Specification of 150GHz C-band Flat top 32-Channel A thermal AWG, DWDM MUX DEMUX

1. Introduction

The 150GHz 32ch DWDM MUX DEMUX operate in C-band. And it meet the following specification over the operating temperature.

2. Definition Note:

All specifications should be guaranteed at the worst-case polarization state and over the entire operating environmental condition and end of life.

The **Insertion Loss of** a device is defined as the maximum loss at a defined wavelength, taking into account the worst-case polarization state over the full operating temperature range.

The **Insertion Loss Uniformity** of a device is the difference between the insertion loss of the best-case and worst-case channels. The Polarization Dependent Loss of a device is the maximum insertion loss difference between all polarization states at the defined wavelength.

The Reference **Passband** is defined as a band of wavelengths around each center wavelength. It is used in the definition of crosstalk.

The **Adjacent Isolation** of channel is the maximum insertion loss difference from the mean transmission at the ITU grid wavelength to the highest power over the all polarization and the ITU band of two adjacent channels.

The **Non-adjacent Isolation** of channel is the maximum insertion loss difference from the mean transmission at the ITU grid wavelength to the highest power over the all polarization and the ITU band of the non-adjacent channels.

The **Total Crosstalk** of channel is the total cumulative insertion loss difference from the mean transmission at the ITU grid wavelength to the highest power over the all polarization and the ITU band of all other channels including adjacent and non-adjacent channels.

The **Wavelength Accuracy** is defined as the maximum difference between the defined wavelength and the center of measured 3dB passband.

3. Product Penal
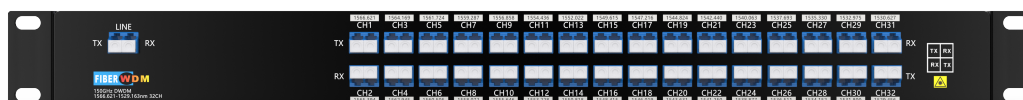
150GHz DWDM MUX DEMUX 32CH 1U Rack

4. Technical Parameter

Parameter	Specification			Units	Notes
	Min	Type	Max		
Channel Spacing		150		GHz	
Nos of Channel		32		Ch	
Channel Frequencies		ITU Grid		THz	
Available Channel Frequency Range	191.2		196.7	THz	
Channel Passband	-60		+60	GHz	
	-0.48		+0.48	nm	
Center Wavelength Accuracy	-0.05		+0.05	nm	
	-6.25		+6.25	GHz	
Insertion Loss			5.5	dB	@Center Wavelength
			6.0	dB	Full Bandwidth
Passband Ripple			0.6	nm	Full Bandwidth
Bandwidth @1.5dB	135			GHz	
Bandwidth @3.0dB	160			GHz	
Bandwidth @20dB			310	GHz	
Insertion Loss Uniformity at ITU			1.50	dB	
Polarization Dependent Loss			0.5	dB	
Adjacent Channel Isolation	13	15		dB	
Non-Adjacent Channel Isolation	30	35		dB	
Total Cross Talk	11	13		dB	
Directivity	50			dB	
Return Loss with connectors	40	45		dB	
Chromatic Dispersion	-20		+20	ps/nm	
PMD			0.5	ps	
Optical Power Handling of Common Port			24	dBm	

5. Operating Conditions

Parameter		Min		Max	Units
Temperature		-5		70	℃
Humidity	Non-condensing	0		90	% R.H.

6. Storage Conditions

Parameter		Min		Max	Units
Temperature		-40		85	℃
Humidity	Non-condensing	0		90	% R.H.

7. Channel Plan 32Port AWG - On grid

The AWG operate in C-band. The channels are as follows

Table 1

Channel	ITU	Frequency	Wavelength	Channel	ITU	Frequency	Wavelength
No.	Channel	THz	nm	No.	Channel	THz	nm
1		191.4000	1566.314	17		193.8000	1546.917
2		191.5500	1565.087	18		193.9500	1545.720
3		191.7000	1563.863	19		194.1000	1544.526
4		191.8500	1562.640	20		194.2500	1543.333
5		192.0000	1561.419	21		194.4000	1542.142
6		192.1500	1560.200	22		194.5500	1540.953
7		192.3000	1558.983	23		194.7000	1539.766
8		192.4500	1557.768	24		194.8500	1538.581
9		192.6000	1556.555	25		195.0000	1537.397
10		192.7500	1555.343	26		195.1500	1536.216
11		192.9000	1554.134	27		195.3000	1535.036
12		193.0500	1552.926	28		195.4500	1533.858
13		193.2000	1551.721	29		195.6000	1532.681
14		193.3500	1550.517	30		195.7500	1531.507
15		193.5000	1549.315	31		195.9000	1530.334
16		193.6500	1548.115	32		196.0500	1529.163

