatic one action lock design
- High FPC retention force
- Easy FPC insertion
- Compatible with 0.2mm thickness FPC
- Detect FPC Mis-Mating with Original Structure
- Environmental

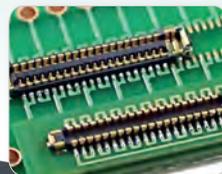
# SMART PHONE/TABLE PC

## LCD/Touch Panel/Main-Sub Board/Camera

- FH58
- FH64MA
- FH35C

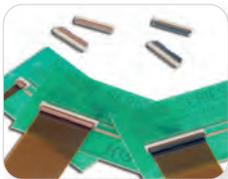


- BM23
- BM28

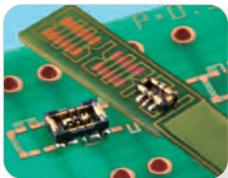


## Speaker/Microphone/ Side Key/LED Backlight/ Fingerprint Sensor

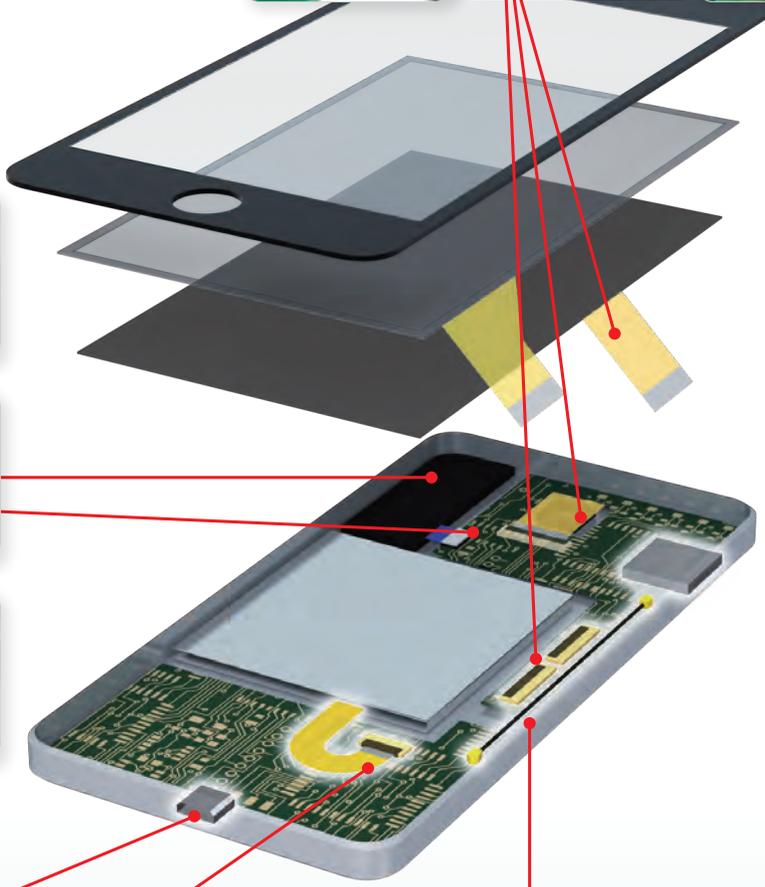
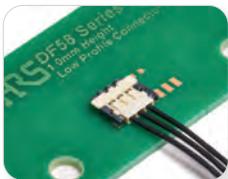
- FH53
- FH19



