JDS Uniphase

Product Bulletin

Fiber Isolator/Wavelength Division Multiplexer Combination

This device is a combination of a WDM filter and 1550 nm polarization insensitive optical isolator, and has an epoxy-free optical path.

It has extremely low polarization sensitivity, low insertion loss, and high optical isolation. Designed for compact and easy installation, it eliminates splices and extra fiber routing with reduced loss.

Its high performance provides exceptionally stable 1550 nm signal isolation and wavelength division multiplexing over wide wavelength and temperature ranges. It is ideal for fiber amplifier and WDM network applications.

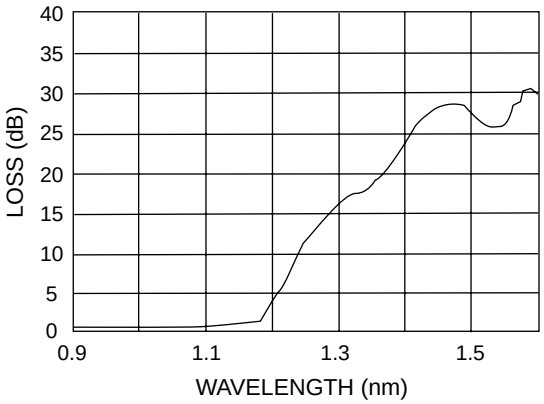
Key Features

- Combines isolation and pump multiplexing into one, space-saving package
- Better wavelength flatness over wider pump wavelength range and over signal wavelength(s)
- Higher performance and reliability than separate counterparts
- Better power handling
- Simplifies amplifier design
- Can be configured and optimized for forward and/or backward pump arrangements

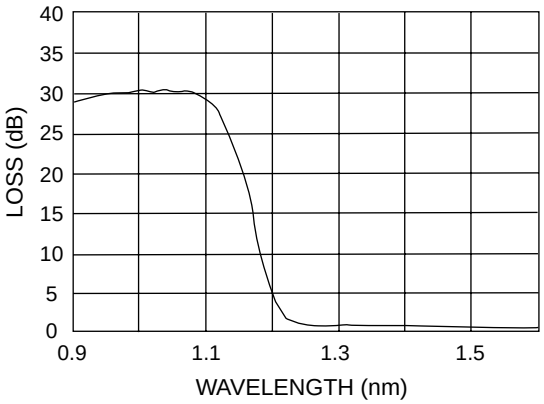
Applications

- EDFA
- Raman amplifiers
- Other custom configurations (integrated modules) such as optical supervisory channel (OSC) at 1510/1550 and 1550/1625 nm

