JDS Uniphase

Product Bulletin

ISBP1 Series
Integrated Single-Stage Isolators/Bandpass Filters

BPIS1 Series
Integrated Bandpass Filters/Single-Stage Isolators

The ISBP1 and BPIS1 Series hybrid components are high- performance optical assemblies that combine the functions of a polarization insensitive single-stage isolator and a bandpass filter into a single compact package.

The overall insertion loss is reduced by eliminating unnecessary splicing and coupling to the fibers. Their high- performance characteristics make them ideally suitable for laboratory and field applications.

These components are configured with Corning SMF-28 fibers.

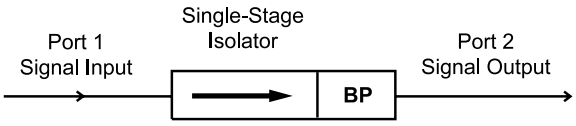
L-band hybrid components are also available.

Key Features
- Miniature package
- High isolation
- Low wavelength ripple, polarization dependent loss (PDL), and polarization mode dispersion (PMD)
- Typical losses of 0.7 dB (signal)
- Designed for stable and highly reliable performance

Applications
- Compact erbium doped fiber amplifier (EDFA) modules
- Forward/backward pump design with 1532 nm rejector

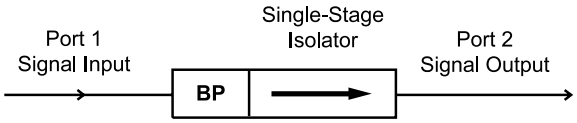
Configurations

ISBP1



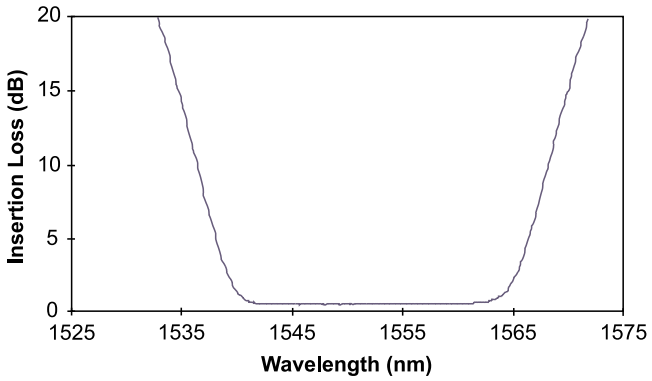
Ports 1, 2: Corning SMF-28

BPIS1



Ports 1, 2: Corning SMF-28

Transmission Spectrum



Qualification and Reliability Tests

Type of Test	Conditions	Duration
Damp heat	85 °C and 85% RH	2500 hours
High temperature storage	85 °C	2500 hours
Low temperature storage	-40 °C	2500 hours
Temperature cycling	-40 to 75 °C	500 cycles
Temperature humidity cycling	-40 to 75 °C, 90% RH	5 cycles
Water immersion	43 °C	340 hours
Vibration	10-2000-10 Hz	12 cycles x 3 axis
Impact	500 G, 8 impacts x 3 axis	5 cycles
Cable retention	0.5 kg for 1 minute	3 pulls/fiber

Specifications

Parameter			Premium Grade	Standard Grade
Model			ISBP1+1P/BPIS1+1P	ISBP1+1S/BPIS1+1S
Signal wavelength	λ		1542 to 1560 nm	
Filter rejection	at 1532 nm	typical	25 dB	25 dB
		minimum	20 dB	20 dB
Insertion loss[1]	1→2 over λ	typical	0.6 dB	0.8 dB
		maximum	0.9 dB	1.1 dB
Isolation	2→1 over λ at 23 °C	typical	40 dB (peak)	35 dB (peak)
		minimum	30 dB	28 dB
Return loss	all ports	minimum	55 dB	50 dB
PDL	1→2 over λ	typical	0.05 dB	0.07 dB
		maximum	0.1 dB	0.15 dB
PMD	1→2 over λ	maximum	0.03 ps	0.03 ps
Maximum optical power			300 mW	
Dimensions	(cylindrical D x L)		5.5 x 39 mm	
Operating temperature			0 to 60 °C	
Storage temperature			-40 to 85 °C	

1. Measured without connectors.
Note: These specifications are applicable over the operating temperature range unless otherwise specified.

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 local JDS Uniphase sales representative or JDS Uniphase directly at 613 727-1303, or by fax 613 727-8284, or via email at sales@ca.jdsunph.com, or visit our Web site at www.jdsunph.com.

Sample: ISBP1+1SA1.0NC

ISBP1+1 □□□.□□□

Code	Grade
S	Standard
P	Premium

Code	Fiber Type (all ports)
A	9/125/250 Corning SMF-28[1]
E	900 µm tight buffer[2]
D	900 µm clear Hytrel loose tube[2]

Code	Connector Type (all ports)
NC	No connector[1]
FP	FC/PC
FA	FC/APC
SP	ST/PC
SC	SC/PC
SU	SC/APC

Code	Typical Fiber Length (all ports)
0.5	0.5 meter
1.0	1.0 meter[1]
1.5	1.5 meters
2.0	2.0 meters

1. Standard
2. Recommended with connectorized device.

Sample: IBPIS1+1SA1.0NC

BPIS1+1 □□□.□□□

Code	Grade
S	Standard
P	Premium

Code	Fiber Type (all ports)
A	9/125/250 Corning SMF-28[1]
E	900 µm tight buffer[2]
D	900 µm clear Hytrel loose tube[2]

Code	Connector Type (all ports)
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FP	FC/PC
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Code	Typical Fiber Length (all ports)
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1. Standard
2. Recommended with connectorized device.

Hytrel is a registered trademark of DuPont.
SMF-28 is a registered trademark of Corning Incorporated.

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