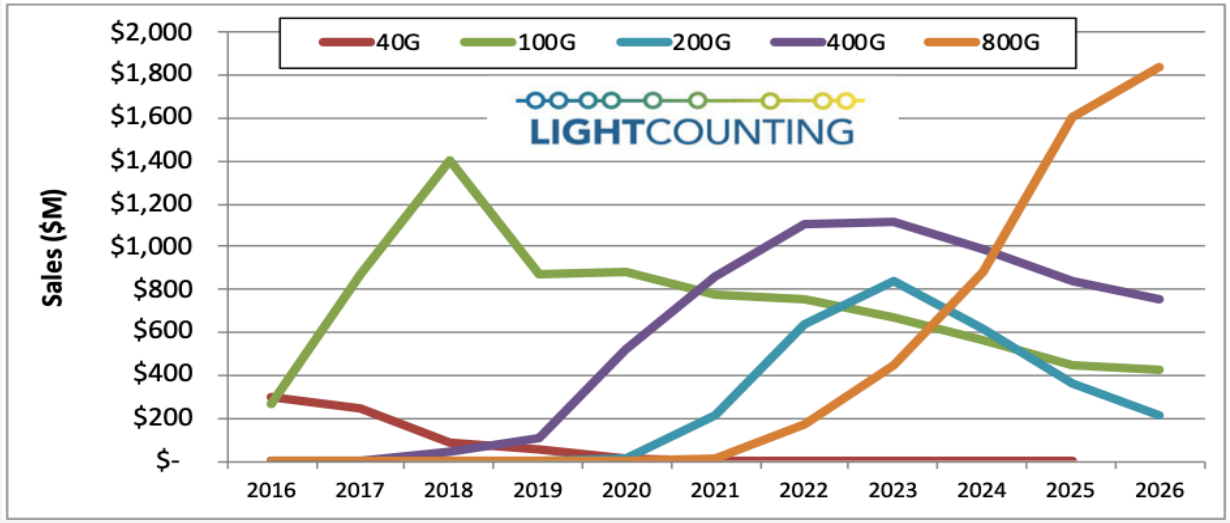
Background

According to the forecast of data center bandwidth demand, 800G Ethernet Transceivers will Eclipse Sales of Lower Speed Modules by 2025

Figure: Sales of Ethernet Transceivers to the Top 5 Cloud Companies



Several factors contributed to the increased forecast for the sale of optics to Cloud companies:

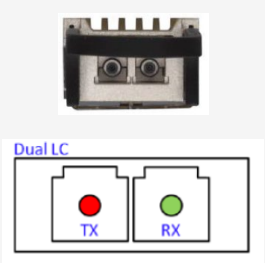
- *Increased prospects for growth in data traffic driven by AI applications, based on the latest data shared by Google at OFC 2021.*
- *Progress made by suppliers of 800G Ethernet transceivers and components supporting these modules.*
- *Higher than expected demand for bandwidth in datacenter clusters, relying on DWDM optics.*

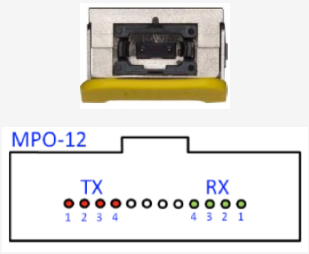
Source：LIGHTCOUNTING 2021

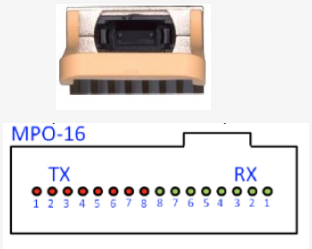
Technology types of 800G Transceivers

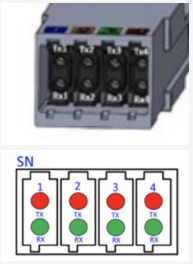
Interface	Link Distance	Optical Technology	Optical Connector
800GBase-ZR	100KM	16-QAM	LC
800GBase-ZR-Lite	1-10KM	16-QAM	LC
800GBase-FR4	1-2KM	200G PAM4	LC
800GBase-DR4	1-2KM	200G PAM4	Quad SN/MDC
800GBase-FR8/LR8	2KM/10KM	100G-PAM4	LC
800GBase-2FR4/2LR4	2KM/10KM	100G-PAM4	Dual LC
800GBase-DR8	2KM/10KM	100G-PAM4	MPO
800GBase-SR8	50M	100G-PAM4	16F MPO

