

# Why MPO connector? <sup>(1)</sup>

## Reasons in the feature of infrastructure environment

- 1) The needs of the growing information transmission
- 2) Processing in the router is no longer keep up, then traffic would be stuck.

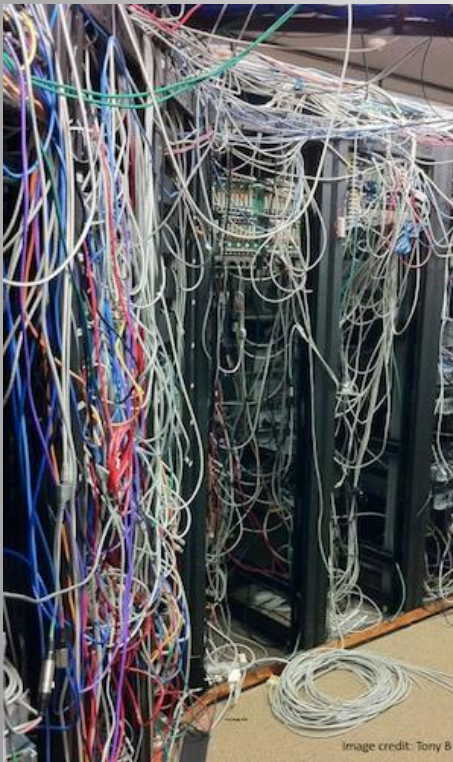


- 3) In the communication line, there is a transmission wavelength band shortage of relay amplifiers and optical fiber due to the number of wavelengths increase.
- 4) A problem that the entire network equipment scale and power consumption becomes enormous.

# Why MPO connector? (2)

## Reason: In case of Data Center

Using single core optical fiber cables only



## IMAGE

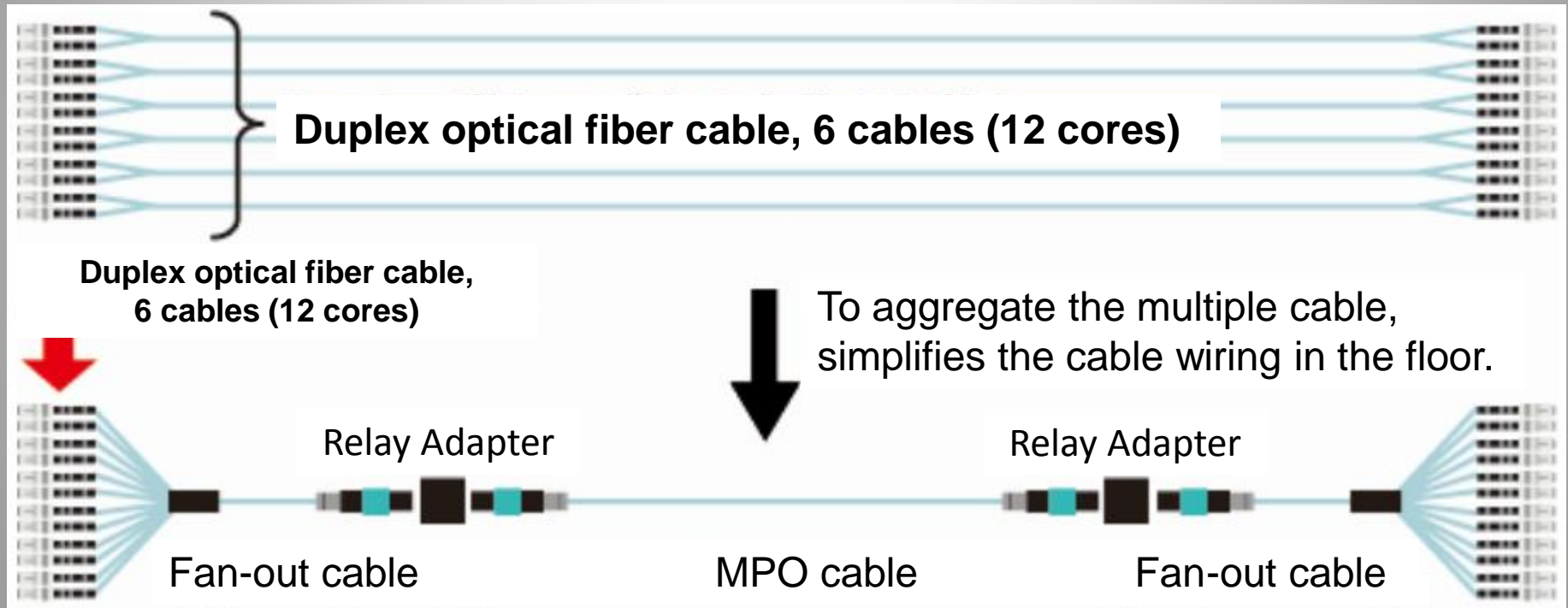
Change to fiber-optic patch cord with MPO connector



