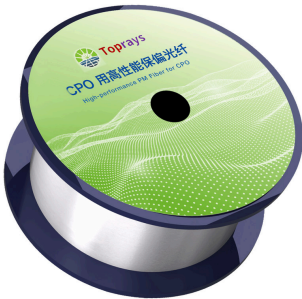


High-performance PM Fiber for CPO

Specification Datasheet · TopRays Optical Fiber

Targeting high-density, highly integrated and highly stable co-packaged optics (CPO) applications, we offer a series of high-performance polarization-maintaining (PM) fibers for CPO. The series uses a mature and reliable Panda structure with symmetric, regular dual circular stress elements, delivering high birefringence, excellent grindability, low transmission loss, and high-precision, highly consistent geometric parameters that fully meet the stringent requirements of CPO precision packaging. It covers the 1310 nm operating wavelength in two cladding diameters, 125 μm and 80 μm . The bend-resistant structure is optimized with a minimum bend radius of 5 mm, suiting the trend toward high-density integration and miniaturized packaging in optical networks, and providing a stable, reliable, high-performance optical transmission medium for CPO co-packaged optics.



Features

- Excellent polarization-maintaining performance
- Excellent grindability
- Excellent consistency and uniformity
- Strict geometric tolerances
- Compliant with RoHS and REACH

Application Environment

- CPO/NPO
- Polarization-maintaining device pigtails
- Miniaturized, highly integrated polarization-sensitive devices
- Bend-insensitive devices

Specifications

Optical Performance	PM1310C125/250G	PM1310-80/165G	PM1310-125/250G-BIR5	PM1310-80/165G-BIR5
Operating Wavelength (nm)	1310	1310	1310	1310
Cut-off Wavelength (nm)	1100 ~ 1260	1100 ~ 1260	1100 ~ 1260	1100 ~ 1260
Attenuation (dB/km)	≤ 0.5	≤ 1.5	≤ 2.0	≤ 2.0
Mode Field Diameter (μm)	9.0 ± 0.5	8.2 ± 0.5	7.8 ± 0.5	7.4 ± 0.5
Beat Length (mm)	2.5 ~ 4.0	2.0 ~ 3.5	1.5 ~ 3.0	1.5 ~ 3.0
100 m Crosstalk (dB)	≤ -30	≤ -25	≤ -30	≤ -30
4 m Crosstalk (dB)	≤ -40	≤ -40	≤ -40	≤ -40

Optical Performance	PM1310C125/250G	PM1310-80/165G	PM1310-125/250G-BIR5	PM1310-80/165G-BIR5
Bending Crosstalk (dB)	/	/	≤-30 (dia.10mm, 10turns)	≤-30 (dia.10mm, 10turns)
Macrobend Loss (dB)	/	/	≤0.1 (dia.10mm, 10turns)	≤0.1 (dia.10mm, 10turns)

Geometry & Material Specifications	PM1310C125/250G	PM1310-80/165G	PM1310-125/250G-BIR5	PM1310-80/165G-BIR5
Cladding Diameter (μm)	125.0±0.3	80.0±0.5	125.0±0.3	80.0±0.5
Coating Diameter (μm)	250.0±10.0	165.0±5.0	250.0±10.0	165.0±5.0
Core-Cladding Concentricity (μm)	≤0.3	≤0.3	≤0.3	≤0.3
Cladding Non-circularity (%)	≤1.0	≤1.0	≤1.0	≤1.0
Coating Structure	Dual-layer UV-curable acrylate resin			

Environmental & Mechanical Performance	PM1310C125/250G	PM1310-80/165G	PM1310-125/250G-BIR5	PM1310-80/165G-BIR5
Operating Temperature (°C)	-45 ~ +85	-45 ~ +85	-45 ~ +85	-45 ~ +85
Proof Test (kpsi)	100 (200 optional)	100 (200 optional)	200	100