Athermal Arrayed-Waveguide Grating Multiplexer/Demultiplexer

AAWG Series

Product Description

Athermal Arrayed-Waveguide Grating (AAWG) have equivalent performance to thermal AWGs but no any electrical power needed for operation. AAWG is more simple than thermal AWG.

Oplink's planar lightwave circuits are well suited for demanding telecom applications in long-haul and metro transmission systems. The AAWG provide extremely excellent optical performance, high reliability, ease of fiber handling and power saving solution in a compact package.



Performance Specification

AAWG Parameters		Min.	Typical	Max.	Unit
Channel Spacing			100		GHz
Number of Channels			32, 40 or 44		
Channel Passband			± 12.5		GHz
Insertion Loss [2]			4.5	5.5	dB
Uniformity	≤ 40CH		0.9	1.2	dB
	> 44CH		1.2	1.5	dB
Ripple			0.35	0.5	dB
1dB Bandwidth [3]		50			GHz
3dB Bandwidth [3]		75			GHz
Polarization Dependent Loss				0.5	dB
Adjacent Channel Crosstalk		25			dB
Non-adjacent Channel Crosstalk		35			dB
Total Crosstalk		22			dB
Return Loss		45			dB
Directivity		50			dB
Chromatic Dispersion [4]		- 20		+ 20	ps/nm
PMD [4]				0.5	ps
Maximum Power Handling				300	mW
Fiber Type			G. 652D		
Fiber Jacket	Without Fan-out		C : 900μm loose tube B : 12-Core ribbon fiber		
	With Fan-out		C : 900μm loose tube B : 12-Core fibbon fiber A : 900μm loose tube		
Fiber Length			Refer ordering information		
Connector Type			Refer ordering information		
Operating Temperature			- 5 to +70		℃
Storage Temperature			-40 to +85		℃

Features

- Pure Passive
- MSA package
- Low insertion loss /PDL
- Extremely low crosstalk
- Telcordia GR-1209/1221 qualified

Applications

- ROADM
- FOADM
- xGPON
- WDM-PON

Notes:

[1] All the parameters are excluding connectors. IL of connectors is 0.2dB/pair for PC/UPC/SPC types and 0.4dB per pair for APC types.

[2] The maximum IL is under all states of polarization and within the full operating temperature and wavelength ranges specified.

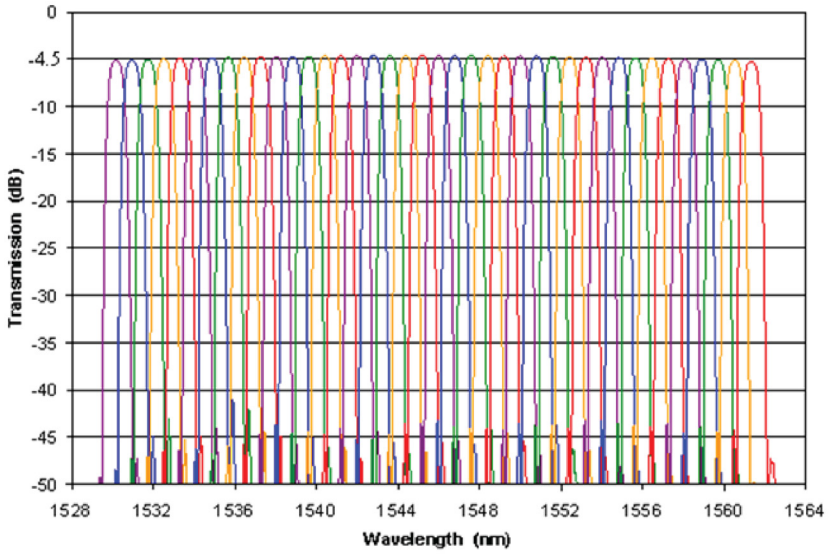
[3] Measured from minimum loss to 1dB and 3dB down respectively.

