AFL Product Profile

Polarization Beam Combiners

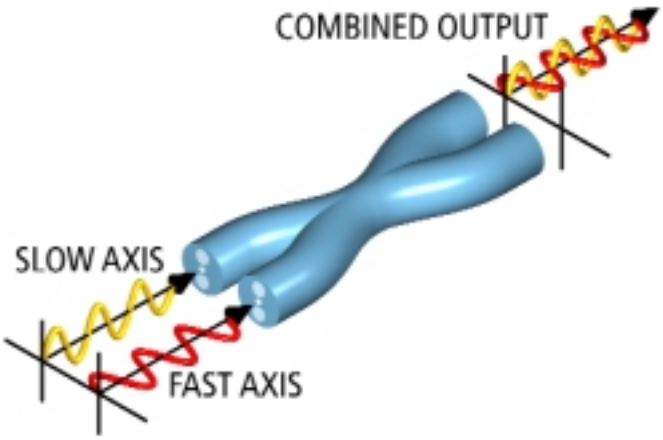
AFL's new all-fiber 980nm, 1480nm, and Raman PBC's bring new levels of high-power handling capability.

Continuous improvement in the gain spectra of optical amplification is critical to support the ever-increasing channel counts and bit rates of DWDM telecommunications systems. The PBC is a highly reliable[2], low insertion loss, all-fiber component designed for use in EDFAs and Raman amplifiers.

New, Raman amplifiers have emerged to complement EDFA designs for long-haul signal transport. Raman amplifier designs require several high-powered pump lasers to be combined, necessitating a combiner that can able handle the total power.

High pump power levels are handled by the all-fiber design and available wavelengths incorporate 980nm, 1480nm, and Raman pump lasers. The center wavelength of AFL's PBC can be customized to meet your design needs.

2. Design to meet Telcordia GR-1221-CORE



www.AFLfiber.com

FEATURES & BENEFITS

- High-power handling resulting from all-fiber design
- Low insertion loss
- High extinction ratio
- Compact design
- Customized center wavelength

PRODUCT APPLICATION

- Laser pump combining for EDFAs
- Laser pump combining for Raman amplifiers
- Interferometers
- R&D and lab experiments

PRICING INFORMATION

Contact your Sales Service Representative for pricing information

AVAILABILITY DATE

As this is a customized AFL product, please contact your SSR for lead time

RELATED PRODUCTS

PANDA® EDF Module
PANDA® Jumpers and Pigtails
FSM-20PMII Fusion Splicer
PM Coupler - Coming Soon!

Complete technical specifications, package dimensions, and ordering information (select product below):

980nm PBC | **1480nm PBC** | **Raman PBC**

For more information about this and other Passive Optical Components from Alcoa Fujikura Ltd., please contact:

1-800-AFLFIBER

Alcoa Fujikura Ltd.
Telecommunications Division
P.O. Box 3127 • Spartanburg, SC 29304
(864) 433-0333 • Fax: (864) 486-7269

Innovations to light your way.

Release Version 3.0
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AFL Product Profile

980nm PBC TECHNICAL SPECIFICATIONS

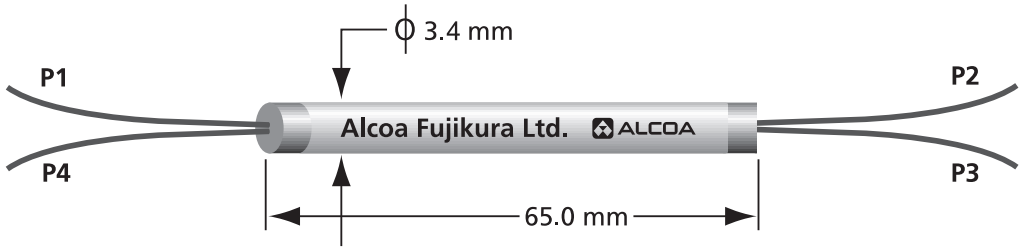
Specifications

Parameter		Unit		
Center Wavelength[1]		nm	980	
Operating Wavelength Range		nm	±5	±10
Insertion Loss (Fast axis)[3]	Typ.	dB	0.45	0.5
	Max.	dB	0.8	0.9
Insertion Loss (Slow axis)[3]	Typ.	dB	0.18	0.18
	Max.	dB	0.3	0.3
Port Configuration			2 x 2	
Return Loss	Min.	dB	43	
Directivity	Min.	dB	43	
Crosstalk[3]	Min.	dB	15	
Temperature Dependent Loss	Typ.	dB	0.1	0.2
Fiber Type			Fujikura PANDA® for 980 nm	
Fiber Length (standard)		m	1.0	
Package Dimensions (dia. x L)		mm	3.4(dia.) x 65(L)	
Operating Temperature		˚C	-5 to 60	
Storage Temperature		˚C	-40 to 85	

1. Center wavelength of PBC can be customized for different applications
2. Telcordia GR-1221-CORE and GR-1209-CORE qualified
3. Determined at room temperature

Note: For specifications at larger operating wavelength ranges please contact AFL.

PACKAGE DIMENSIONS



ORDERING INFORMATION

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form you part number. For customized requirements on this product, please contact your AFL Sales and Service Representative at 1-800-AFL-FIBER.