# Why MPO connector? (3)

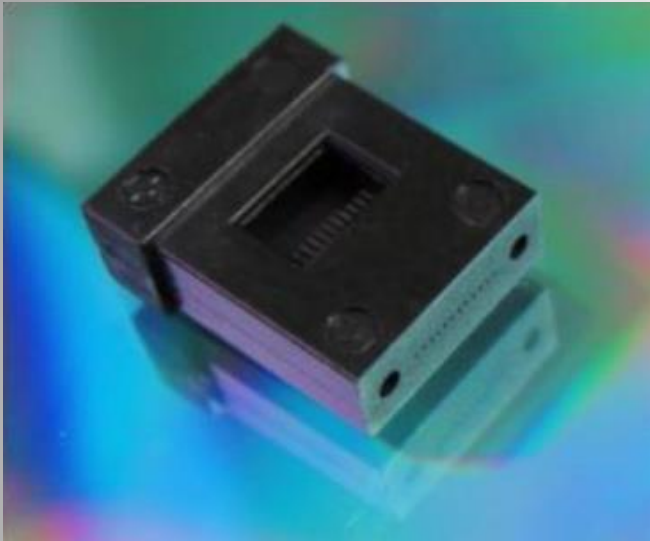
Multi-mode optical fiber to 10GB internal cable contains 12 cores.  
To the end, equivalent to the duplex type, 6 optical cables.

Trunk part of the MPO connector cables can be aggregated into one.  
In this case, use the fan-out cable at both ends.

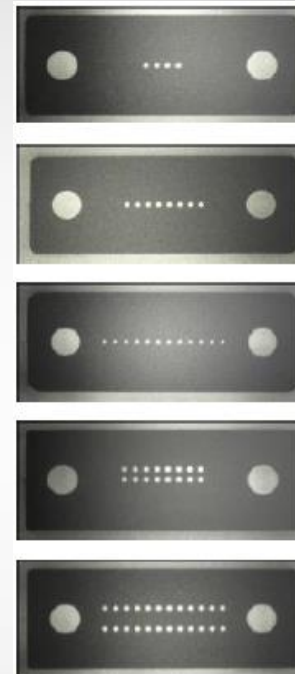


# MT connector

## Mechanically Transferable Splicing Connector



- Manufacturer: Hakusan MFG.
- Sales by: Fukushima Futaba Electric
- Distributed by: xxxxxxxx



**4MT Ferrules**

**8MT Ferrules**

**12MT Ferrules**

**16MT Ferrules**

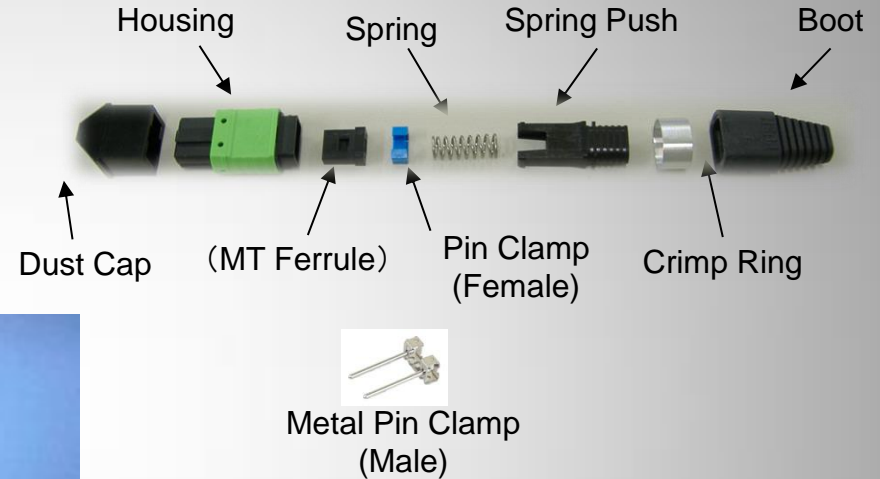
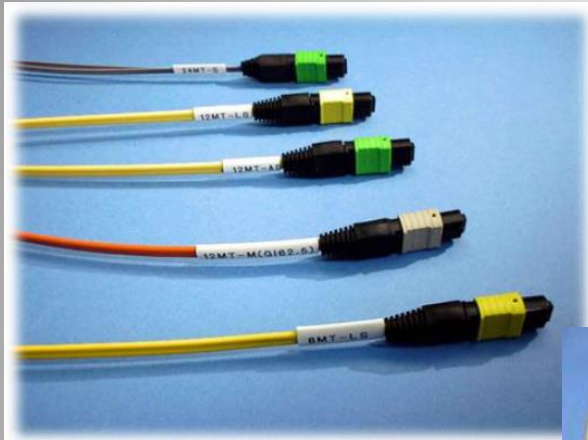
**24MT Ferrules**