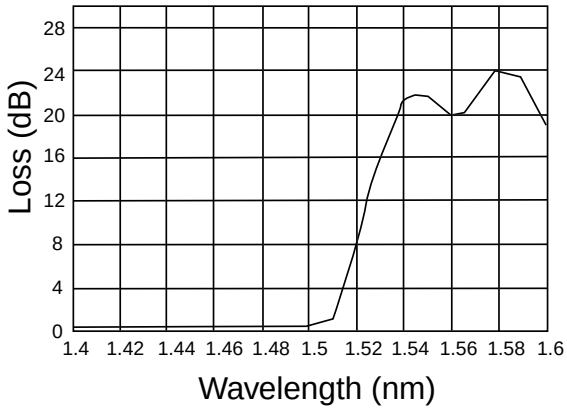
980/1550 nm Model: 980 Channel



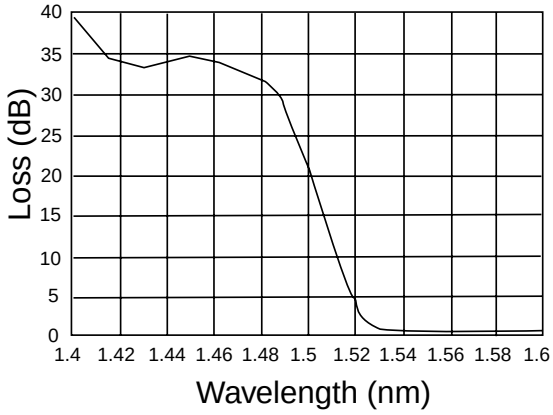
980/1550 nm Model: 1550 Channel



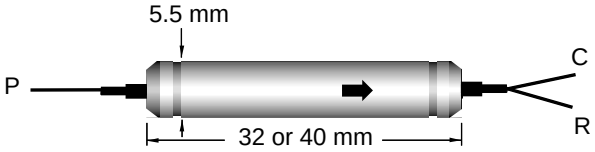
1480/1550 nm Model: 1480 Channel



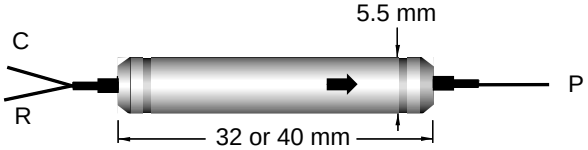
1480/1550 nm Model: 1550 Channel



Package Dimensions: Forward Pump



Package Dimensions: Backward Pump



Specifications

Parameter		980/1550 nm One-Stage	980/1550 nm Two-Stage
Pass port (C↔P) signal wavelength λ_P		1530 to 1580 nm	1530 to 1580 nm
Pass port (C↔P) insertion loss	Typical	0.6 dB	0.8 dB
	Maximum	0.9 dB	1.1 dB
Pass port (C↔P) peak isolation of signal channel[1]	Typical	40 dB	50 dB
Pass port (C↔P) isolation of isolator[1,2]	Typical	35 dB	45 dB
	Minimum	30 dB	42 dB
Pass port (C↔P) polarization dependent loss[1]	Maximum	0.1 dB	0.2 dB
Pass port (C↔P) polarization mode dispersion[1]	Maximum	0.3 ps	0.05 ps
Reflect port (C↔R) pump wavelength range λ_R		950 to 1010 nm	950 to 1010 nm
Reflect port (C↔R) insertion loss	Typical	0.4 dB	0.4 dB
	Maximum	0.6 dB	0.6 dB
Reflect port (C↔R) polarization dependent loss[1]	Maximum	0.04 dB	0.04 dB
Optical return loss	Minimum	50 dB	50 dB
Directivity	Minimum	60 dB	60 dB
Optical power	Maximum	250 mW	250 mW
Tensile load	Maximum	5 N	5 N
Operating temperature		0 to 60 °C	0 to 60 °C
Storage temperature		-40 to 85 °C	-40 to 85 °C

1. Measured at 23 °C.
2. 1550±10 nm for One stage, 1550±30 nm for Two stage.

Ordering Information

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form your part number. For more information on this or other products and their availability, please contact your JDS Uniphase account manager, or call 1-877-550-JDSU toll free in the U.S. and Canada, or visit www.jdsuniphase.com.

Sample: IWDMC1111AA10

IWDM C □ □ □ 1 A A □ □

Code	Wavelength
C	980/1550 nm

Code	Package
1	5.5 (D) x 32 (L) mm 250 µm fiber
2	5.5 (D) x 40 (L) mm 250 µm fiber
3	5.5 (D) x 40 (L) mm 900 µm loose tube

Code	Stage
1	One-stage
2	Two-stage
3	One-stage, low PMD 0.03 ps

Code	Pump Type
1	Forward pump
2	Backward pump

Code	Fiber Type (Port P)
1	Corning SMF-28

Code	Fiber Type (Port C)
A	Corning PureMode HI-1060

Code	Fiber Type (Port R)
A	Corning PureMode HI-1060

Code	Fiber Length
1	1 meter[1]
2	2 meters
4	0.5 meter
5	1.5 meters

Code	Connector[2]
0	No connector[1]
1	FC/PC
2	FC/SPC
3	FC/APC
4	SC/SPC
5	SC/APC
8	ST
9	FC/UPC
A	SC/UPC
B	LC/PC

1. Standard.
2. Insertion loss and return loss depend on connector type.

Specifications

Parameter		1480/1550 nm One-Stage	1480/1550 nm Two-Stage
Pass port (C↔P) signal wavelength λ_p		1530 to 1580 nm	1530 to 1580 nm
Pass port (C↔P) insertion loss	Typical	0.5 dB	0.7 dB
	Maximum	0.8 dB	1.0 dB
Pass port (C↔P) peak isolation of isolator[1]	Typical	40 dB	50 dB
Pass port (C↔P) isolation of isolator[1,2]	Typical	35 dB	45 dB
	Minimum	30 dB	42 dB
Pass port (C↔P) polarization dependent loss[1]	Maximum	0.1 dB	0.2 dB
Pass port (C↔P) polarization mode dispersion[1]	Maximum	0.3 ps	0.05 ps
Reflect port (C↔R) wavelength range λ_R		1450 to 1490 nm	1450 to 1490 nm
Reflect port (C↔R) insertion loss	Typical	0.3 dB	0.3 dB
	Maximum	0.5 dB	0.5 dB
Reflect port (C↔R) polarization dependent loss[1]	Maximum	0.04 dB	0.04 dB
Optical return loss	Minimum	50 dB	50 dB
Directivity	Minimum	60 dB	60 dB
Optical power	Maximum	250 mW	250 mW
Tensile load	Maximum	5 N	5 N
Operating temperature		0 to 60 °C	0 to 60 °C
Storage temperature		-40 to 85 °C	-40 to 85 °C

1. Measured at 23 °C.
2. 1550±10 nm for One stage, 1550±30 nm for Two stage.

Ordering Information

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form your part number. For more information on this or other products and their availability, please contact your JDS Uniphase account manager, or call 1-877-550-JDSU toll free in the U.S. and Canada, or visit www.jdsuniphase.com.

Sample: IWDMA1111AA10

IWDM A □ □ □ 1 1 1 □ □

Code	Wavelength
A	1480/1550 nm

Code	Package
1	5.5 (D) x 32 (L) mm 250 µm fiber
2	5.5 (D) x 40 (L) mm 250 µm fiber
3	5.5 (D) x 40 (L) mm 900 µm loose tube

Code	Stage
1	One stage
2	Two stage
3	One stage, low PMD 0.03 ps

Code	Pump Type
1	Forward Pump
2	Backward Pump

Code	Fiber Type (Port P)
1	Corning SMF-28

Code	Fiber Type (Port C)
1	Corning SMF-28

Code	Fiber Type (Port R)
1	Corning SMF-28

Code	Fiber Length
1	1 meter[1]
2	2 meters
4	0.5 meter
5	1.5 meters

Code	Connector[2]
0	No connector[1]
1	FC/PC
2	FC/SPC
3	FC/APC
4	SC/SPC
5	SC/APC
8	ST
9	FC/UPC
A	SC/UPC
B	LC/PC

1. Standard.
2. Insertion loss and return loss depend on connector type.

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