

W2 Wave Technologies, Inc.

44-Channel 100GHz Athermal AWG Mux/Demux

Part Number: **AAWG-1-F-44-C60-05-05-LC**

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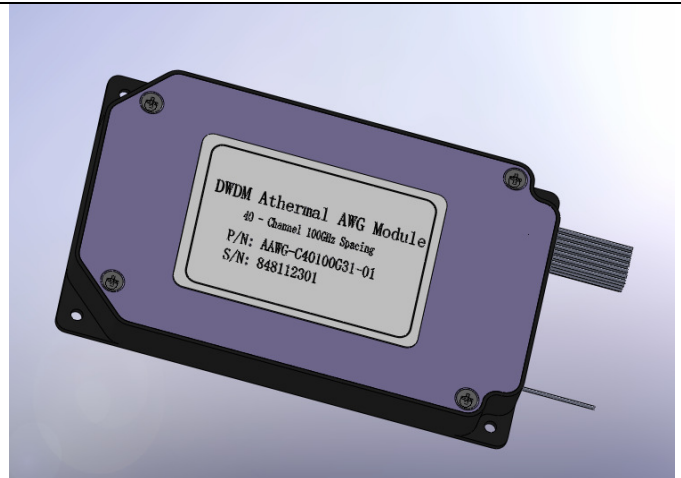
Issue Date: **March 6, 2010**

Revision: **2.1**

1. Product Overview

This document presents the generic specification for the 44-channel 100GHz MUX/DEMUX component supplied for use in DWDM system.

Our Dense Wavelength Division Mux/Demultiplexer Modules are part of a series of high performance products based on silica-on-silicon planar technology and a unique athermal packaging design requiring no electrical power, software or temperature control for a completely passive DWDM solution. This product range offers a combination of very low loss and high channel isolation along with long term reliability and low cost per channel for 44 channel, 100GHz solutions. Each module can perform Mux and Demux functions. Both C- and L-band devices are available with Flat top spectral response. Custom frequency grids, fiber types and termination options are also available.

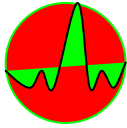


label is only for spec review and can be no label or customer label on the device on delivered samples and products

2. Absolute Maximum Ratings (unless otherwise specified)

Parameters	Conditions	Specifications		Units
		Min.	Max.	
Operating Temperature	Non-Condensing Environment	-5	65	°C
Operating Humidity		5	95	%RH
Storage Temperature	Device Not Powered on Heater Element	-40	+85	°C
Storage Humidity	Device Not Powered on Heater Element	5	95	%RH

Notes Parameters are specified for the whole passband over all polarization states and operating temperature range unless stated otherwise



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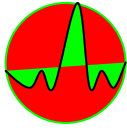
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3. Optical Specifications

Parameters	Condition	Specs			Units
		MIN	Typ	MAX	
Number of Channels		44			
Number Channel Spacing	100GHz	100			GHz
Cha. Center Wavelength	ITU frequency, measured in vacuum.	C-band			nm
Wavelength Accuracy	Offset from ITU grid	-0.05		0.05	nm
Clear passband	Centered at each ITU	-12.5		12.5	GHz
1dB Channel Bandwidth	1dB from min insertion loss full width	0.38	0.4		nm
3dB Channel Bandwidth	3dB from min insertion loss full width	0.58	0.6		nm
20dB Channel Bandwidth	20dB from min insertion loss full width			1.26	nm
30dB Channel Bandwidth	30dB from min insertion loss full width			1.76	nm
Optical Insertion Loss at ITU grid	Defined as the minimum transmission at ITU wavelength for all channels. For each channel, at all temperatures and polarizations.			6.0	dB
Adjacent Channel Isolation	Measured	25			dB
Non-Adjacent, Channel Isolation	For given channel of any of non adjacent channels. See definitions.	30			dB
Total Isolation	Measured	23			dB
Insertion Loss Uniformity	The difference between the maximum and minimum of IL among all channels		0.8	1.5	dB
Directivity	Input & output ports	40			dB
Insertion Loss Ripple	Maximum of the loss variation over Clear passband			0.5	dB
Optical Return loss	Input & output ports	40			dB
Polarization Dependent Loss	Maximum IL difference between all polarization status over Clear passband		0.3	0.5	dB
Polarization Mode Dispersion	Averaged differential group delay over Clear passband			0.5	ps
Chromatic Dispersion	Over Clear passband Design guarantee	-20		20	ps/nm
Input Optical Power				500	mW
Channel Plan		First ch 196.0THz, 1529.55nm Last ch 191.70THz 1563.86nm			