Table 2

Channel	ITU	Frequency	Wavelength	Channel	ITU	Frequency	Wavelength
No.	Channel	THz	nm	No.	Channel	THz	nm
1		191.3625	1566.621	17		193.7625	1547.216
2		191.5125	1565.394	18		193.9125	1546.019
3		191.6625	1564.169	19		194.0625	1544.824
4		191.8125	1562.945	20		194.2125	1543.631
5		191.9625	1561.724	21		194.3625	1542.440
6		192.1125	1560.505	22		194.5125	1541.250
7		192.2625	1559.287	23		194.6625	1540.063
8		192.4125	1558.072	24		194.8125	1538.877
9		192.5625	1556.858	25		194.9625	1537.693
10		192.7125	1555.646	26		195.1125	1536.511
11		192.8625	1554.436	27		195.2625	1535.330
12		193.0125	1553.228	28		195.4125	1534.152
13		193.1625	1552.022	29		195.5625	1532.975
14		193.3125	1550.818	30		195.7125	1531.800
15		193.4625	1549.615	31		195.8625	1530.627
16		193.6125	1548.415	32		196.0125	1529.456

Table 3

Channel	ITU	Frequency	Wavelength	Channel	ITU	Frequency	Wavelength
No.	Channel	THz	nm	No.	Channel	THz	nm
1		191.4375	1566.007	17		193.8000	1546.917
2		191.5875	1564.781	18		193.9500	1545.720
3		191.7375	1563.557	19		194.1000	1544.526
4		191.8875	1562.334	20		194.2500	1543.333
5		192.0375	1561.114	21		194.4000	1542.142
6		192.1875	1559.896	22		194.5500	1540.953
7		192.3375	1558.679	23		194.7000	1539.766
8		192.4875	1557.465	24		194.8500	1538.581
9		192.6375	1556.252	25		195.0000	1537.397
10		192.7875	1555.041	26		195.1500	1536.216
11		192.9375	1553.832	27		195.3000	1535.036
12		193.0875	1552.625	28		195.4500	1533.858
13		193.2375	1551.420	29		195.6000	1532.681
14		193.3875	1550.216	30		195.7500	1531.507
15		193.5375	1549.015	31		195.9000	1530.334
16		193.6875	1547.815	32		196.0500	1529.163

8. Package Drawing
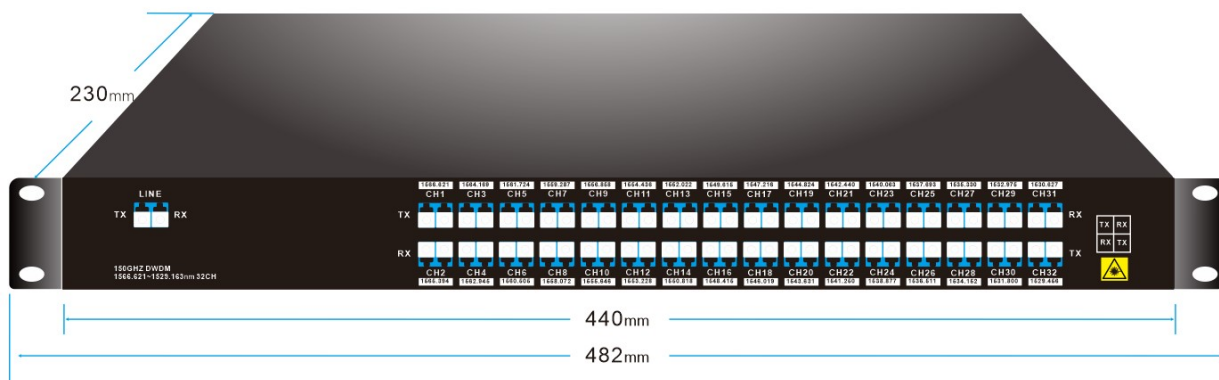
9. Ordering information

Product No.	Product description
DMD32-1U01-150G-A	150GHz DWDM MUX DEMUX 32CH (1566.314~1529.163nm)，Dual fiber, LC/UPC , 1U Rack
DMD32-1U01-150G-B	150GHz DWDM MUX DEMUX 32CH (1566.621~1529.456nm)，Dual fiber, LC/UPC , 1U Rack
DMD32-1U01-150G-C	150GHz DWDM MUX DEMUX 32CH (1566.007~1529.163nm)，Dual fiber, LC/UPC , 1U Rack