



80-Channel 50GHz Athermal AWG

The **KAIAM** Athermal AWG (Arrayed Waveguide Grating) is a high-performance DWDM mux/demux device operating on 50GHz channel spacing without the need for temperature stabilization. The planar processed silica-on-silicon chips comprise arrayed channel waveguides to separate or combine multiple wavelengths.

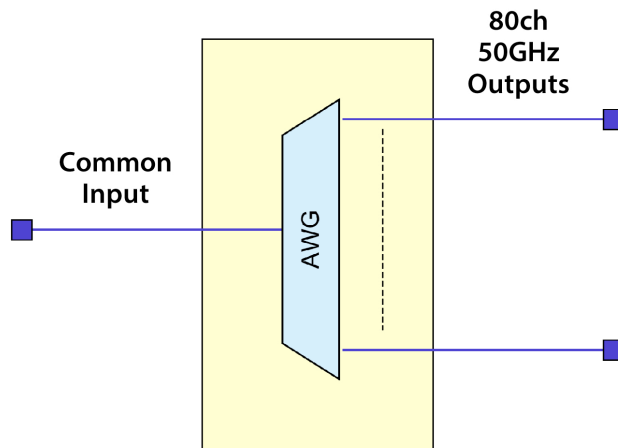
Athermal AWG s allow multiplexing and demultiplexing of DWDM signals over a wide operating temperature range, without the need for heater drive and monitoring electronics. These AWGs offer low insertion loss, excellent channel isolation, ease of fiber handling, and long-term reliability in a compact package. **KAIAM**'s athermalization technology simplifies deployment of AWG multiplexers/demultiplexers by DWDM network providers.

KEY FEATURES

- 80 Channels x 50GHz Mux/Demux
- 88 and 96 Channel Options Available
- Gaussian & Wide Passbands
- Fully Passive Module
- Wide Operating Temperature Range
- Low Insertion Loss & PDL
- Low Crosstalk
- High Uniformity
- No Electronics Required
- Compact Footprint
- Telcordia GR-1209/GR-1221 Qualified



FUNCTIONAL SCHEMATIC DIAGRAM



OPERATING & STORAGE CONDITIONS

PARAMETERS	UNIT	MIN	MAX
Operating Temperature	°C	-5	65
Operating Humidity (non-condensing)	% R.H.	0	90
Storage Temperature	°C	-40	85
Storage Humidity (non-condensing)	% R.H.	0	90

