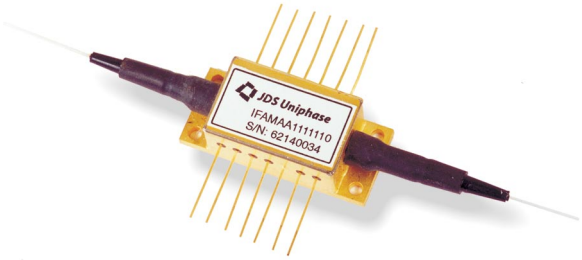
JDS Uniphase

Product Bulletin



Integrated Fiber Amplifier Module

The Integrated Fiber Amplifier Module houses an epoxy-free optical path that provides high reliability for field applications. It is a compact combination of optical isolator, WDM coupler, tap coupler and photodetector components in a hermetically sealed standard 14 pin butterfly package. Micro-optic, freespace integration technology eliminates the splices between these fiber amplifier components for improved optical performance and high reliability.

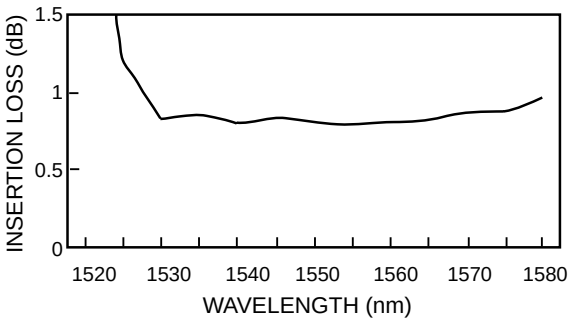
Key Features

- Combines four functions into one compact package
- Better wavelength flatness in both tap and WDM couplers over signal/pump wavelength bands
- Higher performance (e.g. lower insertion loss) and reliability than separate components
- Significantly simplifies amplifier design/layout
- Can be configured for forward and/or backward pumping schemes in amplifiers

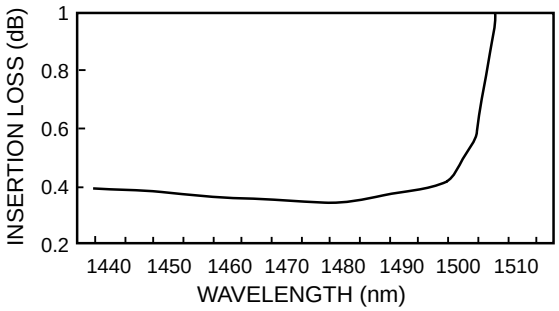
Applications

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

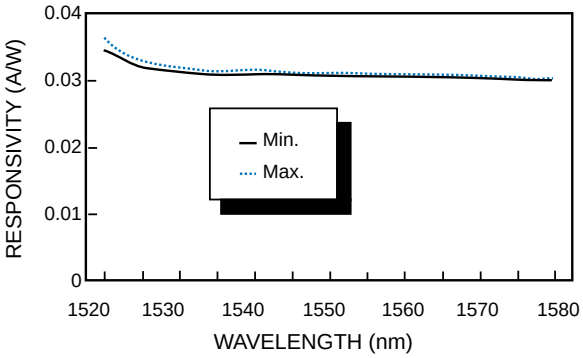
1480/1550 nm Model:
1550 nm Pass Channel Insertion Loss



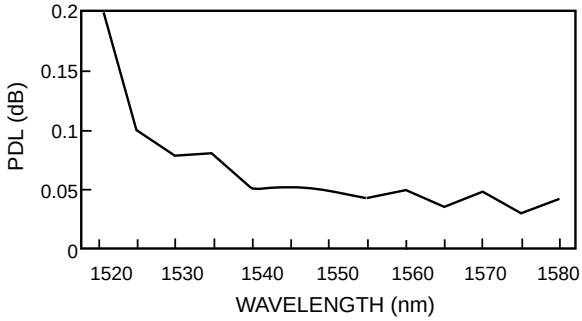
1480/1550 nm Model:
1480 nm Pass Channel Insertion Loss



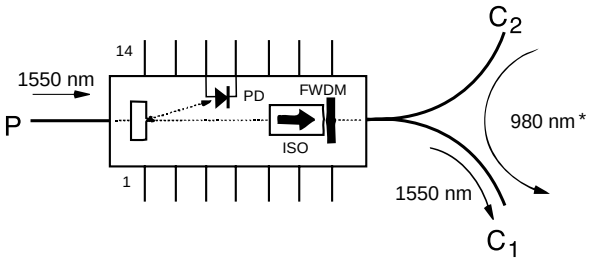
1480/1550 nm Model:
Monitor Responsivity (3% Deflected)