- BM23
- BM29



- DF57H
- DF52
- DF58



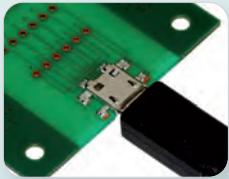
## Antenna

- X.FL
- W.FL2
- U.FL



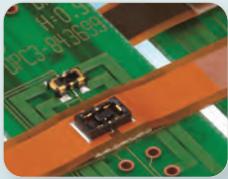
## I/O

- ZX360
- ZX
- CX



## Battery

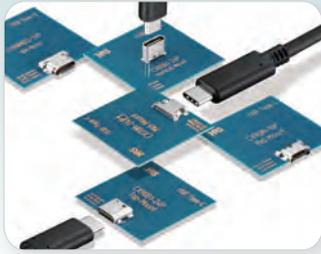
- BM22
- BM25
- BM29



## RF Switch

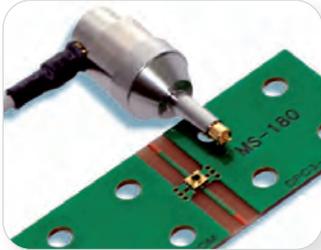
- MS-190
- MS-180





## Type-C CX Series IO Connectors

- ▶ Reversible interface for easy mating
- ▶ Conforms to the USB type-C standard
- ▶ Supports 10Gbps Transmission (USB 3.1 Gen.2)
- ▶ Clear tactile click (Excellent locking)
- ▶ Design with superior mechanical strength
- ▶ Plug: Slim overmold design
- ▶ Receptacle: Top-mount and mid-mount types are available. Both types offer a Hybrid PCB termination featuring easy solder reworking. The Double-row SMT type is excellent for high-speed transmission.



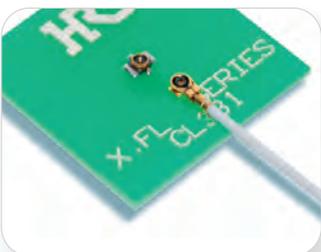
## MS-180 Series RF Connectors

- ▶ Insertion loss in the normally closed position is: 0.1 dB max (DC to 3.0 GHz)  
0.2 dB max (3.0 GHz to 6.0 GHz) 0.3 db max (6.0 GHz to 11.0 GHz)
- ▶ Small size - 1.9 mm x 2.0 mm 93.8 mm<sup>2</sup>)
- ▶ Various plugs are available ranging in size
- ▶ Durability is 100 cycles



## MS-190 Series RF Connectors

- ▶ **WORLD'S SMALLEST SIZE**  
Outer Dimensions: 1.45mm x 1.45mm x 0.68mm  
Occupied mounting area: 1.6mm x 1.65mm
- ▶ High Frequency: DC to 11GHz
- ▶ Low insertion loss (Normally closed)  
0.10dB Max. [DC to 3.0GHz]  
0.20dB Max. [3.0GHz-6.0GHz]  
0.30dB Max. [6.0GHz-11.0GHz]
- ▶ Design to prevent dust intrusion



## X.FL(V) Series RF Connectors

- ▶ A Low mated height of 0.94 or 1.2 mm (maximum of 1.0 or 1.3 mm)
- ▶ Minimal mounting area required
- ▶ Ultra lightweight
- ▶ High frequency transmission
- ▶ Automatic board placement
- ▶ The use of ultra - fine coaxial(fluorinated resin insulated) cables
- ▶ Simple connector mating / unmating



## DF57H Series Wire-to Board Connectors

- ▶ Reinforced lock structure with swing lock
- ▶ Header lock improves plug retention
- ▶ Highly reliable contact structure
- ▶ Insert guide key prevents misalignment
- ▶ Solder wicking prevention
- ▶ Case disengagement prevention
- ▶ Cost effective



## DF58 Series Wire-to Board Connectors

- ▶ Small-sized, low profile connector
- ▶ Leveling of the vertical mating cable
- ▶ Proprietary ViSe Lock design
- ▶ High current capability up the maximum of 3.0A (2pos. : When 28AWG is used)
- ▶ Highly reliable contact design
- ▶ Halogen-free

# MOBILE COMMUNICATION INNOVATION



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RoHS - We are committed to the development and manufacture of world-class products without sacrificing the health of people & the environment. Hirose manufactures products that are compliant with RoHS directives.



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