

SPUN-R Fiber Description and Polarization State Evolution



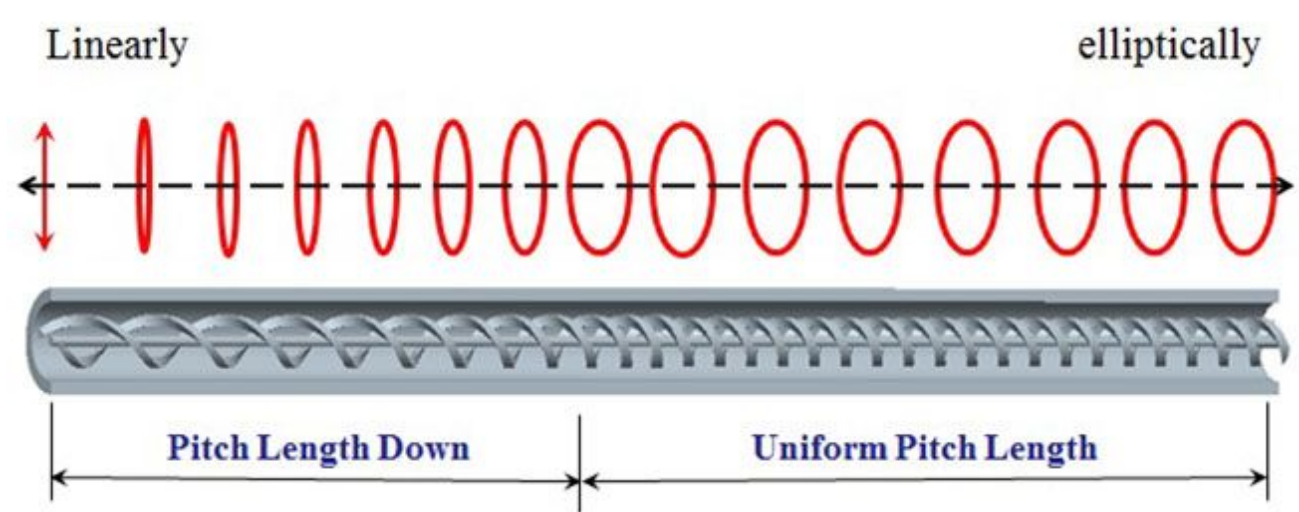
Features

- Low Insertion Loss
- Temperature Insensitive
- Precise Spinning Pitch
- High Current Sensitivity
- No Required for Quarter Wave Plate

Applications

- Current Sensors
- Lightning Sensor
- Polarization Controller
- Polarization transformers

The controllably-spun birefringent-fiber or all fiber polarization transformer consists essentially of a long spun high-birefringence fiber, fabricated by slowly varying the spin rate of a birefringent fiber preform from very slow to very fast while the fiber is being drawn. The evolution of the eigenstate from a linear polarization state to an elliptical polarization state, induced by slow variation of the intrinsic structure from linear anisotropy at the unspun to elliptical anisotropy at the fast-spun of the other end, enables power coupling between local eigenstates, and relative power in these local eigenstates as a function of distance along the length of the fiber, the extinction ratio of the output state of polarization (SOP) as a function of distance and the normalized spin rate.