[4] Over ITU band

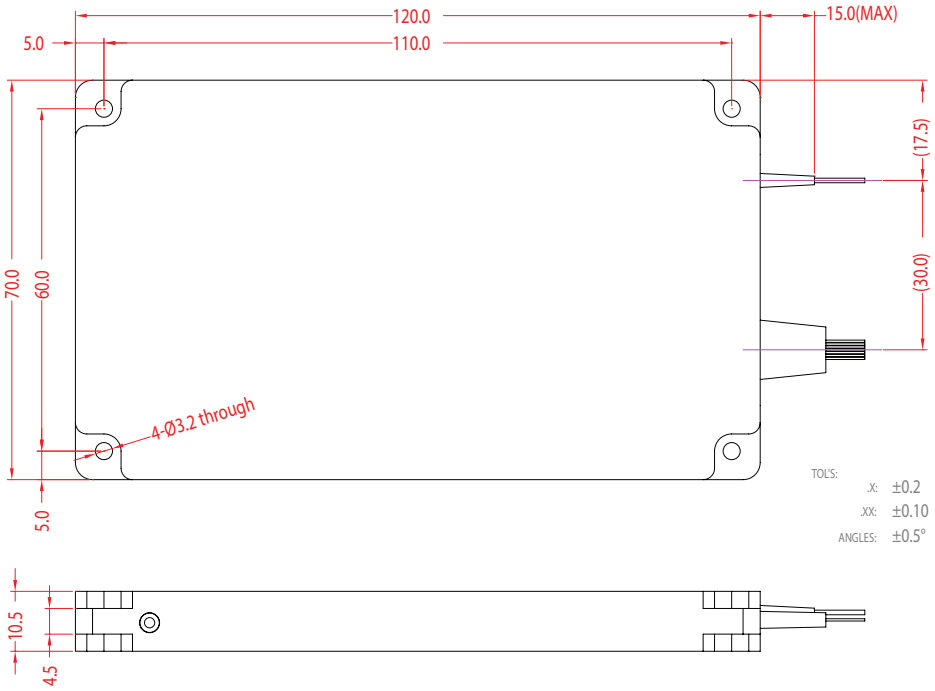
OPLINK COMMUNICATIONS

Channel Spectrum Table

Typical Flat-Top 40-Channel Spectrum

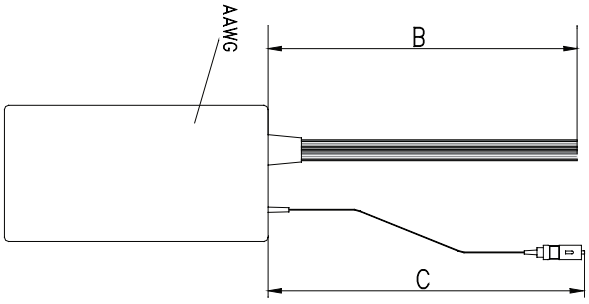


Mechanical Drawing / Package Dimensions (dimension in mm)

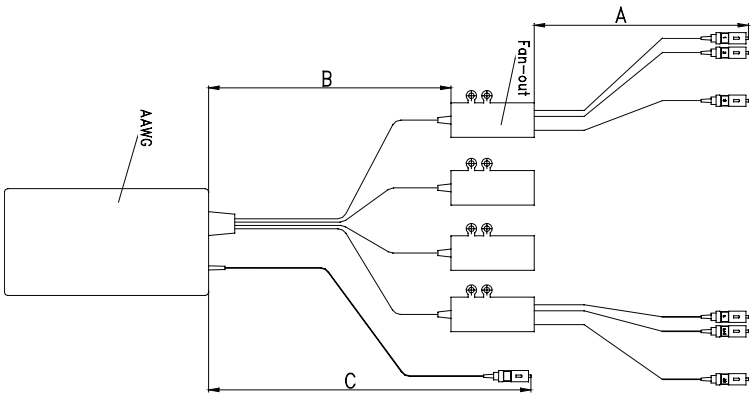


*The mechanical tolerance should be ±0.2mm on all package dimensions unless otherwise specified.

Definition of Fiber Length B and C (without fan-out)



Definition of Fiber Length A, B and C (with fan-out)



Ordering Information

Oplink can provide a remarkable range of customized optical solutions. For detail, please contact Oplink's OEM design team or account manager for your requirements and ordering information (510) 933-7200.

AAWG1 □□ □□□ □ □ □ □ □ □

Number of Channels
32ch = 32
40ch = 40
44ch = 44
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Largest ITU Channel Number

AAWG Type
Flat-Top = F

(A)Fiber Length*
0 meter = 0 (without fan-out)**
0.5 meter = H
1.0 meter = 1
1.5 meter = 5

(B)Fiber Length*
0.5 meter = H
1.0 meter = 1
1.5 meter = 5

(C)Fiber Length*
0.5 meter = H
1.0 meter = 1
1.5 meter = 5

Connector Type
None = 1
FC/PC = 2
FC/SPC = 3
FC/APC = 4
SC/PC = 5
SC/SPC = 6
SC/APC = 7
ST = 8
LC/UPC = 9
MU = A
LC/APC = B
MTP(female) = C***
MTP(male) = D***

* The tolerance of fiber length is +/-0.1m.
** Only MTP Connectors are available if the length of fiber A is 0 (without fan-out). Please choose 1 or C or D for the last digit of Oplink Part Number.
*** When MTP option was available, it must be LC/UPC option for fiber C.
****For other number of channels, please contact Oplink's sales department for further information.

For example, AAWG140C60F1119 represents one 100G 40-ch (192.10~196.00THz) Flat-Top type and with 1.0+/-0.1m fiber length on fiber C, 1.0+/-0.1m fiber length on fiber B, 1.0+/-0.1m fiber length on fiber A , all with LC/UPC connectors.

Product Lines: Mux/Demux Switching/Routing Coupling/Splitting Monitoring/Conditioning Amplification Interconnect Transmission HFC/RoF Subsystem

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