

a new light on

PLASTIC OPTICAL FIBERS

# Simplified Multi-Gigabit Networking with Perfluorinated POF

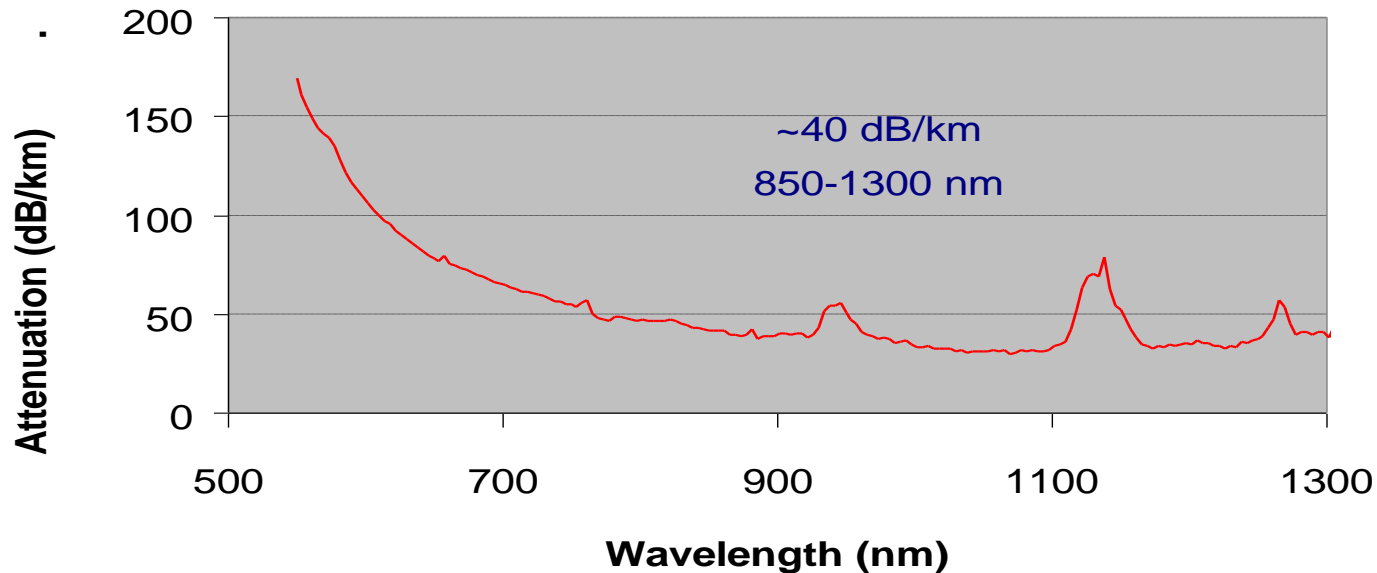
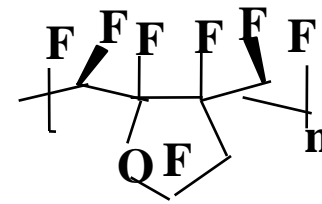
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# PRODUCTS overview