The Optical Interface as below





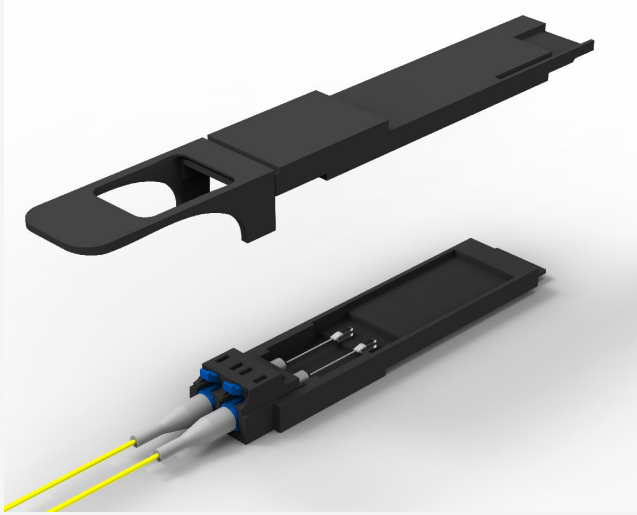


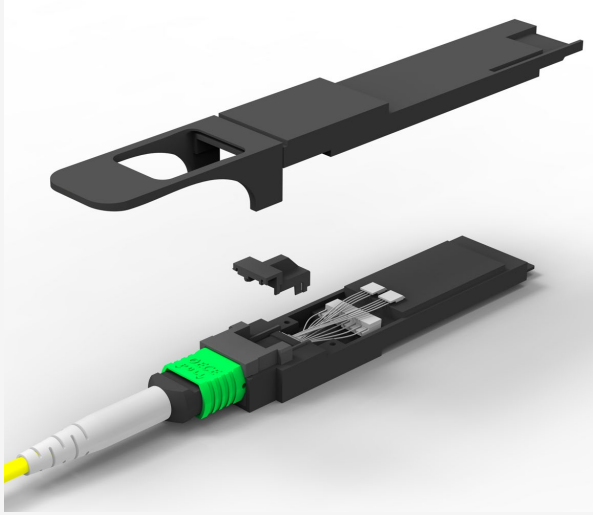


Fiber Connection in Optical Transceiver

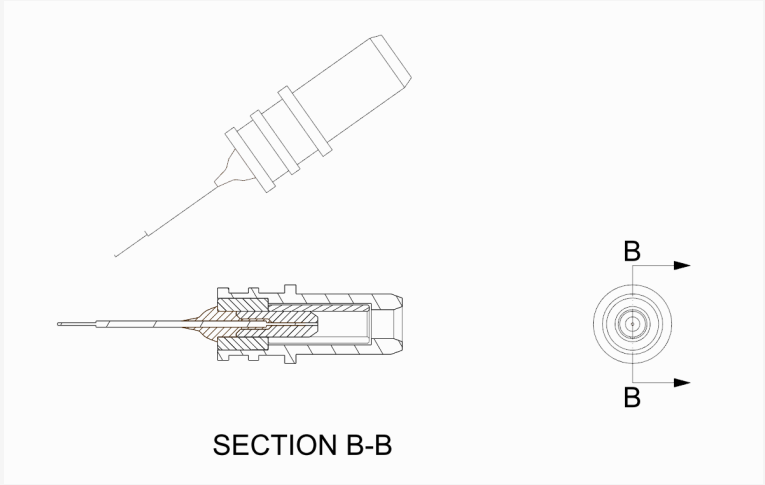
Over the past several years OECE has provided the transceiver customers with highly reliable fiber-optic connectivity components . With the evolution of the 800G high speed transceiver, OECE will continue to improve its quality and production capacity to meet customer needs

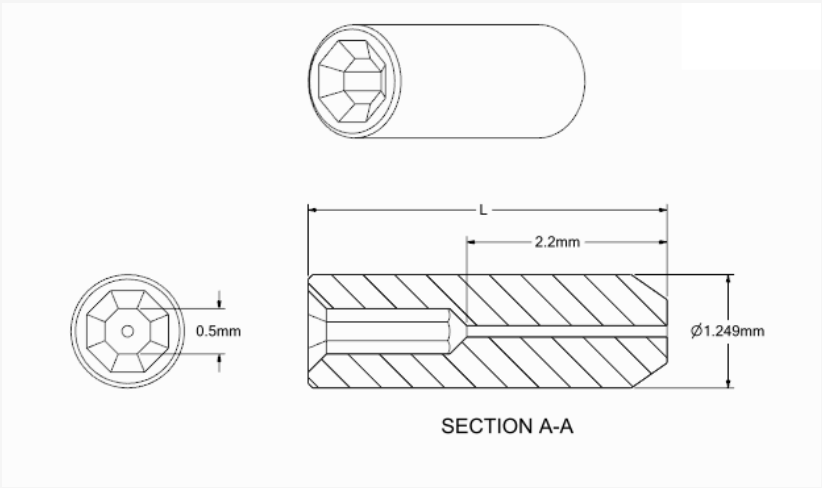
- *At the external optical interface is focused on MT Connectors and Receptacles with structure optimized stub patented.*
- *At the inner optical transmission is focused on the optimized structure Fiber Arrays with patent for single-mode application, Jumper and Mini MT parts for multimode application, Polarization Maintained Fiber Arrays for PM fiber application*

