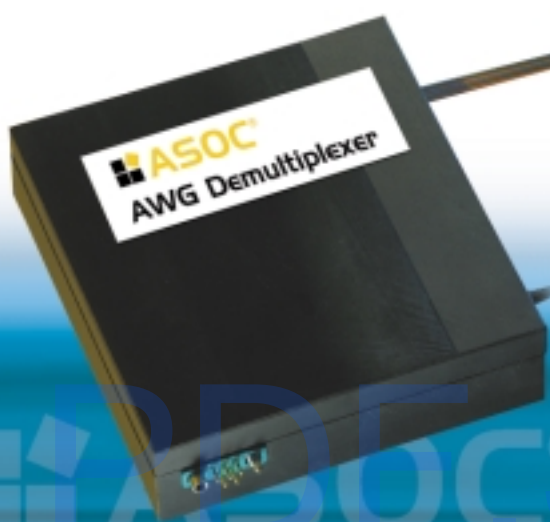


# ASOC® Arrayed Waveguide Grating (AWG) Dense Wavelength Division Multiplexing (DWDM) Multiplexer/Demultiplexer

BKM-51000 Family



As the demand for capacity continues to grow, DWDM solutions provide a fast route to increasing bandwidth. The ASOC Arrayed Waveguide Grating (AWG) offers high performance multiplexing and demultiplexing products.

The AWG function is to either combine different wavelengths into a single optical fibre, multiplexing, or separate the wavelengths that are transmitted from a single fibre, demultiplexing.

The tightly controlled design of the AWG allows these devices to offer frequencies on and off the ITU grid with a channel spacing of 100GHz. Other channel spacings are available, for example 50 – 200GHz.

This AWG product is fabricated in silicon, using ASOC technology. The characteristics of ASOC enable very precise control during the manufacturing process, leading to excellent reproducibility.

The AWG technology is a passive optical solution that uses no mechanical moving components. This provides high stability against mechanical shock and vibration. The device also offers good stability with respect to humidity.

For more detailed product information or price enquiries, please contact your regional sales office or e-mail [sales@bookham.com](mailto:sales@bookham.com)

## Features

- Large channel count on ITU grid
- Low insertion loss
- Low polarisation sensitivity
- 100GHz channel spacing
- Exceptionally low optical crosstalk
- Integrated heater for temperature stabilisation
- High temperature stability
- Compact size
- Single-sided fibre access for minimal space consumption

## Applications

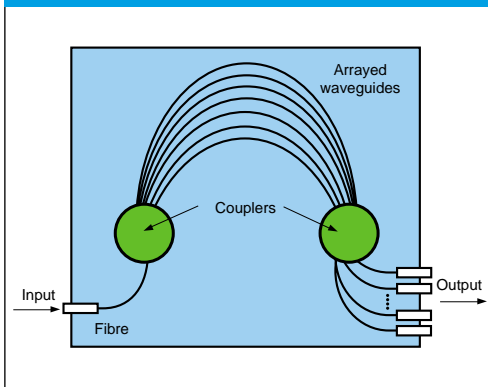
- WDM transmission
- Optical add/drop multiplexing
- Wavelength routing
- Optical cross-connect

## ASOC BKM-51000 Family Specifications

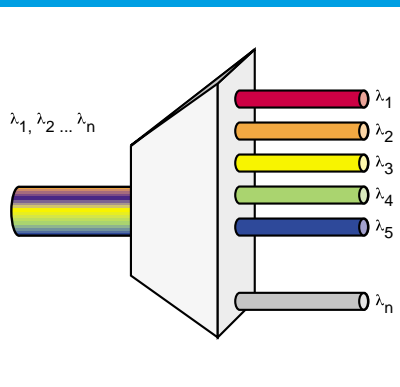
Parameter		Gaussian	Flat-Top	Comments
Channel wavelength		ITU grid, C and L band		
Channel count		16, 32, 40		Other channel counts available upon request
Channel spacing		100GHz	100GHz	50 and 200GHz can be specified
Insertion loss		5.5dB (T) 6.5dB (S)	7.5dB (T) 8.5dB (S)	Performance in passband excluding connectors / 40 channels *
Insertion loss uniformity		1.0dB (T) 1.5dB (S)	1.0dB (T) 1.5dB (S)	40 channels *
Full bandwidth @ 1.0dB		25GHz (T) 15GHz (S)	35GHz (T) 25GHz (S)	Bandwidth including band ripple and Polarisation Dependent Loss
Crosstalk	Adjacent	-30dB	-28dB	Typical
	Non-adjacent	-45dB	-40dB	Typical
	Integrated	-24dB	-21dB	40 channels, specified
Passband ripple		0.5dB	0.5dB	
Polarisation Dependent Loss		0.5dB	0.5dB	
Power consumption	Typical	2.0W	2.0W	
	Maximum	5.0W	5.0W	Worst case at lowest temperature
Heater voltage		5.0V	5.0V	
Temperature sensor	Thermistor	10 kΩ	10 kΩ	@ 25°C
	RTD	138.5Ω	138.5Ω	@ 100°C
Packaging dimensions		84(L)x90(W) x 22(H)	84(L)x90(W) x 22(H)	Dimensions in mm
Temperature range		0-65°C	0-65°C	

\* (T) Typical (S) Specified

### Schematic Diagram

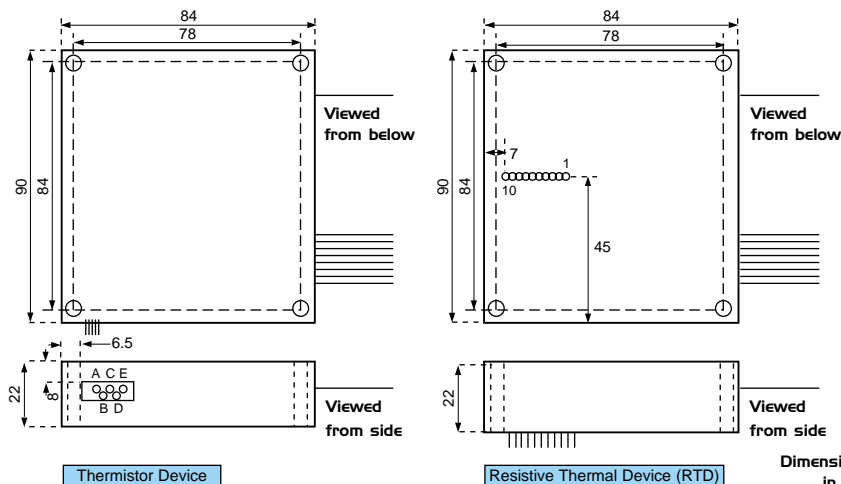


### Functional Diagram



### Package outline

Bookham Technology provides the AWG device with a choice of temperature sensors.



### IMPORTANT NOTICE

Bookham Technology has a policy of continuous improvement, as a result certain parameters detailed on this flyer may be subject to change without notice. If you are interested in a particular product please request the product specification datasheet, available from any Bookham Technology sales representative.



ISO 9001  
FM39955

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