Chromis Fiberoptics: The Practical Solution

## New POF Material, New POF Design

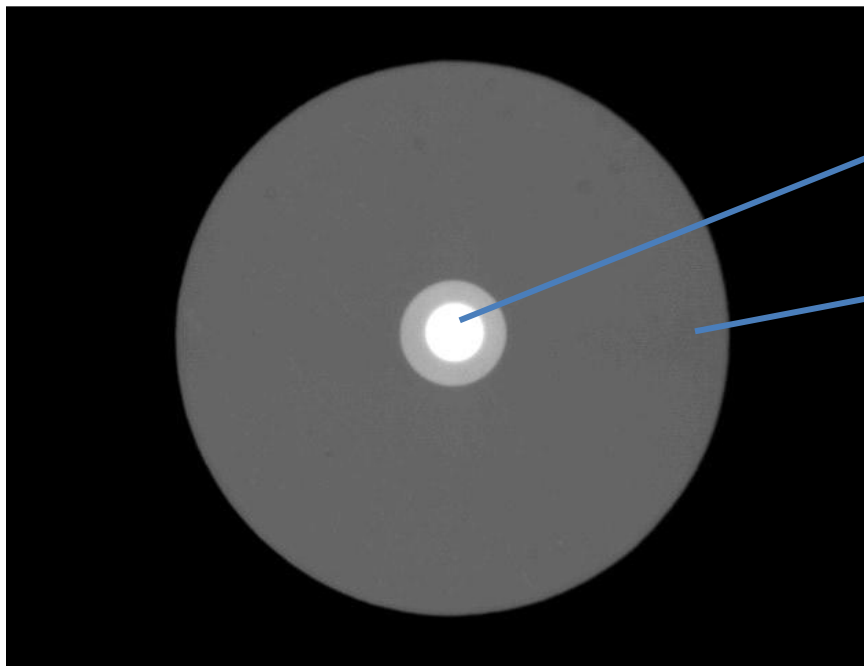
- Extruded Perfluorinated polymers
- Low attenuation, infrared-transparent



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# Tight Geometry Control



*Graded-index core  
sizes 50-120  $\mu\text{m}$*

*Overclad: 750  $\pm$  5  $\mu\text{m}$*

*Core-OD eccentricity < 5  $\mu\text{m}$*

*Very simple handling even with small core sizes  
Connectorless termination – the fiber is the ferrule*

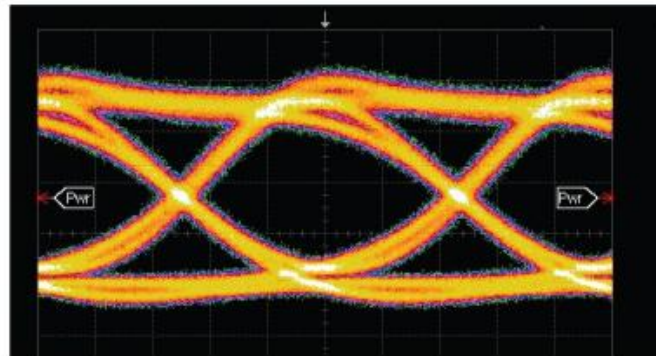
# PRODUCTS overview

Chromis Fiberoptics: The Practical Solution

## Gigabit Performance

- Typical overfilled BW  $>750$  MHz-km
- Demonstrations -  
10 Gb/s x 220 m transmission, 40 Gb/s x 100 m transmission

### 100 Meter GigaPOF: 10Gbps Eye-Pattern



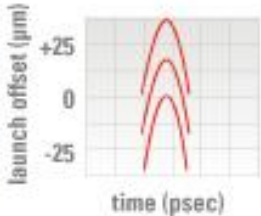
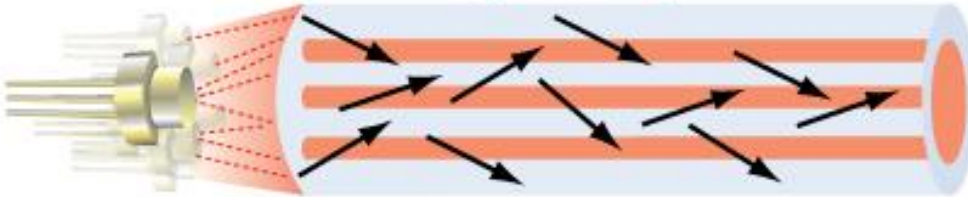
- Mode Coupling simplifies launch conditions and improves skew  
“Just get the light in the fiber”

