

BF4M Series

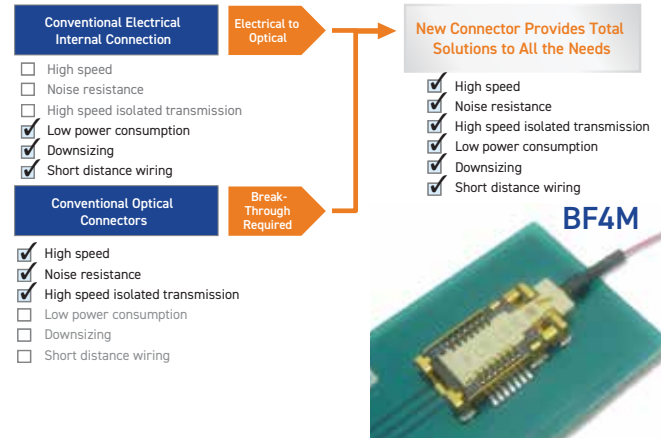
Optical Active Connector with Built-in E/O O/E devices
Supporting 0.05 to 6.25 Gbps

Features:

- ▶ Access-friendly optical interconnection with built-in E/O-O/E (Electric/Optic - Optic/Electric) converter
- ▶ Long distance transmission with excellent EMI resistance (100M)
- ▶ Space saving design
- ▶ Low power consumption (less than 120nW)
- ▶ Flexible optical cable

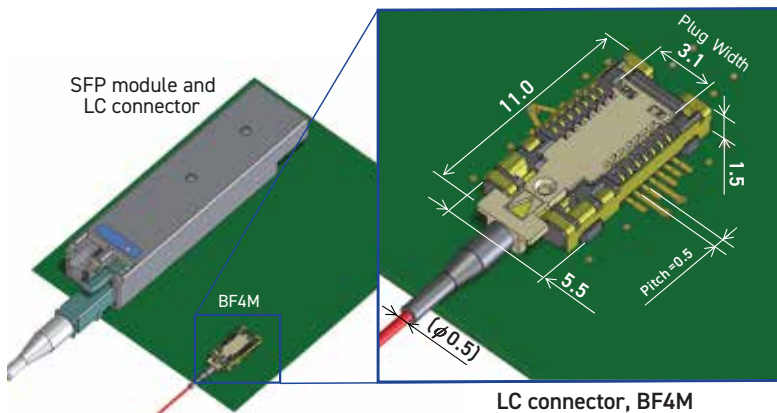
BF4M has Technology Break-Through

BF4M, as innovative internal wiring system, contributes to the advancement of equipment design.



Space Saving, Small Size

Significantly smaller compared to conventional system with SFP module!



BF4M DRAMATICALLY SAVES REQUIRED MOUNTING SPACE IN YOUR DEVICES.

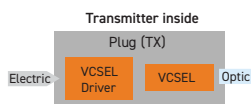
New optical transmission system optimized for internal connection

Active Optical Connector: BF4M

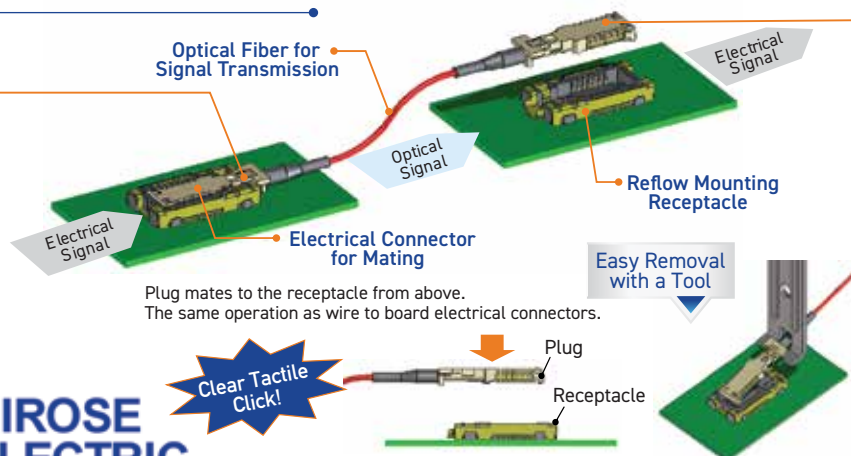
BUILT-IN E/O-O/E

Transmitter (TX)

2 chips are enclosed and convert electrical signal to optical



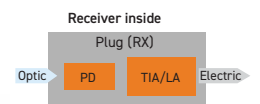
Optical Fiber for Signal Transmission



Plug mates to the receptacle from above. The same operation as wire to board electrical connectors.

Receiver (RX)

2 chips are enclosed and convert optical signal to electrical



Part No.

