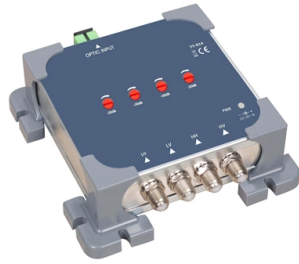


# High-precision AWG wavelength division multiplexer for Singapore LAN



## Overview

The AWG (arrayed-waveguide grating) multiplexer/demultiplexer combines and splits many channels (up to 88) of optical signals with different wavelengths useful in DWDM systems. The products feature both Gaussian and flat-top types that offer narrow channel spacing (100GHz). We produce fiber-coupled Wavelength-Division Multiplexing (WDM) devices that combine (Mux) or separate (DeMux) multiple wavelength channels into or from a single optical fiber. Two types are available: integrated arrayed waveguide gratings (AWG), offering low cost, compact size, and precise ITU. Here, we develop a novel design approach that co-optimizes inverse-designed wavelength division multiplexers and distributed Bragg gratings to achieve ultra-low crosstalk without compromising insertion loss. With advancements in optical communication technology, the number of AWG output channels has rapidly increased.

## Article Content

### A Silicon-Based On-Chip 64-Channel Hybrid Wavelength

The wavelength-division (de)multiplexers consist of two bi-directional micro-ring resonator arrays for four 16-channel WDM signals. Micro-heaters are placed on the micro-resonators for thermal tuning.

### Hybrid silica coarse wavelength-division multiplexer transmitter ...

We have developed a cost-effective and highly compact 100-Gb/s coarse wavelength division multiplexing (CWDM) transmitter optical subassembly (TOSA) using lens-free hybrid

### Silicon-Based Arrayed waveguide gratings for WDM and

This paper provides design considerations for silicon-based AWGs towards various applications such as wavelength division multiplexing (WDM) and spectroscopic analysis.

### Wavelength Division Multiplexers (WDM) | Corning

Explore wavelength division multiplexers (WDM), their applications, and products and learn why Corning is the best choice for WDM.

### Optically Multiplexed Systems: Wavelength Division Multiplexing

he need of multiplexers, specifically wavelength division multiplexers. A few popular optical multiplexing techniques are discussed later in this chapter. Also, it should be noted that being bi-directional

### High-Performance Wavelength Division Multiplexers Enabled by Co ...

Here, we develop a novel design approach that co-optimizes inverse-designed wavelength division multiplexers and distributed Bragg gratings to achieve ultra-low crosstalk without compromising

### Design and fabrication optimization of a 4-channel polarization ...

In this work, a 4-channel polarization-independent arrayed waveguide grating (AWG) was designed for CWDM systems, which was realized by ridge waveguides on the SOI platform with 3

### Singapore Wavelength Division Multiplexer (wdm) And ...

The Singapore Wavelength Division Multiplexer (wdm) And Splitters Market is divided by product type, application area, end-use industry and region. The product Modern range ranges from

### Wavelength Division Multiplexing Multi-Channel Sensing Circuit Using

Multi-channel sensing circuit utilizing wavelength division multiplexing is proposed using silicon on insulator platform. The circuit consists of four sections that can be decomposed into a

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Abstract: An arrayed waveguide grating (AWG) configuration can simultaneously perform the optical discrete Fourier transform and multiplex and demultiplex (MUX/DeMUX) two optical modes, to ...

Wavelength Division Multiplexing

Wavelength division multiplexing is a multiplexing technique working in the wavelength domain. It is commonly used in the area of optical fiber communications.

Silicon Nanowire-Assisted High Uniform Arrayed

Abstract and Figures Determining how to improve the non-uniformity of arrayed waveguide grating (AWG) is of great significance for dense wavelength

On-Chip Coarse Wavelength Division Multiplexers Based on Silicon ...

An ultra-compact 4-channel coarse wavelength division multiplexer with silicon gratings is proposed. The designed compact device has the flat-top passbands of more than 11nm, insertion loss of less than

Investigation of AWG demultiplexer based SOI for CWDM application

The AWG demultiplexer was design using high refractive index ( $n \sim 3.47$ ) material namely silicon-on-insulator (SOI) with rib waveguide structure. The characteristics of insertion loss, adjacent crosstalk

Integrated multi-wavelength lasers: a design study

Multi-wavelength lasers (MWLs) play an important role in wavelength division multiplex-ing networks, and also in photonic radar beam steering applications. In this paper we study different options for

Super-compact arrayed waveguide grating (awg) wavelength division ...

In order to solve the problem that the overall size of the AWG is too large and the integration cannot be improved further by using the uniform waveguide, the present invention provides a...

16-channel dual-tuning wavelength division

Abstract A 16-channel dual tuning wavelength division multiplexer/demultiplexer based on silicon on insulator platform is demonstrated, which is both peak

Design of 4-channel AWG Multiplexer/demultiplexer for CWDM system ...

Based on the theory of light transmission, the relationships between structure parameters and optical performance of AWG chip are analyzed. Four-channel AWG MUX/DEMUX chips for

APN-24-100501 1.

Abstract. A high-performance silicon arrayed-waveguide grating (AWG) with 0.4-nm channel spacing for dense wavelength-division multiplexing systems is designed and realized successfully. The device

Arrayed Waveguide Grating

Introduction Arrayed Waveguide Gratings (AWG) are optical Due to their ability to multiplex large numbers of wavelengths into a planar devices that are usually used as multiplexers/ single optical

Design and fabrication of E-band silica based dense wavelength-division ...

A E-band,48 channels flat top silica based dense wavelength-division multiplexing (Dwdm) arrayed waveguide grating (AWG) was designed and fabricated with 0.75% relative

High-performance silicon arrayed-waveguide grating (de)multiplexer

A high-performance silicon arrayed-waveguide grating (AWG) with 0.4-nm channel spacing for dense wavelength-division multiplexing systems is designed and realized successfully.

A Silicon-Based On-Chip 64-Channel Hybrid

An on-chip 64-channel hybrid (de)multiplexer for wavelength-division multiplexing (WDM) and mode-division multiplexing (MDM) is designed and

Study of hybrid integrated PLC-AWG chip for FBG demodulation

At the same time, using the wavelength division multiplexing (WDM) function of AWG, simultaneous measurement of multiple fiber grating sensors can be achieved. These features greatly

Optimization Method for Center Frequency Accuracy of

This paper presents a design and optimization approach for a high-channel-count AWG based on the silica platform and the finite difference beam

Compact 4-channel AWGs for CWDM and LAN WDM in data center

Abstract InP-based 4-channel AWGs for Coarse Wavelength Division Multiplexing (CWDM) with channel spacing of 20 nm and Local Area Network (LAN) WDM with channel spacing

AWG Arrayed Waveguide Grating Dense Wavelength

Please refer to Data sheet for detailed specifications. If you need a different model number, please feel free to ask a quotation.

Research on Optimization and Application of Wavelength Division ...

This paper discusses in detail the wavelength division multiplexing (WDM) technology, which effectively increases the communication capacity and transmission speed by simultaneously transmitting

## Contact Us

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