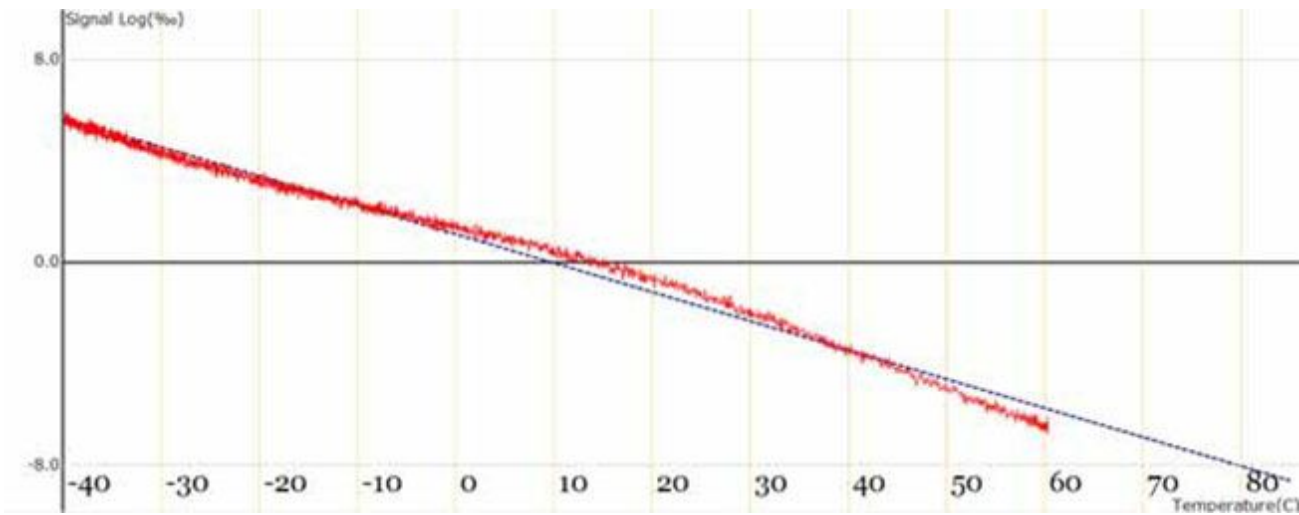


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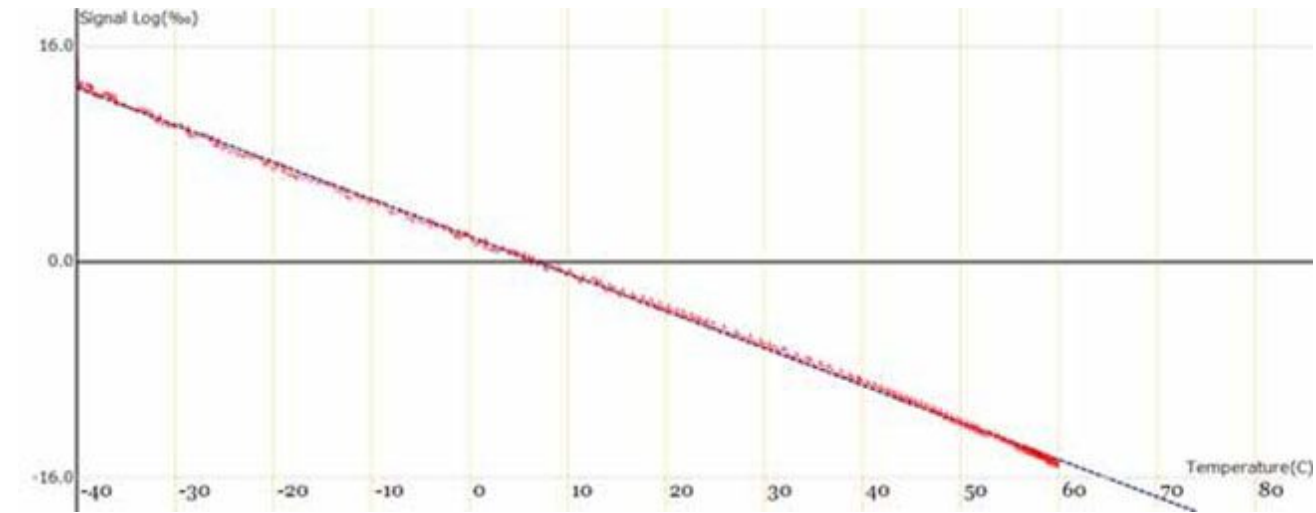
Specifications		
Parameters	Unit	Performance
Operating Wavelength	nm	1310, 1480, 1550

Bandwidth		nm	±30
Pitch Length at Un-Spun End		mm	∞
Pitch Length at Fast Spun End		mm	3.2
Insertion Loss	Max	dB/m	0.1
Insertion Loss	Typ	dB/m	0.06
Modal Field Diameter	Typ	μm	9.0±0.5
Bending Radii	Min	mm	75
Operating Temperature		°C	-40 to +85

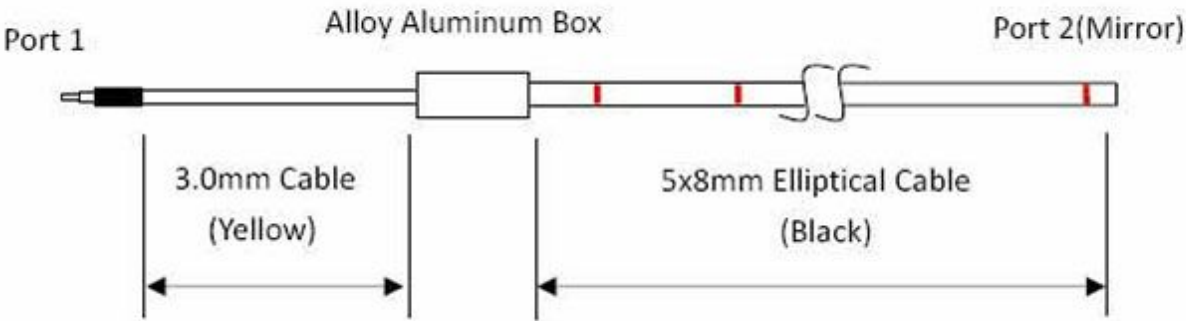
Temperature Characteristics (E-core Fiber)



Temperature Characteristics (PANDA Fiber)



Diagram



Ordering Information

S P U N R 1 0

Wavelength	Fiber Type	Jacket Type	Fiber Length	Connector at Port1	Connector at Port2
4=1550nm	P=Panda	M=0.9mm loose tube	1=1.0m	0=None	4=Mirror
5=1480nm	E=E-core	L=3mm cable	2=2.0m	1=FC/PC	
7=1310nm			3=3.0m	2=FC/UPC	
S=Specify			...	3=FC/APC	
			9=9.0m		
			0=10.0m		

