

Polarizing Fiber: Bow-Tie Style

T-HB1060Z

Description

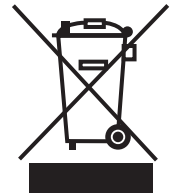
T-HB1060Z polarizing fibers deliver high polarization extinction ratios and broad, stable operating windows for demanding applications. The HB1060Z, with bow-tie geometry, boasts extreme birefringence with polarization beat lengths approaching 0.5 mm and can provide 100 nm of practical, usable bandwidth. Thus, this fiber allows for a wide variety of packaging and sourcing options: cabled or coiled, narrow linewidth laser or broadband ASE source.

Coiling our HB1060Z PZ fiber to smaller diameters will result in a narrowing of the polarization window and a shift in center wavelength to shorter wavelengths. Coiling the PZ fiber can result in a better polarization extinction ratio, though can lead to greater loss. If loss is too high, the coil is too tight; conversely if the polarization extinction ratio is too low, the coil is not tight enough. For performance stability, it is recommended to use 3 - 5 m of fiber. However, due to the high birefringence of the PZ fiber, the polarization window will still be broad; giving the user a wide variety of packaging and deployment options.

Specifications

Geometrical & Mechanical	
Cladding Diameter	125 ± 1 µm
Coating Diameter	245 ± 15 µm
Core Concentricity	≤1 µm
Coating Material	Dual Acrylate
Operating Temperature	-40 to 85 °C
Proof Test Level (1.4 GN/m ²)	100 kpsi (1%)

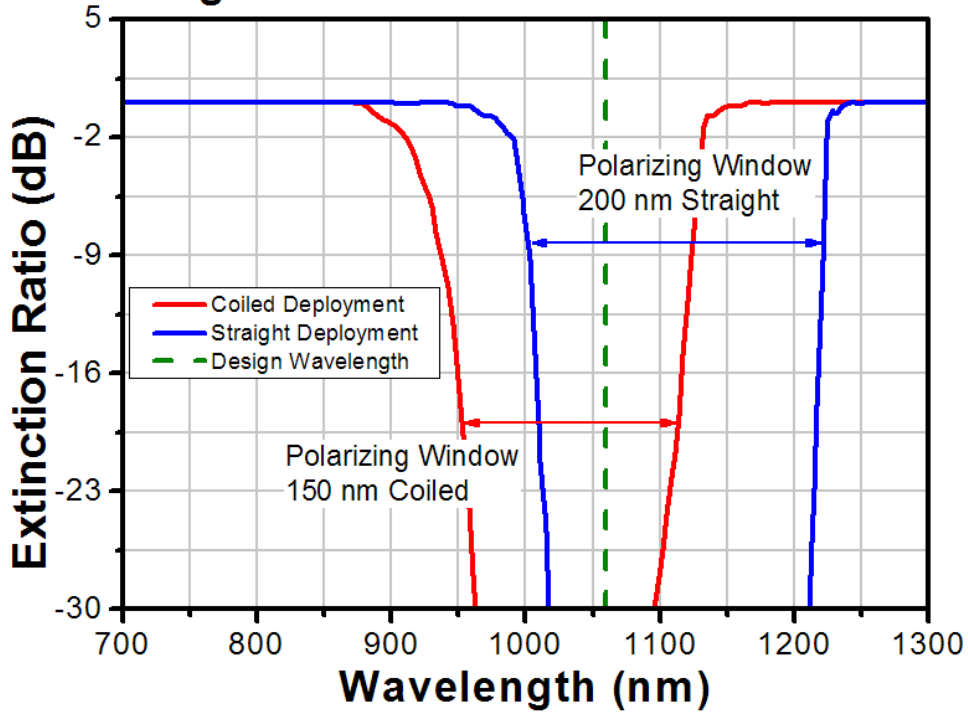
Optical	
Numerical Aperture	0.14 (nominal)
Attenuation	≤0.02 dB/m @ 1060 nm
Operating Wavelength ^a	1064 nm
Second Mode Cut-off ^b	<1000 nm
20 dB Fast Edge ^a	≤1015 nm
3 dB Slow Edge ^a	≥1105 nm
Mode Field Diameter	6 - 8 µm @ 1064 nm
Beat Length	≤0.8 mm @ 633 nm



- Typical polarizing performance with deployment conditions of 5 m length in 89 mm (3.5") diameter coils. Bandwidth may be increased depending on deployment conditions (See figure below)
- Strongly dependent upon fiber deployment condition

Specifications

Straight or Coiled Polarization Window



PZ Fiber Random Deployment