# PRODUCTS overview

Chromis Fiberoptics: The Practical Solution

## GigaPOF: *Just get the light in the fiber*

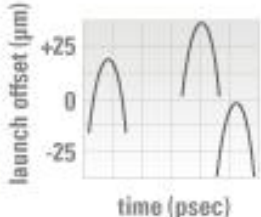
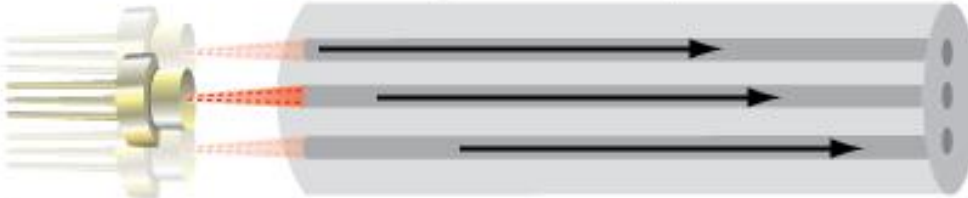
GigaPOF<sup>®</sup> 50 $\mu$ m core



placement tolerance

## 100 meters: Mode Coupling vs DMD

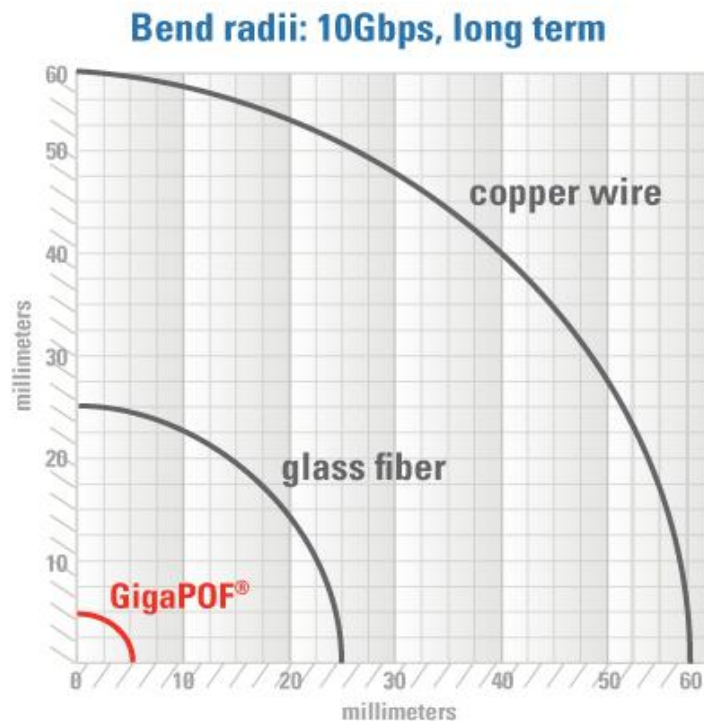
glass fiber 50 $\mu$ m core



placement tolerance

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*Ductile GigaPOF® does not exhibit fatigue like silica fibers.*

*Optical fibers do not have bend induced cross-talk at high speeds like copper*

*GigaPOF® to 5mm long term*



ENTERPRISE networking

Chromis Fiberoptics: The Practical Solution

# Field-Installable Applications:

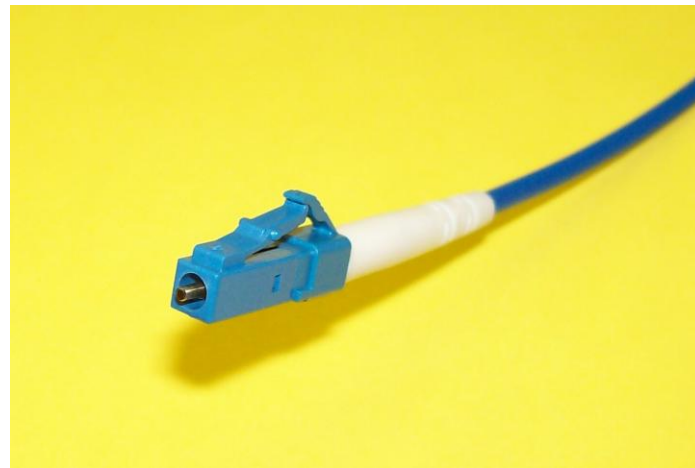
Enterprise LAN

Industrial Networking

## PRODUCTS overview

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# Crimp-on LC Connector for Field Termination



