

DWDM Athermal AWG 100G 41Ch

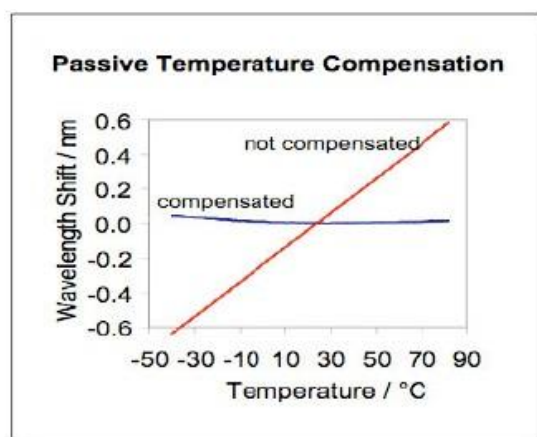
1. Product Overview

This document presents the generic specification for the 41-channel 100GHz AWG MUX/DEMUX component supplied for use in DWDM system.

Hiph's 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 41 channel, 100GHz solutions. Each Module can perform Mux and Demux functions.

Different input and output fibers, such as SM fibers, MM fibers and PM fiber can be selected to meet different applications.



2. Absolute Maximum Ratings (unless otherwise specified)

Parameters	Conditions	Specifications		Units
		Min.	Max.	
Operating Temperature	Operating	-5	65	°C
Operating Humidity	Operating	5	95	%RH
Storage Temperature	Non_ Operating	-40	+85	°C
Storage Humidity	Non_ Operating	5	95	%RH

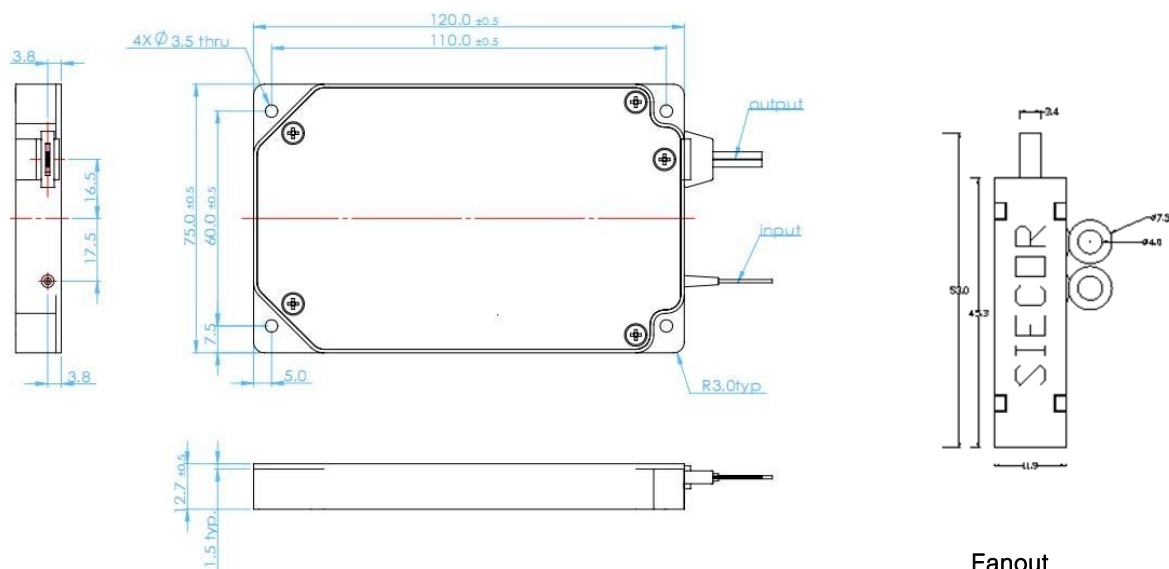
Optical Specification (Gaussian Athermal AWG)

