

Specifications of Planar Waveguide Optical Splitter



Article Overview

A planar waveguide optical splitter is a passive device that divides a single optical signal into multiple outputs using a flat, integrated waveguide structure.

Overview

A planar waveguide optical splitter, often referred to as a PLC (Planar Lightwave Circuit) splitter, is used to distribute one or more optical signals into multiple outputs with minimal loss, or conversely, to combine multiple signals into fewer outputs. Unlike traditional fiber splitters, it is fabricated on a flat, layered substrate, allowing precise control of light propagation and compact integration in photonic circuits.

Working Principle

- **Input Coupling:** Light enters the splitter through an optical fiber or waveguide aligned with the input port.
- **Propagation Through Waveguides:** The light travels along planar waveguides etched into a silica, silicon, or indium phosphide substrate, which guide the light along defined paths with minimal loss.
- **Splitting Mechanism:** Structures such as directional couplers or multimode interference (MMI) regions divide the light into multiple paths, either evenly or according to a specified ratio.
- **Output Distribution:** The split signals exit through multiple output ports, each carrying a portion of the original signal while maintaining phase and amplitude consistency

Article Content

Nov 06, 2025

PLC Splitter: An In-depth Exploration of Planar Lightwave Circuit Splitters

PLC (Planar Lightwave Circuit) splitters are crucial components in optical networks, facilitating the distribution of optical

Apr 15, 2026

PLANAR LIGHTWAVE CIRCUITS

The EM4 high reliability, high grade and superior performance planar lightwave circuits (PLC) based planar waveguide optical signal

Aug 08, 2025

Planar Waveguide Optical Splitter (1×8)

The FIBERONE 1×8 Planar Waveguide Optical Splitter is an advanced component designed for high-density signal management

May 11, 2026

Bare PLC Fiber Splitter Datasheet | FS

Planar lightwave circuit (PLC) splitter is a type of optical power management device that is fabricated using silica optical waveguide

Sep 27, 2025

A Novel Planar Waveguide Super-Multiple-Channel Optical Power Splitter

In this paper, we have proposed a novel planar waveguide optical-power-splitter design with a large number of splitting channels.

Mar 08, 2026

PLC Splitters Spec Sheet

Overview PPC's Planar Lightwave Circuits (PLC) splitters are manufactured using silica glass waveguide circuits and extremely

Mar 14, 2026

Planar Waveguide Splitters

Planar waveguide splitters are a good alternative to multi-channel splitters. They do not have to be assembled in cascading order

Nov 29, 2025

Optical Waveguides

Optical waveguides are planar dielectric structures with a core surrounded by cladding material. The ideal waveguide has low loss

Jan 19, 2026

Planar Light Circuit (PLC) Optical Splitters

Planar light circuit (PLC) splitters are fully passive optical branching devices that exhibit uniform signal splitting for the most

Nov 23, 2025

PLANAR LIGHTWAVE CIRCUIT

These high quality optical splitters are available in 1x4 and 1x8 port configurations and compact packaging options. Operating

Mar 30, 2026

Information about PLC Splitter. PLC Splitter (Planar light ...

PLC Splitter (Planar light-wave circuit splitter) is a type of optical power management device that is fabricated using

Dec 13, 2025

The Definitive Guide to Fiber Optic PLC Splitter in 2022

PLC splitter stands for Planar Waveguide Circuit fiber optic splitter. PLC splitters are devices that use a waveguide to

Apr 12, 2026

(PDF) PREPARATION OF THE SINGLE MODE PLANAR OPTICAL SPLITTER

Optical splitter modules have been prepared based on 1x8 single mode silica planar waveguide optical splitter chips

Dec 26, 2025

Planar Light Circuit (PLC) Optical Splitters

These splitters are manufactured and tested to GR-1209/1221 to provide the high performance and reliability needed in the outside

Aug 19, 2025

An optical splitter with super multi-channels based on planar waveguide ...

In this paper, we proposed an optical splitter planar waveguide design with super multi channels. The design utilizes

Dec 17, 2025

A planar waveguide beam splitter

A 50:50 beam splitter for the light and matter waves based on a planar waveguide is studied. The light version of

Jun 12, 2026

Planar Light Circuit (PLC) Optical Splitters

These planar silica waveguide devices are packaged in small-form-factor housings to offer compact management into modules and

Jun 07, 2026

PLC Splitters

PLC Splitter Product Description: Planar lightwave circuit (PLC) splitter is fabricated using silica optical waveguide technology and

Nov 24, 2025

3MTM Planar Light Circuit (PLC) Optical Splitters

3MTM Planar Light Circuit (PLC) Optical Splitters that exhibit uniform signal splitting for the most advanced optical networks. These

Oct 21, 2025

Planar Waveguide Optical Splitter (1×4)

The 1×4 Planar Waveguide Optical Splitter supports an operating wavelength of 1260-1610 nm, making it compatible with all

May 31, 2026

Planar Waveguide Optical Splitter (1×16)

Splitting a signal sixteen ways requires extreme precision to ensure every end-user receives a balanced connection. The 1×16

May 30, 2026

Broadband Planar Waveguide Power Splitter Based on Symmetrical S

In this paper, 1 × 8 s – bend – arc based symmetrical and wavelength insensitive optical beam splitter is modeled using beam

Apr 11, 2026

PLC Splitters

Planar lightwave circuit (PLC) splitter is fabricated using silica optical waveguide technology and offers a low cost solution for optical

Apr 15, 2026

How Does a PLC Splitter Work? An In-Depth Technical Guide

PLC splitters utilize a planar lightwave circuit chip made of silica glass waveguides to distribute the optical power.

Jan 03, 2026

Planar Waveguide Optical Splitter (1×32)

The 1×32 Planar Waveguide Optical Splitter features a low-profile package, measuring 20 mm in width, 80 mm in length, and 6 mm

Mar 23, 2026

OPTICO1x128 PLC Splitter Datasheet

Planar lightwave circuit (PLC) splitter is a type of optical power management device that is fabricated using silica optical waveguide

Contact Us

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