P	B	C	9	-			2	1	2	

Center Wavelength**
975nm to 985nm
Example:
80 = 980nm
82 = 982nm

Input PM Fiber Alignment
1*= P1 Slow axis; P2 Fast axis
2+ = P1 Slow axis; P2 Slow axis
3+ = P1 Fast axis; P2 Fast axis

* Standard Product
**Center wavelength can be customized
\+ Increased IL and decreased polarization crosstalk due to splicing

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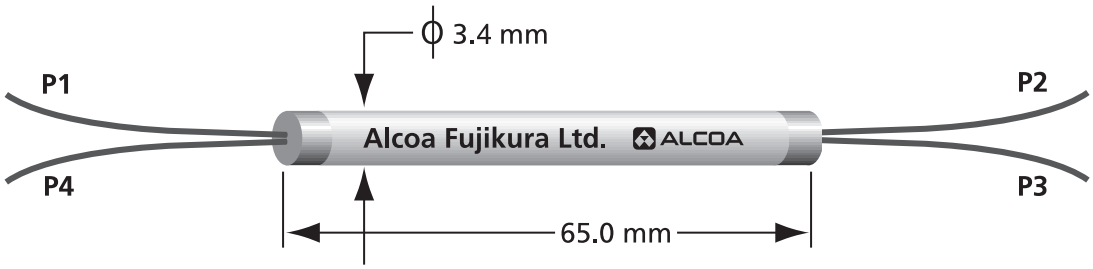
1480nm PBC TECHNICAL SPECIFICATIONS

Specifications

Parameter		Unit			
Center Wavelength[1]		nm	1480		
Operating Wavelength Range		nm	±5	±10	±20
Insertion Loss (Fast axis)[3]	Typ.	dB	0.43	0.47	0.58
	Max.	dB	0.6	0.8	1.2
Insertion Loss (Slow axis)[3]	Typ.	dB	0.2	0.2	0.3
	Max.	dB	0.4	0.4	0.4
Port Configuration			2 x 2		
Return Loss	Min.	dB	55		
Directivity	Min.	dB	55		
Polarization Crosstalk[3]	Typ.	dB	20		
	Min.	dB	17		
Temperature Dependent Loss	Typ.	dB	0.1	0.15	0.3
Fiber Type			Fujikura PANDA® SM.15P-8/125-UV/UV-250		
Fiber Length (standard)		m	1.0		
Package Dimensions (dia. x L)		mm	3.4(dia.) x 65(L)		
Operating Temperature		˚C	-5 to 60		
Storage Temperature		˚C	-40 to 85		

1. Center wavelength of PBC can be customized for different applications
2. Telcordia GR-1221-CORE and GR-1209-CORE qualified
3. Determined at room temperature

PACKAGE DIMENSIONS



ORDERING INFORMATION

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form you part number. For customized requirements on this product, please contact your AFL Sales and Service Representative at 1-800-AFL-FIBER.

P	B	C	1	4	-			2	1		

Center Wavelength**
Example:
60 = 1460nm
75 = 1475nm
80* = 1480nm

Output Fiber Type
1⁺ = SM Fiber
2* = Fujikura PANDA® Fiber

Input PM Fiber Alignment
1* = P1 Slow axis; P2 Fast axis
2⁺ = P1 Slow axis; P2 Slow axis
3⁺ = P1 Fast axis; P2 Fast axis

* Standard Product
** Center wavelength can be customized
⁺ Increased IL and decreased polarization crosstalk due to splicing

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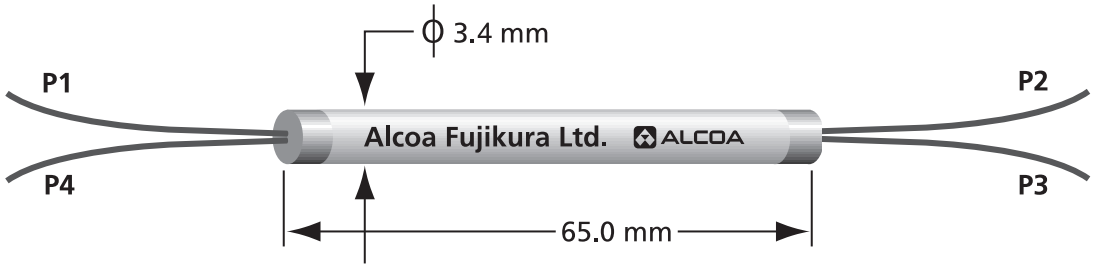
Raman PBC TECHNICAL SPECIFICATIONS

Specifications

Parameter		Unit	
Center Wavelength Range[1]		nm	1455 to 1498
Operating Wavelength Range		nm	±2
Insertion Loss (Fast axis)[3]	Typ.	dB	0.3
	Max.	dB	0.5
Insertion Loss (Slow axis)[3]	Typ.	dB	0.2
	Max.	dB	0.4
Port Configuration			2 x 2
Return Loss	Min.	dB	55
Directivity	Min.	dB	55
Polarization Crosstalk[3]	Min.	dB	17
Temperature Dependent Loss	Typ.	dB	0.1
Fiber Type			Fujikura PANDA® SM.15P-8/125-UV/UV-250
Fiber Length (standard)		m	1.0
Package Dimensions (dia. x L)		mm	3.4(dia.) x 65(L)
Operating Temperature		˚C	-5 to 60
Storage Temperature		˚C	-40 to 85

1. Center wavelength of PBC can be customized for different applications
2. Telcordia GR-1221-CORE and GR-1209-CORE qualified
3. Determined at room temperature

PACKAGE DIMENSIONS



ORDERING INFORMATION

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form you part number. For customized requirements on this product, please contact your AFL Sales and Service Representative at 1-800-AFL-FIBER.

P	B	C	R	A	-			2	1		

Center Wavelength**
1455 to 1500
Example:
55 = 1455nm
87 = 1487nm

Input PM Fiber Alignment
1* = P1 Slow axis; P4 Fast axis
2+ = P1 Slow axis; P4 Slow axis
3+ = P1 Fast axis; P4 Fast axis

Output Fiber Type
1+ = SM Fiber
2* = Fujikura PANDA® Fiber

* Standard Product
** Center wavelength can be customized
+ Increased IL and descreased polarization crosstalk due to splicing

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