

Multiple optical circulators connected

Overview

Abstract— We present a path towards reconfigurable, electrically driven and integrated multiple-port optical circulators. 4 dB of isolation between adjacent ports, and four different working. An optical circulator is a three- or four-port optical device designed such that light entering any port exits from the next. You can think of it as a traffic controller for light, ensuring signals flow in one direction without interference., receive) signals without crosstalk and with low insertion loss. Our Single Mode (SM) and Polarization-Maintaining (PM) Circulators are ideal for advanced communication systems and fiber sensor. Thorlabs' Single Mode (SM) Optic Circulators are non-reciprocating, one directional, three-port devices that are used in a wide range of optical setups and for numerous applications. Our SM optical circulators have a center wavelength of 1064, 1310 (O-Band), or 1550 nm (C-Band).



Article Content

Jul 15, 2026

Faraday Circulators

Faraday circulators (or less specifically optical circulators) are a kind of non-reciprocal optical devices. They are technically related to

Feb 03, 2026

Circulator

Waveguide junction circulators function in much the same way as stripline junction circulators, and their basic theory of operation is

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Understanding Optical Circulators in Fiber Optic

An Optical Circulator is a non-reciprocal passive device used in fiber optic communication

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Optical Circulator

Two fiber circulators sandwich a set of optical cross-connect switches connected in series. Fiber gratings at the optical channel

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Optical Networks

In this chapter, we will discuss the various components of optical devices. Isolator is a non-reciprocal device that allows light to pass

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Understanding Optical Circulators in Fiber Optic

If you are looking for high-reliability optical circulators, Fiber-Life

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Broadband circulators based on directional coupling of one-way ...

Abstract: Resonator-based optical circulators are fundamentally bandwidth-limited by their quality factors. We propose a new type of

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Single Mode Fiber Optic Circulators

Thorlabs' Single Mode (SM) Optic Circulators are non-reciprocating, one directional, three-port devices that

Oct 23, 2025

Fiber Optic Circulators: Enabling Smarter, Directional Light

Conclusion Fiber optic circulators may be small in size, but their impact on optical systems is monumental. As

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Optical Isolators and Circulators

Optical isolators are needed to avoid such problems. An optical isolator is a nonreciprocal device that transmits an optical wave in

Oct 03, 2025

Integrated multi-port circulators for unidirectional optical ...

Article Open access Published: 18 May 2017 Integrated multi-port circulators for unidirectional optical information

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Fiber Optic Circulators

Our Single Mode (SM) and Polarization-Maintaining (PM) Circulators are ideal for advanced communication systems and fiber

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Optical Circulators | How it works, Application & Advantages

Optical Communications: Optical Circulators are widely used in Dense Wavelength Division Multiplexing (DWDM)

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Faraday Circulators

A Faraday circulator is a multi-port device, typically made with fiber-optic ports, which sends any input light to the next port.

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What Are Optical Circulators And Their Applications?

Each optical circulator is a generalized isolator which has three ports or sometimes more. Where an isolator causes the

Dec 26, 2025

Optical Circulators: A Comprehensive Guide

Discover the world of optical circulators, their working principles, and their significance in modern optics and photonics applications.

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How an Optical Circulator Works in a Fiber Network

Circulators are essential in various optical sensing and monitoring systems, including the Optical Time Domain Reflectometer

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Optical Circulator: An Essential Component in Modern Optical Networks

An optical circulator is a crucial device in the field of fiber optic communication, playing a significant role in enhancing

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Optical Circulators: Mechanics and Versatile Applications

In the realm of optical communication, the ability to efficiently control the flow of light signals is paramount. Enter the

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Multiple-port integrated optical circulators

Abstract— We present a path towards reconfigurable, electrically driven and integrated multiple-port optical circulators. Using this

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What is an optical circulator in fiber optics? What is it used for?

What is an optical circulator used for? What are its applications? Fiber optic circulators are primarily used to keep the

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Leveraging Fiber Optic Circulators to Solve Critical Challenges in ...

This article provides a detailed analysis of the problems that fiber optic circulators address in current optical

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Optical Circulators: A Comprehensive Guide

Discover the ultimate guide to Optical Circulators and their significance in Optical Properties of Materials, including

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Optical Circulator FAQs

Optical circulators provide high isolation (typically >45dB) between ports which enables this. • Wavelength division multiplexing

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Optical circulator

In 2013, Davoyan and Engheta proposed a nanoscale plasmonic Y-circulator based on three dielectric

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Optical Circulators | Coherent

Use Coherent unidirectional multi-port couplers to safely separate and manipulate forward (i.e., transmit)

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Optical Circulators | Enhanced Signal, Bandwidth & Networks

Optical circulators are non-reciprocal passive devices that route light unidirectionally in fiber optics and photonics,

Aug 25, 2025

What is an Optical Circulator and How Does it Work

Optical circulators play a vital role in improving the efficiency of fiber optic systems. They

Jun 14, 2026

Single Mode Fiber Optic Circulators

Because of its high isolation and low insertion loss, optical circulators are widely used in advanced

Contact Us

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