| Propagation mode | Grade          | Polishing             | Number of cores     | Insertion loss    |
|------------------|----------------|-----------------------|---------------------|-------------------|
| Multi-mode       | M (Standard)   | Right angle PC        | 2, 4, 8, 12, 24, 48 | MAX $\leq$ 0.50dB |
|                  | SLM (Low loss) | Right angle PC        | 12, 24              | MAX $\leq$ 0.35dB |
| Single-mode      | S (Standard)   | Right angle           | 4, 8                | MAX $\leq$ 0.70dB |
|                  |                | 8 degrees diagonal PC | 2, 4, 8, 12, 24     | MAX $\leq$ 0.70dB |
|                  | SLS (Low loss) | 8 degrees diagonal PC | 8, 12               | MAX $\leq$ 0.35dB |



# MPO connector

## MPO Connector (Multifiber Push-On Connector)



### Components of MPO (MPO kit)

| Type of connector     | MPO                                  |                      |                     |                     |
|-----------------------|--------------------------------------|----------------------|---------------------|---------------------|
| Type of optical fiber | Low loss Single-mode                 | Standard Single-mode | Low loss Multi-mode | Standard Multi-mode |
| Insertion loss (dB)   | ≤ 0.35                               | ≤ 0.70               | ≤ 0.35              | ≤ 0.50              |
| Type of polishing     | ≥ 55                                 |                      | -                   |                     |
| Number of cores       | 8 degrees diagonal or right angle PC |                      |                     |                     |
| Type of cable         | Bare ribbon or jacketed cable        |                      |                     |                     |
| Standard              | JIS C5982(F13), IEC 61754-7          |                      |                     |                     |
| Color of housing      | Yellow                               | Green                | Beige               |                     |

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# Loss characteristics of MPO connector

