

50/100 GHz, 100/200 GHz Passive Interleavers

IBC Series



Key Features

- Low dispersion
- Low insertion loss
- High channel isolation
- Wide clear bandwidth
- Full C- or L-band coverage
- Athermal design

Applications

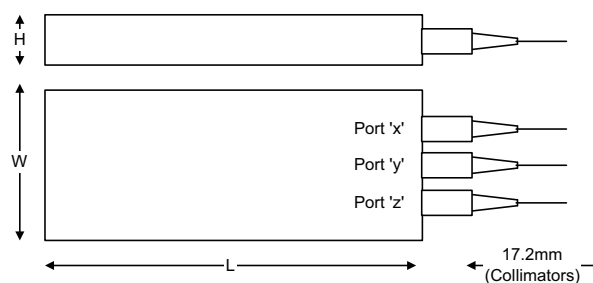
- Extend existing network capacity
- Bridge existing and new DWDM platforms
- Ultradense DWDM mux/demux and add/drop applications
- Bidirectional networks
- Optical signal comb filtering

The JDSU interleaver is a terabit-enabling technology for ultradense wavelength-division multiplexing (DWDM) applications. When used in the mux configuration, the interleaver combines two streams of periodic optical signals (one stream carries even channels and the other carries odd channels) into one stream of signals of half the channel spacing. When used in the demux configuration, the signal is separated into two complementary streams (even and odd channels) of twice the channel spacing.

The low dispersion interleaver, based on patented technology, features a wide clear bandwidth, minimal thermal drift, low insertion loss, low ripple, and low polarization dependent loss (PDL). Temperature control is not required.

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Package Drawing and Port Designations



Channel Spacing	Device Type	Dimensions			Port Designations		
		L	W	H	X	Y	Z
50/100 GHz	Mux/Demux	120.2 mm	25.2 mm	12.4 mm	Odd	Common	Even
100/200 GHz	Mux/Demux	84.2 mm	25.2 mm	12.4 mm	Even	Common	Odd

Notes:

1. See Table 1 below for channel designation of the even and odd ports. Detailed package drawings available on demand.
2. Excluding collimators and strain reliefs.
3. Excluding mounting holes. Please contact JDSU for detailed drawings.

Table 1: Channel Designation of Even and Odd Ports

Channel Spacing /ITU Offset	C Band Even Port Frequency	C Band Odd Port Frequency	L Band Even Port Frequency	L Band Odd Port Frequency
50/100 GHz on ITU	192.000 to 196.000 THz	192.050 to 195.950 THz	186.800 to 191.000 THz	186.850 to 190.950 THz
50/100 GHz, 25 GHz offset	192.025 to 195.925 THz	192.075 to 195.975 THz	186.825 to 190.925 THz	186.875 to 190.975 THz
100/200 GHz on ITU	192.000 to 196.000 THz	192.100 to 195.900 THz	186.800 to 191.000 THz	186.900 to 190.900 THz
100/200 GHz, 50 GHz offset	192.050 to 195.850 THz	192.150 to 195.950 THz	186.850 to 190.850 THz	186.950 to 190.950 THz

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Specifications

Parameter		50/100 GHz Mux/Demux	100/200 GHz Mux/Demux
Wavelength (C band, for end channel ITUs)		1529.55 to 1561.42 nm	1529.55 to 1561.42 nm
Wavelength (L band, for end channel ITUs)		1569.59 to 1604.88 nm	1569.59 to 1604.88 nm
Frequency (C band, for end channel ITUs)		196.000 to 192.000 THz	196.000 to 192.000 THz
Frequency (L band, for end channel ITUs)		191.000 to 186.800 THz	191.000 to 186.800 THz
Number of channels	Minimum	80	40
Clear bandwidth (standard)	Minimum	±8 GHz	±15 GHz
Clear bandwidth (wideband)	Minimum	±10 GHz	N/A
Insertion loss within clear bandwidth ^{1,2}	Maximum	2.0 dB	2.0 dB
Ripple within clear bandwidth ^{2,3}	Maximum	0.4 dB	0.4 dB
PDL within clear bandwidth ^{2,4}	Maximum	0.4 dB	0.4 dB
Insertion loss uniformity ^{2,5}	Maximum	0.5 dB	0.5 dB
Adjacent channel isolation ^{2,6}	Minimum	14 dB (Mux)/25 dB (Demux)	14 dB (Mux)/25 dB (Demux)
Return loss ¹	Minimum	45 dB	45 dB
Directivity	Minimum	55 dB	55 dB
Polarization mode dispersion	Maximum	0.2 ps	0.2 ps
Chromatic dispersion within clear bandwidth	Maximum	±20 ps/nm	±15 ps/nm
Optical power ⁷	Maximum	250 mW	250 mW
Operating temperature		0 to 65°C	0 to 65°C
Fiber type		900 µm tight buffer SMF-28	900 µm tight buffer SMF-28

1. Without connector.

2. Over all operating temperatures and states of polarization (SOP).

3. Measured at any given SOP.

4. Difference between insertion loss at any two SOP, measured at a given wavelength.

5. Difference between the maximum insertion loss over any two clear bandwidths, at any given SOP, and at any operating temperature.

6. Measured over clear bandwidth of both adjacent channels.

7. Across C and L band only.

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide, or via e-mail at customer.service@jdsu.com.

Sample: IBC-C05D01410

IBC-						14		
Code	Wavelength Range	Code	Narrower Channel Spacing	Code	Center Wavelength	Code	Fiber Length³	
C	C band			0	Aligned with ITU grid ²	1	100 cm	
L	L band			5	50 GHz offset (for 100/200 GHz)	5	50 cm	
				A	25 GHz offset (for 50/100 GHz)			
Code	Design Type¹					Code	Connector	
0	Standard					0	No connector	
W	Wideband					1	FC/APC	
						2	SC/UPC	
						4	FC/UPC	
						B	LC/PC	
		Code	Function					
		D	Demux					
		M	Mux					

1. Dual stage modules available. Please contact JDSU for further details.
2. Standard.
3. Tolerance of ± 0.1 meter.