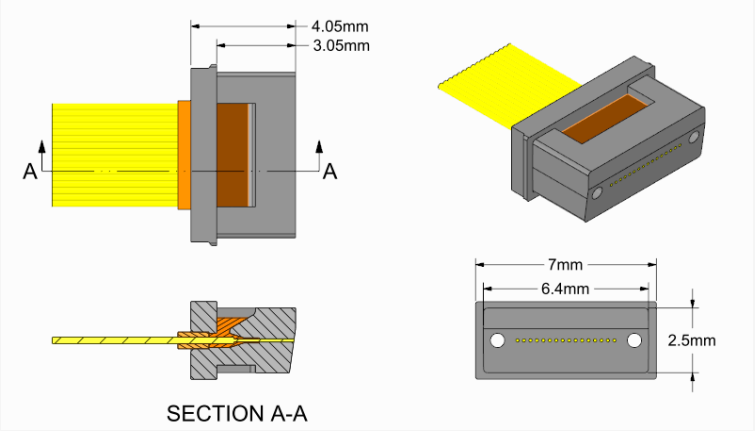




Optimized Structure for External Optical Interface







16F MT Ferrule 4MM Length

Features & Benefits

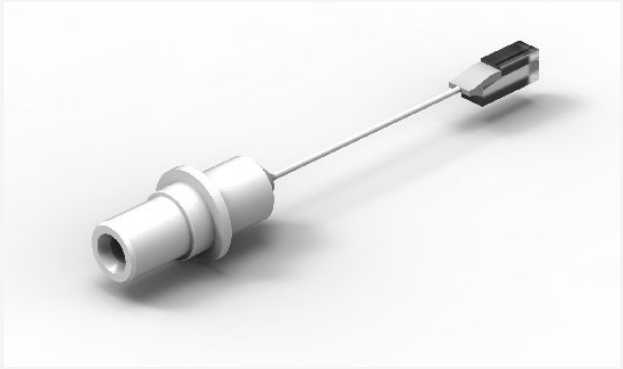
- *Smaller size by reducing the glue injection window*
- *Two-section channel fiber hole structure with transition guidance to enhance the fiber protection and product reliability.*
- *Glue operation at the end of the Ferrule to eliminate the external force*

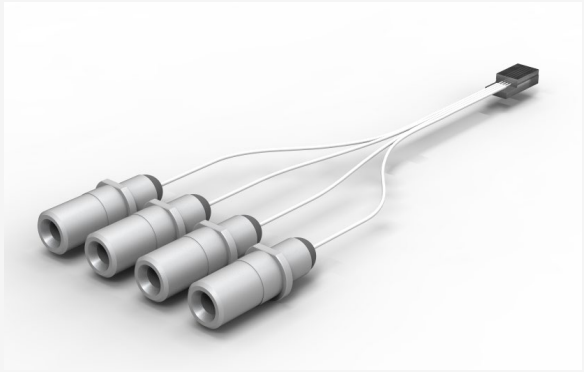
Receptacle-FA Connection

The Receptacle-FA Connection *ensures the optical performance and stable reliability by using the patented two step inner hole ferrule in the Receptacle, high-precision V-groove*
The receptacle is very convenient to be used as an external optical interface in the application of SI module.

Features

- *Patented two step inner hole ferrule in the Receptacle*
- *High Performance in IL*
- *Excellent environmental stability and reliability*



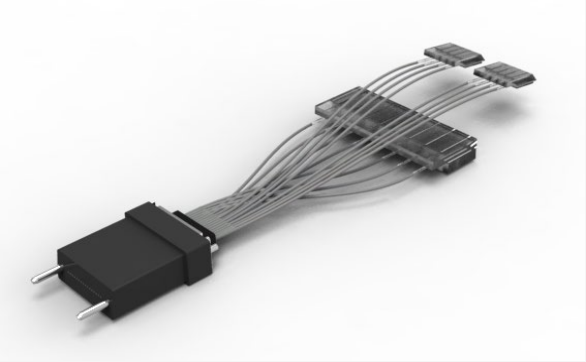


MT-FA Connection

MT-FA Connection *is widely used in the internal connection of high-speed optical module. The FA is used to complete the photoelectric conversion of optical path. MT core is very convenient to be used as an external optical interface in the application of high-speed optical module.*