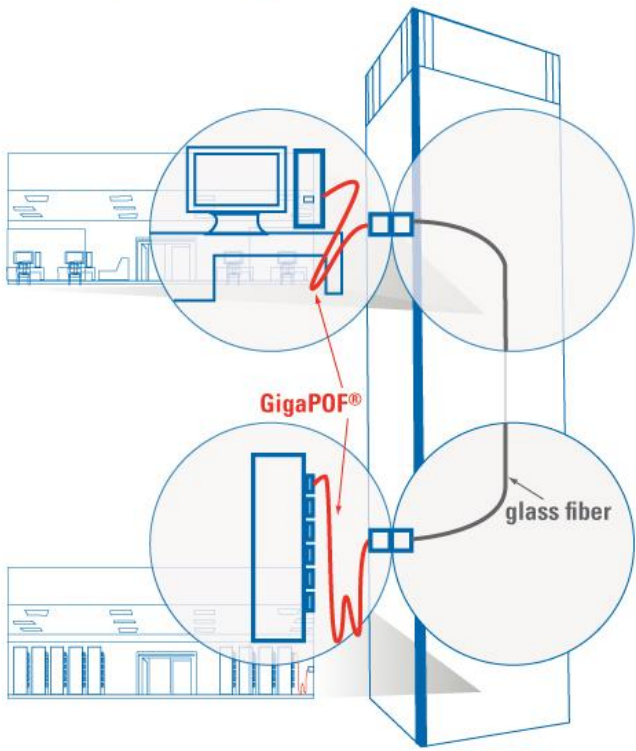
- Instant crimp-on connectors, no adhesives
- 30 second polishing >>>> 1 second cutting of the end face
- 1 minute start to finish
- Safe.....No Glass Shards!



# ENTERPRISE networking

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## GigaPOF® to glass seamless transition





