

Gaussian 50G 80CH AWG Specification

Description

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 80 channels, 50GHz solutions. Different input and output fibers, such as SM fibers, MM fibers and PM fiber can be selected to meet different applications.

Absolute Maximum Ratings

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

Specification

Parameters	Conditions	Specs			Units
		Min	Type	Max	
Number of Channels		80			
Number Channel Spacing	50GHz	50			GHz
Center Wavelength	ITU frequency.	C- band			nm
Channel Passband		± 0.1			nm
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	0.22			nm
-3 dB Channel Bandwidth	Clear channel bandwidth defined by passband shape. For each channel	0.27			nm
Insertion Loss	Defined as the minimum transmission at ITU wavelength for all channels. For each channel, at all temperatures and polarizations.		6.0	7.0	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.	22			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.	28			dB

AWG DWDM Multiplexer

50GHz 80CH

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.	20			dB
Insertion Loss Uniformity	Maximum range of the insertion loss variation within ITU across all channels, polarizations and temperatures.		0.8	1.5	dB
Insertion Loss Ripple	Any maximum and any minimum of optical loss across ITU band, excluding boundary points, for each channel at each port			1.5	dB
Directivity(Mux Only)	Ratio of reflected power out of any channel(other than channel) to power in from the input channel	40			dB
Optical Return loss	Input & output ports	40			dB
PDL	Worst-case value measured in ITU band		0.3	0.8	dB
PMD				0.5	ps
Optical Power				23	dBm
Mux/Demux input/ output Monitoring range		-35		+23	dBm

1. IL Represents the worst case over a +/-0.08nm window around the ITU wavelength ;
2. PDL was measured on average polarization over a +/- 0.08nm window around the ITU wavelength.

Mechanical Schematic and Dimensions

Dimensions		483*250*44mm
Fiber Type		Common G657A fiber with 900mm loose tube, 900mm, G657A Ribbons Channels
Fiber Format		4x12-ribbon fiber
Fiber Length	Common Port	800mm ± 50mm with 900um loose tube
	Channels	Ribbon400mm± 20 mm and Fan out 400mm± 30mm with 900um loose tube
Common		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-blue, 2- orange, 3- green, 4-brown, 5- grey; 6- white, 7- red, 8- black, 9- yellow, 10- purple, 11- pink, 12- aqua

AWG DWDM Multiplexer

50GHz 80CH

Test Report

The test report will be provided when the products are delivered. Following characteristic test data should be included.

- Insertion loss (room temperature)
Represents the worst case over $\pm 0.10\text{nm}$ around the ITU wavelength with connector.
- PDL (room temperature)
Measured on average polarization over $\pm 0.10\text{nm}$ around the ITU wavelength with connector.

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.

Ordering Information

Band	Channel Number	Spacing	Channel Number	Filter Type	Package	Fiber Length	Connector
C-Band	16 Channels	100 GHz	C60	Gaussian	Module	0.5m	None
L-Band	32 Channels	200 GHz	H59	Broad Gaussian	Rack	1.0m	SC/UPC
C&L Band	40 Channels	50 GHz	C59	Flat-Top	Customize	1.5m	SC/APC
Customize	48 Channels	Customize	H58			2.0m	FC/UPC
	Customize		ITU Channel			2.5m	FC/APC
						3.0m	LC/UPC
						1.25m	LC/APC
						1.75m	ST/UPC
						2.25m	MU
						Customize	Customize