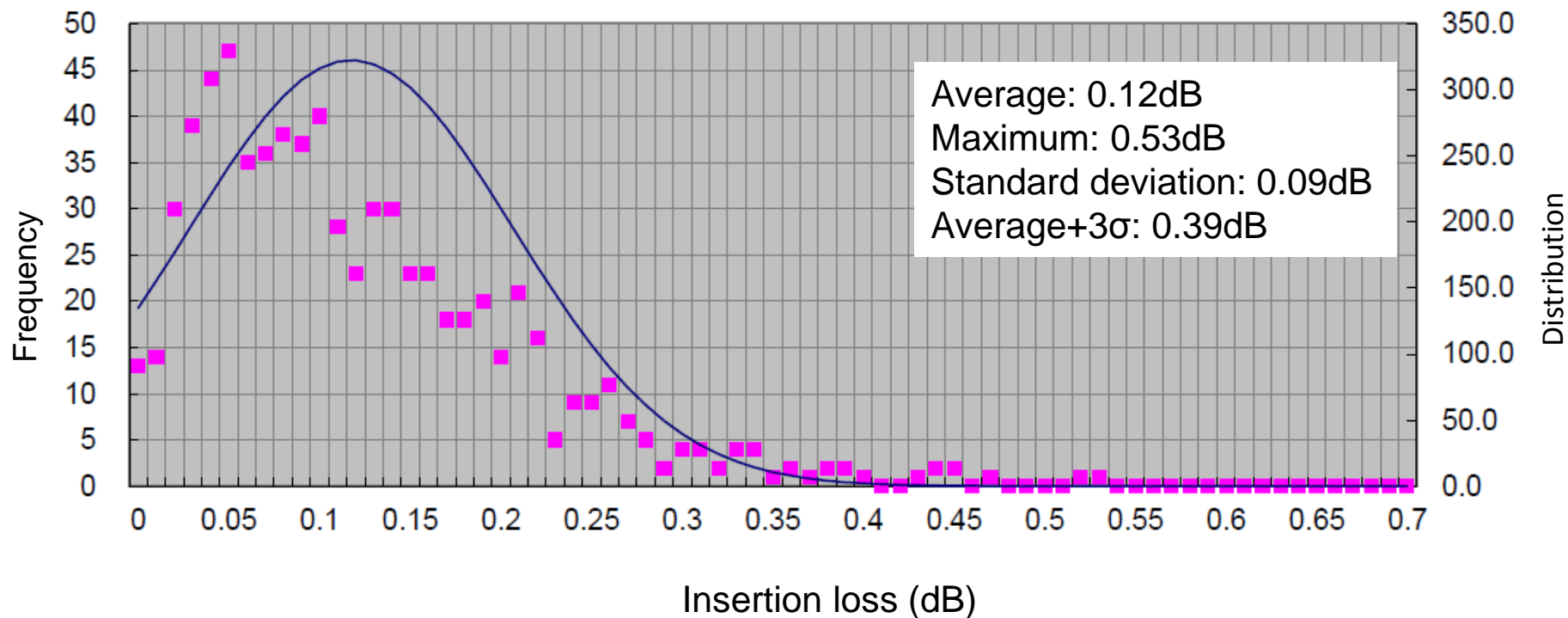
Ferrule: 12MT-PA-S

Measurement wavelength: 1310nm

Measuring method: Random connection

12MPO-S

N=720 Fiber



# Loss characteristics of MPO connector

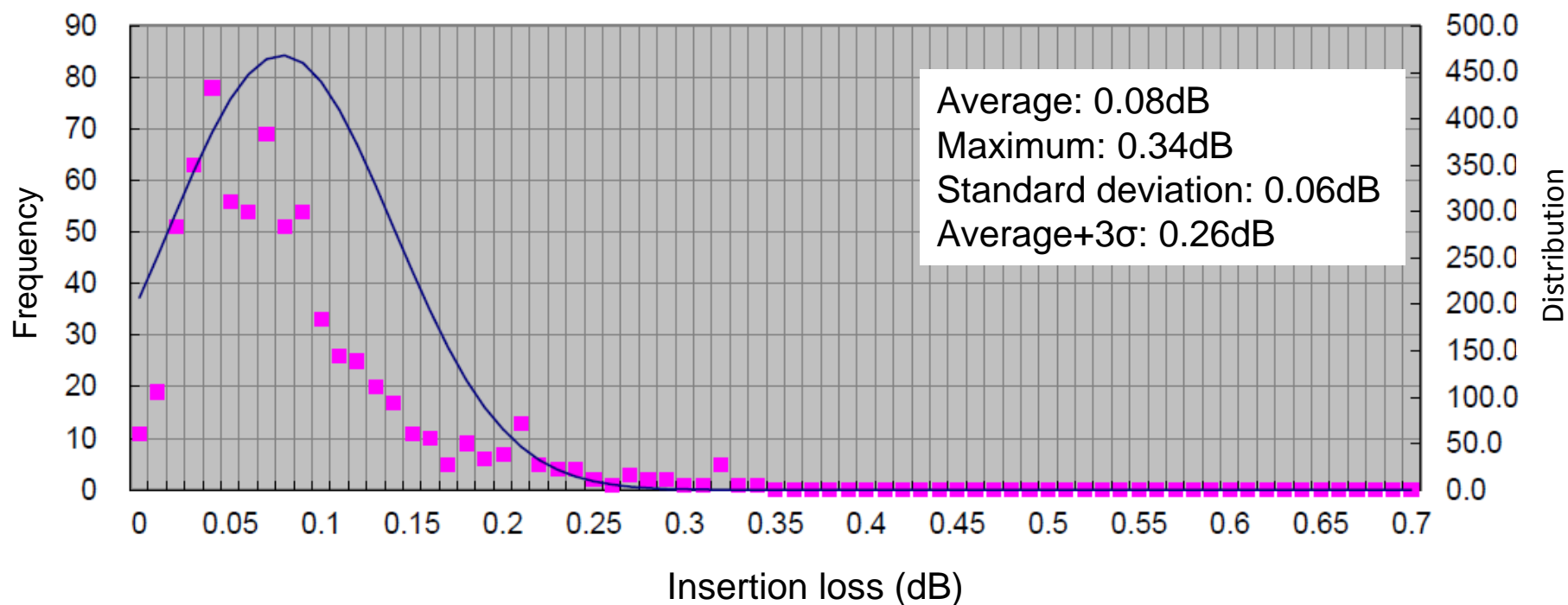
Ferrule: 12MT-PA-SLS

Measurement wavelength: 1310nm

Measuring method: Random connection

12MPO-SLS

N=720 Fiber