Parameters	Condition	Specs			Units
		Min	Typ	Max	
Number of Channels		41			
Number Channel Spacing	100GHz	100			GHz
Cha. Center Wavelength	ITU frequency.	C –band			nm
Clear Channel Passband		±12.5			GHz
Wavelength Stability	Maximum range of the wavelength error of all channels and temperatures in average polarization.	±0.05			nm
–1 dB Channel Bandwidth	Clear channel bandwidth defined by passband shape. For each channel	0.24			nm
–3 dB Channel Bandwidth	Clear channel bandwidth defined by passband shape. For each channel	0.43			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.		4.5	6.0	dB
Adjacent Channel Isolation	Insertion loss difference from the mean transmission at the ITU grid wavelength to the highest power, all polarizations, within the ITU band of the adjacent channels.	25			dB
Non-Adjacent, Channel Isolation	Insertion loss difference from the mean transmission at the ITU grid wavelength to the highest power, all polarizations, within the ITU band of the nonadjacent channels.	29			dB
Total Channel Isolation	Total cumulative insertion loss difference from the mean transmission at the ITU grid wavelength to the highest power, all polarizations, within the ITU band of all other channels, including adjacent channels.	22			dB
Insertion Loss Uniformity	Maximum range of the insertion loss variation within ITU across all channels, polarizations and temperatures.			1.5	dB
Directivity (Mux Only)	Ratio of reflected power out of any channel (other than channel n) to power in from the input channel n	40			dB
Insertion Loss Ripple	Any maxima and any minima of optical loss across ITU band, excluding boundary points, for each channel at each port			1.2	dB
Optical Return loss	Input & output ports	40			dB
PDL/Polarization Dependent Loss in Clear Channel Band	Worst-case value measured in ITU band		0.3	0.5	dB
Polarization Mode Dispersion				0.5	ps
Maximum Optical Power				23	dBm
MUX/DEMUX input/ output Monitoring range		–35		+23	dBm

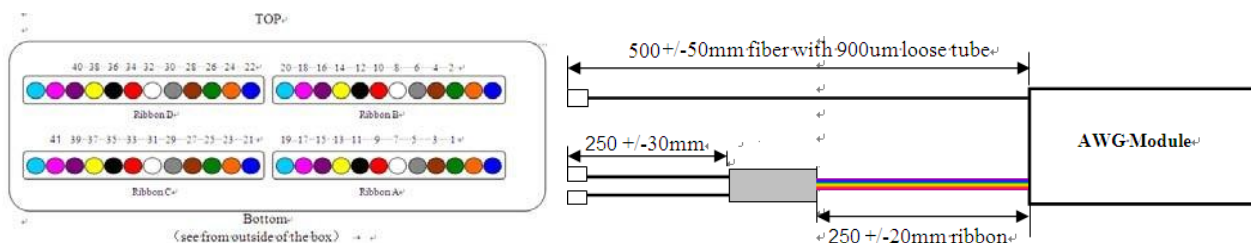
1. IL Represents the worst case over a $\pm 0.01\text{nm}$ window around the ITU wavelength ;
2. PDL was measured on average polarization over a $\pm 0.01\text{nm}$ window around the ITU wavelength.

3. Mechanical Schematic and Dimensions

Dimensions				120 x 75 x 12.7								mm	
Space between space between screws				110×60								mm	
Fiber Type		Common G657A fiber with 900μm loose tube, 900μm , G652D Ribbons Channels											
Fiber Format		4x 12–fiber ribbons											
Fiber Length		Common		500mm ± 50mm with 900um loose tube/ 500mm									
		Channels		Ribbon250mm± 20 mm and Fan out 250mm± 30mm with 900um loose tube									
Common		Color		white									
Ribbon Identification		/Label with ribbon number to be placed midway between ribbon end–points											
Connector Options		Common		LC/UPC									
		Channels		LC/UPC									
Fiber Identification in Ribbon		1	藍/Blue	2	橙/Orange	3	绿/Green	4	褐/Brown	5	灰/Grey	6	白/White
		7	红/Red	8	黑/Black	9	黄/Yellow	10	紫/Purple	11	粉/Pink	12	水/Aqua



*Also available in other configuration



4. Reliability Specifications

The planar DWDM components described within this datasheet are fully qualified according to Telcordia reliability assurance requirements for fiber optic and opto-electronic components (GR-1221-CORE/UNC, Generic Reliability Assurance Requirements for Fiber Optic Branching Components, and Telcordia TR-NWT-000468, Reliability Assurance Practices for Opto-electronic Devices). The reliability report is available for request.

5. Ordering Part Code Sequence

HAW G	X	XX	X	XXX	X	X	X	XX
	Band	Number of Channels	Spacing	1st Channel	Filter Shape	Package	Fiber Length	In/Out Connector
	C=C-Band	16=16-CH	1=100G	C60=C60	G=Gaussian	M=Module	1=0.5m	0=None
	L=L-Band	32=32-CH	2=200G	H59=H59	B=Broad	R=Rack	2=1m	1=FC/APC
	D=C+L-Band	40=40-CH	5=50G	C59=C59	Gaussiar	X=Special	3=1.5m	2=FC/PC
	X=Customize	48=48-CH	X=Special	H58=H58	F=Flat Top		4=2m	3=SC/APC
		XX=Special		XXX=special			5=2.5m	4=SC/PC
							6=3m	5=LC/APC
							S=Specify	6=LC/PC
								7=ST/UPC
								S=Specify