1480/1550 nm Model:
PD Monitor PDL

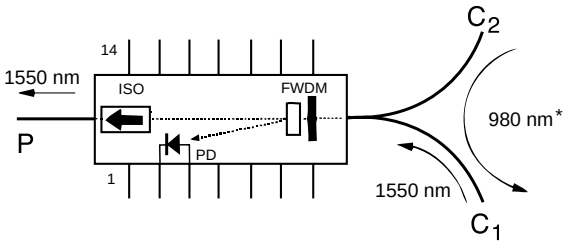


Forward Pump



*1480 nm for 1480/1550 nm model

Backward Pump



*1480 nm for 1480/1550 nm model

Specifications

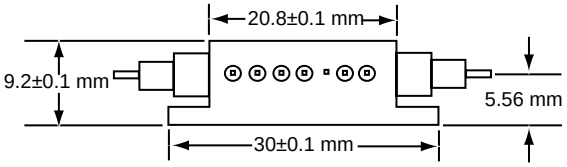
Parameter		980/1550 nm	1480/1550 nm
Center wavelength		980, 1550 nm	1480, 1550 nm
Signal wavelength passband		1530 to 1600 nm	1530 to 1600 nm
Pump wavelength passband		960 to 1010 nm	1460 to 1500 nm
Insertion loss: signal channel	Typical	0.9 dB	0.7 dB
	Maximum	1.2 dB	1.0 dB
Insertion loss: pump channel	Typical	0.4 dB	0.3 dB
	Maximum	0.6 dB	0.5 dB
Peak isolation (one-stage/two-stage)	Typical	40/50 dB	40/50 dB
	Minimum	38/48 dB	38/48 dB
Isolation 1550±10 nm, 23 °C (one-stage/two-stage)	Typical	35/45 dB	35/45 dB
	Minimum	30/40 dB	30/40 dB
Return loss[1]: signal channel (input/output)	Typical	60/55 dB	60/55 dB
	Minimum	55/50 dB	55/50 dB
Return loss[1]: pump channel	Typical	55 dB	55 dB
	Minimum	50 dB	50 dB
Directivity (pump channel)	Typical	65 dB	65 dB
	Minimum	60 dB	60 dB
Polarization dependent loss: signal channel	Typical	0.05 dB	0.05 dB
	Maximum	0.1 dB	0.1 dB
Polarization dependent loss: pump channel	Typical	0.03 dB	0.02 dB
	Maximum	0.1 dB	0.05 dB
Polarization dependent loss: tap channel	Typical	0.05 dB	0.05 dB
	Maximum	0.2 dB[2]	0.2 dB[2]
Polarization mode dispersion(one-stage/two-stage)	Typical	0.1/0.02 ps	0.1/0.02 ps
	Maximum	0.25/0.05 ps	0.25/0.05 ps
Tap coupling ratio (forward/backward)	Typical	3%	3%
PD responsivity to input power	Typical	25 µA/mW	25 µA/mW
	Minimum	20 µA/mW	20 µA/mW
Optical power	Maximum	250 mW	250 mW
Tensile load	Maximum	5 N	5 N
Operating temperature		-20 to 60 °C	-20 to 60 °C
Storage temperature		-40 to 85 °C	-40 to 85 °C

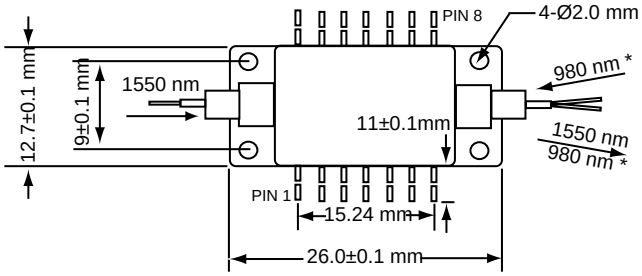
1. Without connectors.
2. With 2 PD.

Standard Lead Color Code

Port C_2: black
Other ports: clear

Package Dimensions





Forward Pump: PIN 11 PD cathode
PIN 12 PD anode
Backward Pump: PIN 2 PD cathode
PIN 3 PD anode

*1480 nm for 1480/1550 nm model

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: IFAMAA1111110

IFAM □ □ □ □ **1** □ □ □ □

Code	Wavelength
A	1480/1550 nm
C	980/1550 nm

Code	Package
A	1 photodiode[1]
B	2 photodiodes

Code	Isolator
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	SMF-28[1]

Code	Fiber Type (Port C_1)
1	SMF-28[1] (For 1480/1550 nm model only)
A	PureMode HI-1060[1] (For 980/1550 nm model only)

Code	Fiber Length
1	1 meter[1]
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

Code	Fiber Type (Port C_2)
1	SMF-28[1] (For 1480/1550 nm model only)
A	PureMode HI-1060[1] (For 980/1550 nm model only)

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

JDS Uniphase

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