Cable Assembly Plug
Outer dia. ϕ 0.5, Red: BF4MC-6GTXXR-B1-L
Outer dia. ϕ 0.5, Blue: BF4MC-6GTXXR-B2-L
(L= Cable Length)
Receptacle
for TX plug: BF4-TX-14DS-0.5V
for RX plug: BF4-RX-14DS-0.5V

HRS HIROSE ELECTRIC CO., LTD.

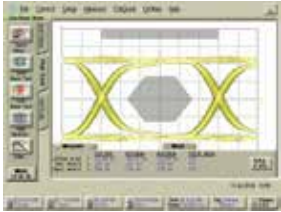
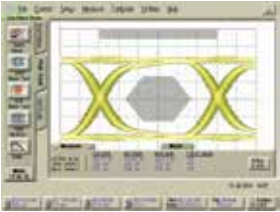
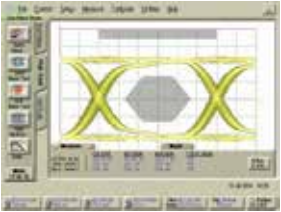
OPTICAL TRANSMISSION IS AVAILABLE JUST LIKE ELECTRICAL TRANSMISSION!!

High Speed & Long Distance Transmission

EYE DIAGRAM

Measurement Conditions:

Data rate: 6.25 Gbps
Pattern length: PRBS7
Input IF: SLVS-200
Mask: Similar figure with
Gbit Ethernet mask

| Fiber length | 2 meters | 20 meters | 100 meters |
|--------------|---|---|--|
| Eye diagram |  |  |  |
| Jitter (p-p) | 15 ps | 20 ps | 23 ps |

Part Number System

Plug Harness

BF4M C-6G TX RX - B1 - 75MM

- 1 Series Name : BF4M
- 2 Identification of Bit rate C-6G:0.05 to 6.25 Gbps
- 3 4 Type of plug that attaches to both ends of the harness
TX:BF4 Transmitter plug · RX:BF4 Receiver plug
- 5 Type of fiber cable
- 6 B1:diameter Ø0.5, Red B2:diameter Ø0.5, Blue
Identification of the length of the fiber cable
* Cable length less than 1m→The end of the product name.**MM(Millimeter)
*Cable length 1m or more→The end of the product name.**M(Meter)

Receptacle

BF4 - TX - 14 DS - 0.5 V (01)

- 1 Series Name : BF4
- 2 Identification of the Transmitter & Receiver
TX : Transmitter · RX : Receiver
- 3 Number of Electrical terminal pin 14 pin
- 4 Identification of Socket shape
Socket(S) of Double line assignment pins(D)
- 5 Identification of the electric terminal pitch 0.5mm
- 6 Identification of the mating method
V : Vertical mated to the mounting surface
- 7 Packing specifications
None : 500 pcs/reel
(01) : 1000 pcs/reel
(02) : 2000 pcs/reel
(10) : 10 pcs/pack
(11) : 100 pcs/reel

Specifications

MATERIAL AND FINISH

| Component | | Material | Finish, Remarks |
|------------------------|----------------------|-----------------|--|
| Receptacle (TX and RX) | Housing | LCP | UL94V-0, Black |
| | Contact | Phosphor bronze | Gold plated |
| | Shell | Phosphor bronze | Gold plated |
| Plug (TX and RX) | Housing | LCP | UL94V-0, White (Black for 3 Gbps type) |
| | Contact | Phosphor bronze | Gold plated |
| | Ground Plate | Phosphor bronze | Gold plated |
| | VCSEL, PD | GaAs | - |
| | VCSEL driver, TIA/LA | Silicon | - |
| | Shrink tube | Polyolefin | Black |

PERFORMANCE CHARACTERISTICS

| Product Type | | | BF4MC-6GTXRX | | BF4MB-3GTXRX | |
|---|---------------------|---------------------|---|--|------------------|--|
| Operating temperature range | | | -10°C to +60°C | | | |
| Data rate | | | 0.05Gbps to 6.25 Gbps | | 0.5Gbps to 3Gbps | |
| Encoding system | | | 8B10B | | | |
| Power supply voltage (Selectable) | Transmitter (TX) | | 2.5 V or 3.3 V | | | |
| | Receiver (RX) | Single power supply | 3.3 V | | | |
| | | Dual power supply | 1.5 V / 2.5 V or 1.5 V / 3.3 V | | 1.2 V and 2.5 V | |
| Electricity consumption (incl. TX & RX) | Single power supply | | 120 mW Max. | | 40 mW Max. | |
| | Dual power supply | | 80 mW Max. | | 15 mW Max. | |
| Electrical interface | | | SLVS*-200 (LVDS Tolerant) *Scalable Low Voltage Signaling | | | |



For additional information please go to
www.hirose.com/product/en/products/BF4M/
Specifications herein are subject to change without notice.
Contact Hirose for latest specifications, drawings or availabilities.

STAY CONNECTED