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# Active Optical Cables

Ethernet

HDMI / DisplayPort

# PRODUCTS overview

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## Automatic Termination

Diamond blade cutting

Bare fiber or connectorized

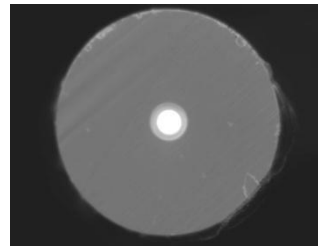
<10 sec cycle time

Smooth, clean, endface

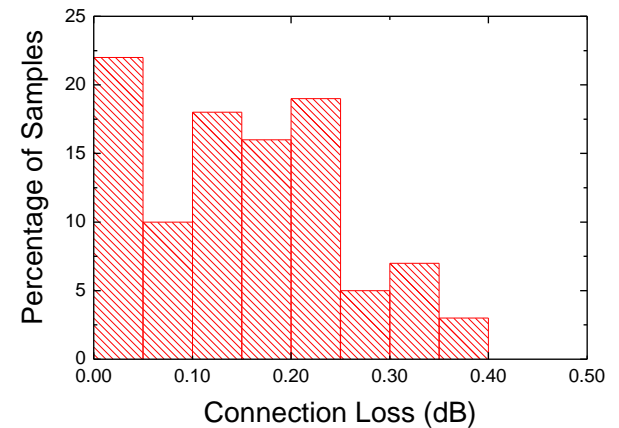
0.2 dB fiber-fiber loss

Suitable for factory, enterprise

Multifiber capability



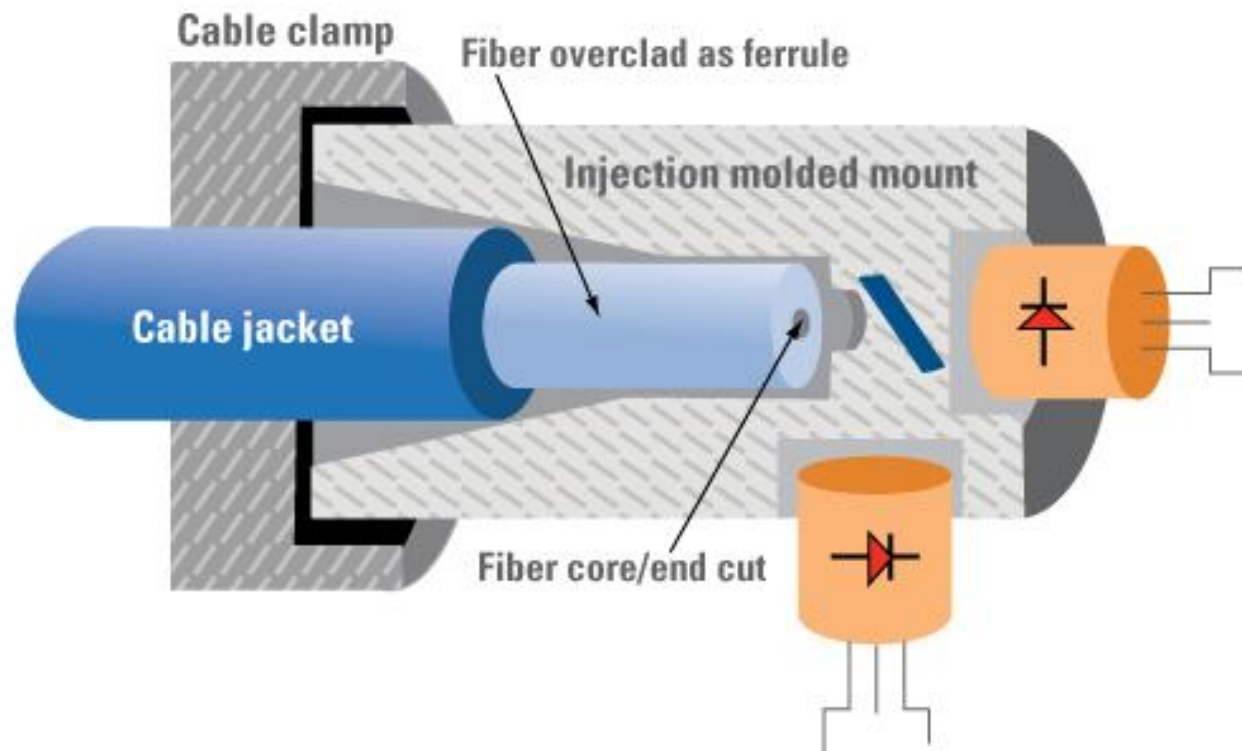
POF-POF Connection Loss  
VCSEL Launch with Both Faces Machined



# PRODUCTS overview

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## Connector free developments