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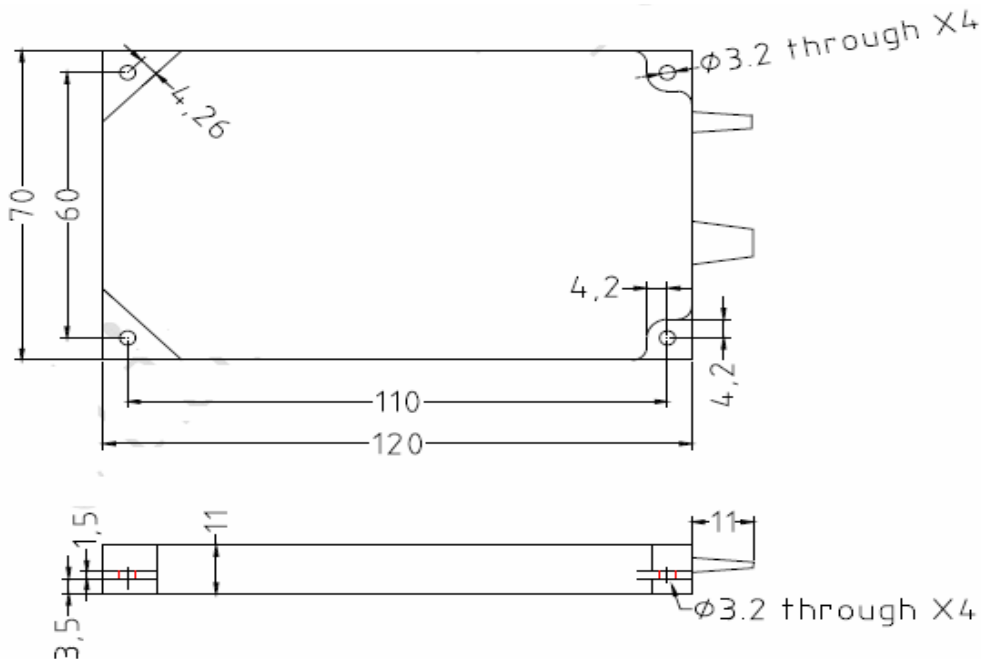
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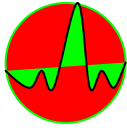
4. Mechanical Schematic and Dimensions

Parameters	Conditions	Specifications	Units
Dimensions		120 x 70x 11	mm
Fiber Adhesion to Package	Minimum fiber pull-strength	5	N
Fiber Bend Radius	Fiber Stow Radius During Shipment	25	mm
Input fiber length	SMF28 fiber with 900um loose tube	500	mm
Output fiber length	12 or 8 fiber ribbon with fan out to 900um loose tube and terminated	500mm ribbon/500mm900um loose tube after fan out	mm
Fiber Kinks / Sets	Minimum Radius of Kinks / Sets	20	mm

Fiber Type	Compatible with Corning SMF-28 fiber for fusion splicing with acrylate coating		
Fiber Format	3x12 +1x8 fiber ribbons		
Pigtail Marking	Marking with TIU number for each pigtail, 1: TIU60, 2: ITU59, 43: ITU 18, 44: ITU 17. Odd and Even channels belong to different fiber ribbons. For example, one ribbon contains ch 1,3,5 and the other contains ch2,4,6...		
Fiber Length	Common	500mm ± 100mm	
Fiber Length	Channels	500mm ribbon/500mm900um loose tube after fan out	
Connector Type	All ports	LC	

Module Box dimensions:





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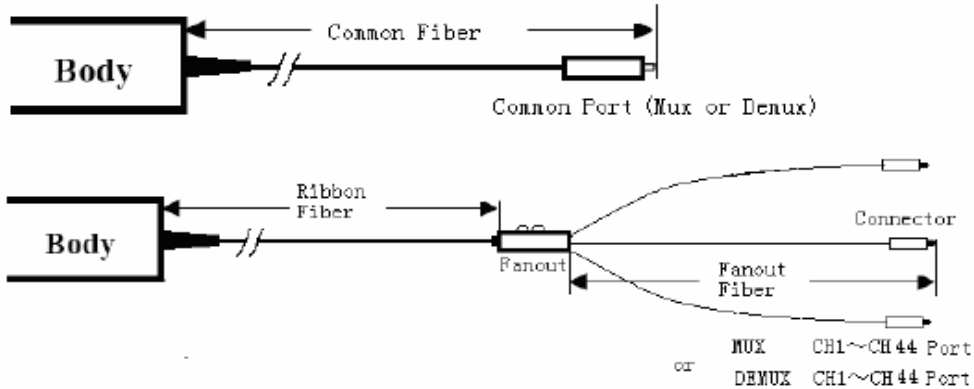
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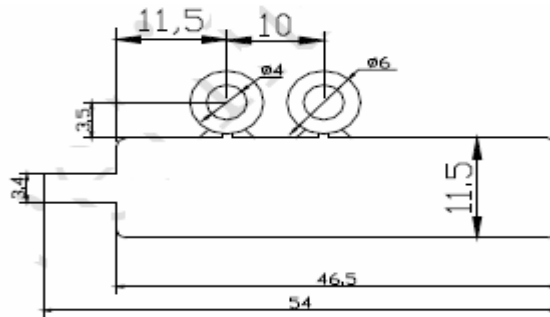
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Fiber configurations:



Fan our dimensions:



5. Shipment Packaging

Our standard shipment packaging will be employed for the discrete devices in addition to the external packaging.

6. Ordering Part Code Sequence