Features

- *Accurate fiber core spacing*
- *Excellent environmental stability and reliability*
- *High Performance in IL*
- *Accurate polishing angle*

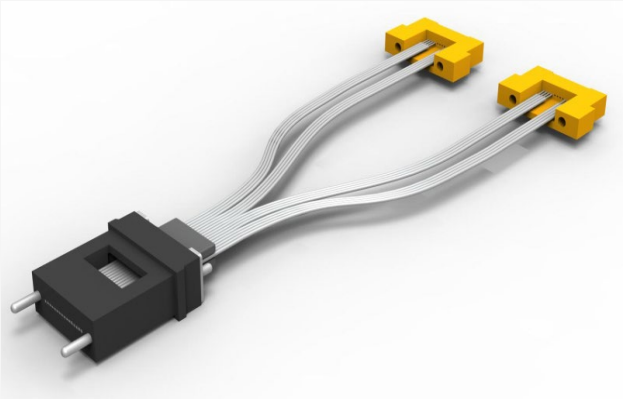


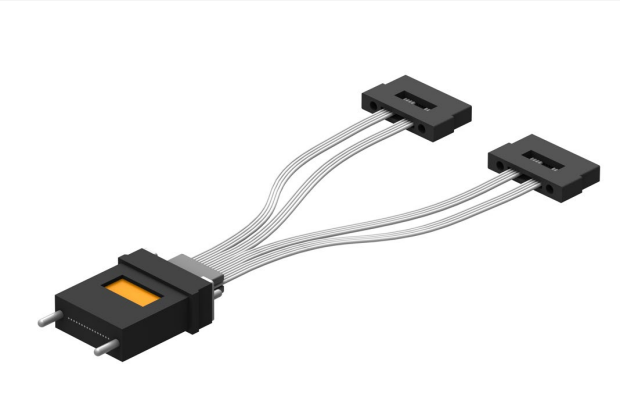
MT-Jump/Mini MT Connection

MT-Jump/Mini MT Connection *is widely used in the internal connection of high-speed optical module.*
The Jump/Mini MT realize multi-channel optical transmission.
MT is very common to be used as an external optical interface in the application of high-speed optical module.

Features

- *High precision dimensions easy to assemble*
- *High Performance in IL*
- *Excellent environmental stability and reliability*



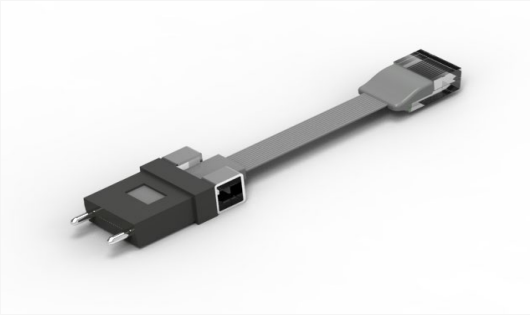


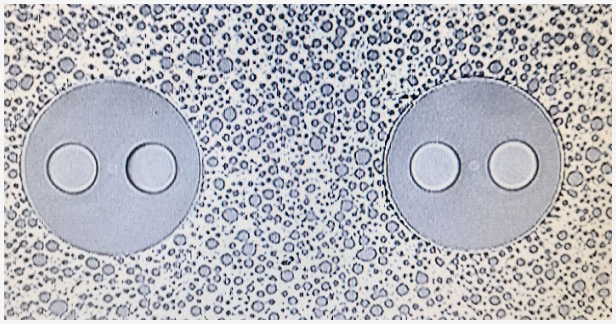
PM MT/Fiber Array Connector

PM MT/Fiber Array ensure the direction of linear polarization and effectively improve the coherent signal-to-noise ratio. PMF fiber is widely used in interferometric fiber optic sensor. In order to expand the use of poly-maintaining fiber and increase the dosage of products, it is better to integrate PM fiber into MT/Fiber Array.

Features

- *Excellent extinction ratio*
- *Accurate fiber core pitch*
- *Excellent environmental stability and reliability*
- *High Performance in IL*





16F 4mm MT Connection

16F 4mm MT is based on the proven alignment structure of MT-16 ferrules.
Can be applicated in on-board fiber management, as well as incorporation into transceivers.

Features
- *16 fibers at 250 micron pitch*
- *Compatible with 250, 200, and 165 micron fibers*
- *Intermated with MT-16 technology*
- *Low insertion loss for SM APC and MM APC applications*