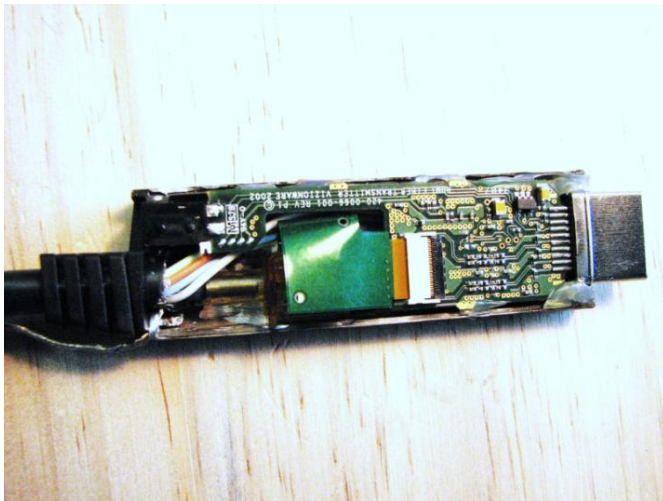


# DATA CENTER interconnects

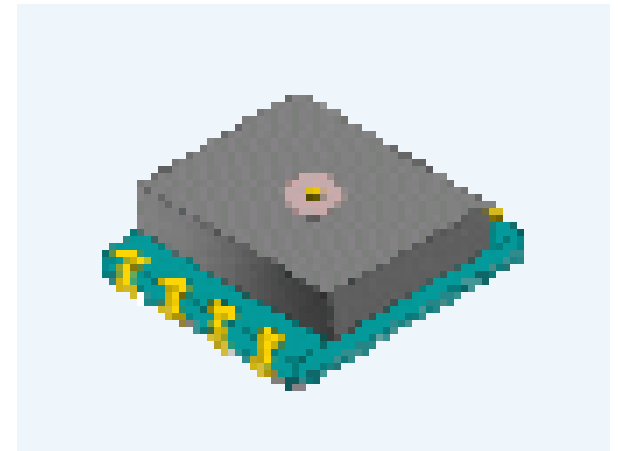
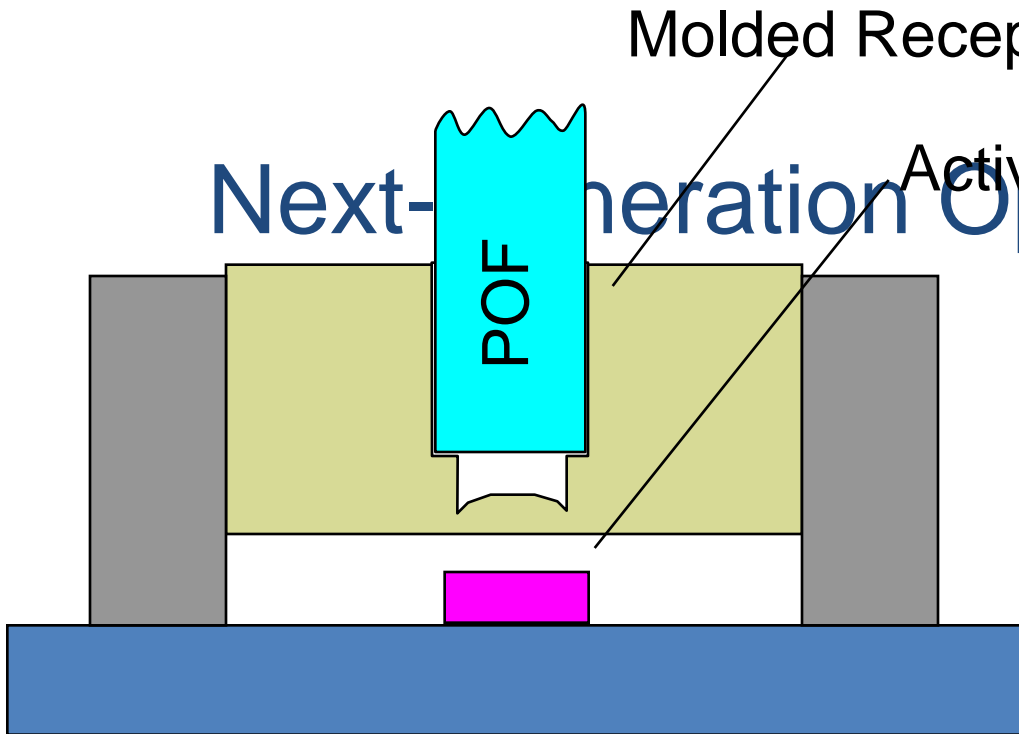
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Finisar Laserwire Active Cables

Various HDMI Active cables



# Next-Generation Optical Packages



Assembled w. Semiconductor Packaging Methods

Integrate drivers, amplifiers, etc

Very low cost, very small, very low power

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**PLASTIC OPTICAL FIBERS**

perfluorinated  
**OPTICAL FIBER**

**FASTER**

than wire

**FARTHER**

than plastic

**SAFER**

than glass

**SIMPLER**

than all

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