ABSOLUTE MAXIMUM RATINGS

PARAMETER	CONDITIONS	UNIT	MIN	MAX
Optical Power	at common port	dBm		23

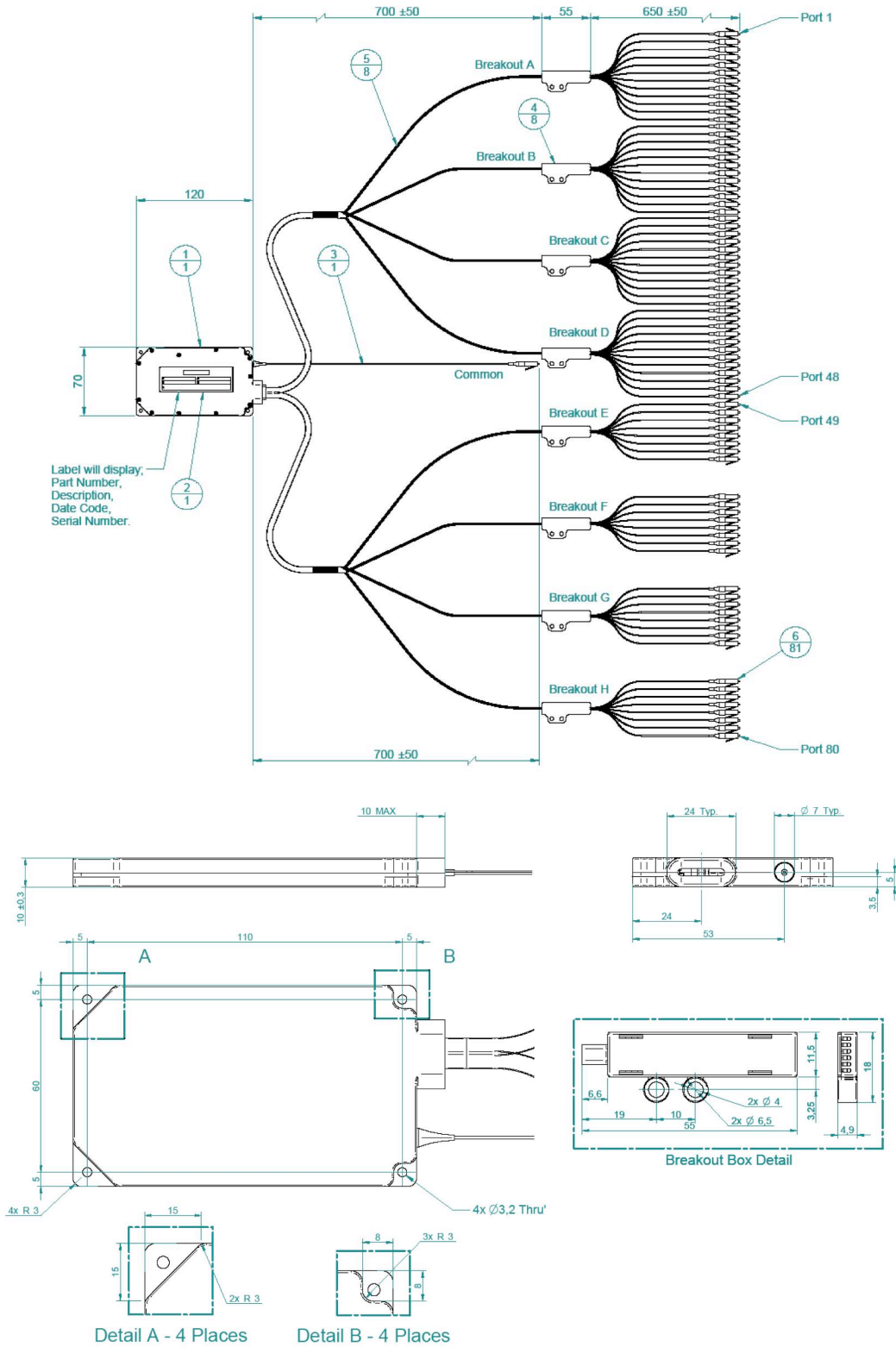
PHYSICAL PARAMETERS

PARAMETER	MIN	TYP	MAX	UNIT
Length		120		mm
Width		70		mm
Height		10		mm
Fiber Type	SMF-28			
Connector Type	LC-UPC			

OPTICAL SPECIFICATIONS

PARAMETERS	NOTES	MIN	TYPICAL	MAX	UNITS
Channels			80		Ch
Channel Spacing			50		GHz
Reference Pass Band	Relative to ITU Grid	± 0.05			nm
ITU Frequency	80-channel option	191.95		195.90	THz
ITU Wavelength	80-channel option	1530.334		1561.826	nm
1dB Bandwidth	1dB from minimum Insertion Loss, full width, average SOP	0.18			nm
3dB Bandwidth	3dB from minimum Insertion Loss, full width, average SOP	0.28			nm
20dB Bandwidth	20dB from minimum Insertion Loss, full width, average SOP			0.7	nm
Insertion Loss	Maximum of the insertion loss across the ITU pass band over all channels including connector loss, average SOP			6.5	dB
Ripple	Maximum of the loss variance across the ITU pass band over all channels, average SOP			0.7	dB
Insertion Loss Uniformity	Maximum insertion loss variance across all channels			1.5	dB
Adjacent Channel Isolation	Ratio of peak transmission to the transmission over adjacent pass bands at ITU	25			dB
Non-Adjacent Channel Isolation	Ratio of peak transmission to maximum transmission over all non-adjacent pass bands at ITU	25			dB
Total Crosstalk	Ratio of Power in channel to power in all other pass bands at ITU	20			dB
Polarization Dependent Loss (PDL)	Maximum ratio of transmissions over all polarization states, over the ITU pass band			0.5	dB
Polarization Mode Dispersion	In Reference Pass band over all channels			1.0	ps
Chromatic Dispersion	In reference Pass band over all channels	-35		35	ps/nm
Return Loss		40			dB

MECHANICAL DRAWINGS



80CH 50GHZ ATHERMAL AWG PART NUMBERS

DMX-W80-HH0-AT1

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