# Loss characteristics of MPO connector

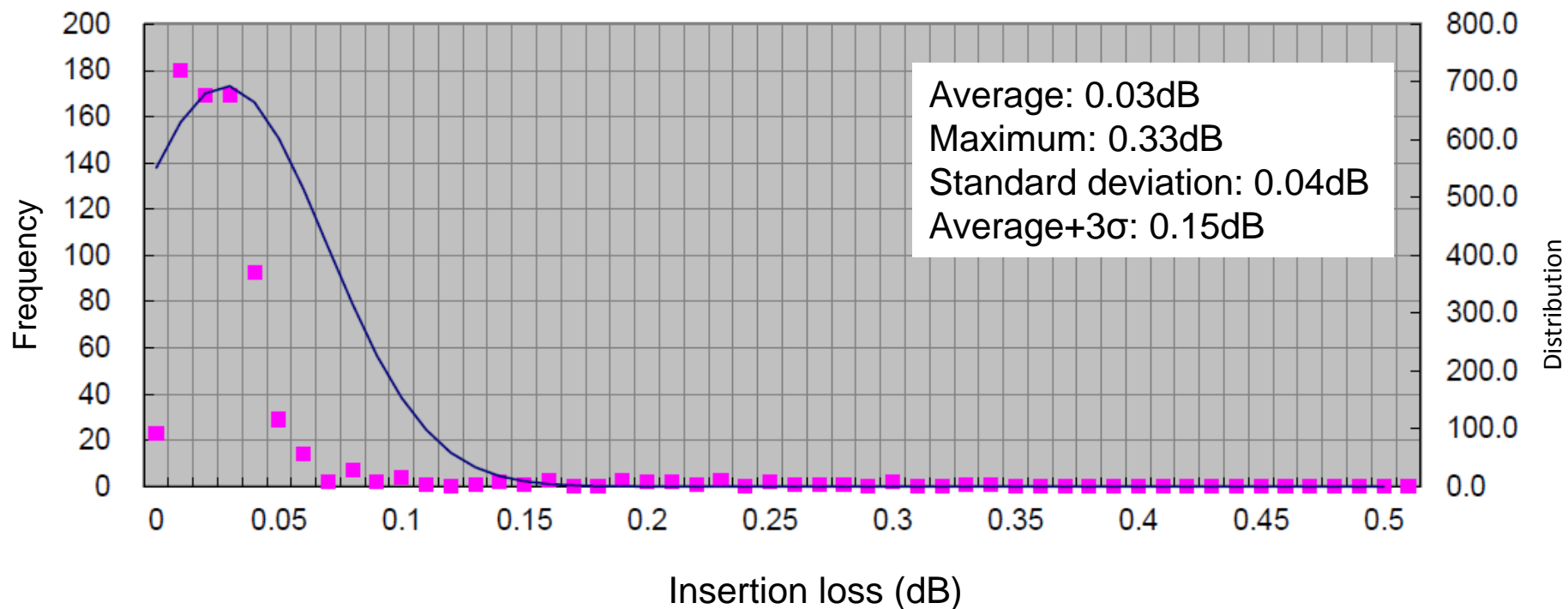
Ferrule: 12MT-PF-M

Measurement wavelength: 850nm

Measuring method: Random connection

12MPO-M

N=720 Fiber





# Loss characteristics of MPO connector

Ferrule: 12MT-PF-SLM

Measurement wavelength: 850nm

Measuring method: Random connection

## 12MPO-SLM

N=720 Fiber

