

High-precision low-loss beam splitter



Overview

High-Precision Beam Splitting: Ensures accurate 50/50 (or specified) transmission/reflection ratios with minimal wavefront distortion—ideal for high-accuracy optical systems. Broad Wavelength Coverage: Designed for VIS to NIR applications, supporting common laser lines and. A beam splitter (or beamsplitter, power splitter) is an optical device which can split an incident light beam (e. a laser beam) into two (or sometimes more) beams, which may or may not have the same optical power (radiant flux). Non-polarizing beamsplitters are used in a variety of. Excelitas offers a wide array of beamsplitters in plate, cube and custom multi-port configurations., 50/50 FBS, can be used as the frequency-mode Hadamard gate for frequency-encoded photonic qubits. This precise ability to split light by wavelength makes beam splitters essential in various fields, including laser systems, semiconductor.



Article Content

Dec 31, 2025

Custom Beamsplitters

ZYGO high precision beam splitters are custom made for critical applications including commercial space, medical, research, semiconductor, & photonics.

Aug 22, 2025

Custom Beamsplitters

Beamsplitter Assemblies Excelitas high precision beamsplitter assemblies provide low transmitted wavefront distortion, minimal beam deviation, and precise control

Mar 05, 2026

Precision Beamsplitters & Quad-Channel Imaging

Additionally, beam splitters can function in reverse to combine two beams into one. Shanghai Optics manufactures a wide range of high-quality beamsplitters

Aug 16, 2025

Design and fabrication of the high-precision beam splitter with stress ...

This study presents the fabrication of a high-precision beam splitter utilizing an electron beam ion-assisted deposition technique. The beam splitter exhibits excellent transmittance at a

Jul 16, 2025

Ultra-Broadband and Low-Loss Polarization Beam Splitter on Silicon

We realized a polarization beam splitter with low loss of <1 dB and high extinction ratio of >20 dB in an ultra-broad bandwidth from 1400nm to 1700nm using a pair of cascaded dual-core adiabatic tapers.

Nov 13, 2025

Design and development of an optical beam splitter assembly and high ...

Abstract Laser beams with extremely high colinearity are often required where precision position monitoring is important. In order to achieve the said objective, a special type of Laser Beam

Jun 15, 2026

Flat Plate Beam Splitter | High Transmittance Optical Splitter ...

Backed by advanced optical coating technology, precision glass processing experience and a complete quality control system, Ultraopto is committed to providing global customers with high-quality Flat

Sep 02, 2025

Cube Beamsplitters | Precision Optical Cube Beamsplitter

Shape Optics Technologies (SOT) offers high-performance Cube Beamsplitters engineered to divide an incident beam into two precise optical paths.

Apr 30, 2026

Compact and high-performance polarization beam splitter based on

Polarization beam splitter (PBS), which enables separation or combination of two orthogonal modes, is one of the basic building blocks for polarization manipulation and management.

Apr 10, 2026

Precision Beamsplitters & Quad-Channel Imaging

Shanghai Optics manufactures a wide range of high-quality beamsplitters optimized for different applications. Our selection includes plate and cube designs, offering

Jun 17, 2026

Beam Splitters – Buying Guide & Supplier List | RP

This beam splitters buying guide provides technical background, comparison of major types, selection criteria, and an overview of suppliers.

Aug 07, 2025

High Precision Beamsplitters | Custom Optical Beam Splitters

Premium quality beamsplitters for laser, imaging & optical systems. Custom designs available. High transmission, low loss. Fast delivery from Hontec Optics.

Oct 09, 2025

Compact, High Extinction Ratio, and Low-Loss

We propose a compact, high extinction ratio, and low-loss polarization beam splitter (PBS) on a lithium-niobate-on-insulator (LNOI) platform, based on

Oct 06, 2025

High Extinction Ratio Polarization Beam Splitter Realized by

A novel compact polarization beam splitter (PBS) based on a triple-waveguide directional coupler is presented. Among these three waveguides, the middle one is regarded as an input where the

Jun 02, 2026

Ultra-compact and high-performance polarization beam splitter

We propose an ultra-short polarization beam splitter (PBS) consisting of two slot waveguides assisted by slotted waveguide subwavelength gratings (SWSGs), located between the

Jan 04, 2026

Low Loss, High Extinction Ration and Ultra-Compact

Abstract and Figures In this letter an ultra compact plasmonic polarization beam splitter (PBS) is proposed and investigated by numerical

Jan 31, 2026

Robust Design of a High-Performance Laser Thin-Film Polarizing Beam ...

A low layer errors sensitivity thin-film structure is robust designed for the high-performance laser PBS with moderate layer number and easy-manufacturable layer thicknesses.

Sep 16, 2025

Ultra-compact, broadband polarization beam splitter based on x-cut ...

Abstract We propose an ultra-compact, high-performance polarization beam splitter (PBS) on the x-cut lithium-niobate-on-insulator (LNOI) platform. The device based on asymmetrical

Mar 20, 2026

High Extinction Ratio Polarization Beam Splitter Design by Low ...

A novel concept of polarization beam splitting with high polarization extinction ratio is proposed based on the polarization sensitive self-collimation feature of symmetry reduced photonic

Jul 06, 2025

Low-loss high-fidelity frequency beam splitter with

The authors demonstrate a high efficiency and high fidelity frequency beam splitter using coherent-state single photons and show how it can be used

Aug 16, 2025

Custom Beamsplitters

Excelitas offers precision fabrication and coating techniques that enable us to create high performance cube beamsplitters that provide a unique combination of

Jan 30, 2026

High-Performance Beamsplitters | Keysight

This document describes how Keysight's family of high performance beamsplitters offers industry-leading polarization and beam control with low wavefront distortion.

Jul 29, 2025

Low-loss, high-fidelity frequency beam splitter with tunable split ...

Low-loss, high-fidelity frequency beam splitter with tunable split ratio based on electromagnetical-ly induced transparency in 2021

Sep 20, 2025

High extinction ratio and low loss polarization beam

Abstract A polarization beam splitter (PBS) with a high extinction ratio that is based on multimode interference (MMI) is proposed and experimentally demonstrated

Apr 07, 2026

Non-polarized Beam Splitter Prism | Low Loss Optical Splitter ...

Ultraopto's high-precision Non-polarized Beam Splitting Prisms are widely applied in a broad range of professional optical fields that demand balanced and polarization-independent light splitting,

Jul 11, 2025

The Buyer's Guide to Beam Splitters | Blue Ridge Optics

Matching the beam splitter's specifications to the characteristics of the light source ensures optimal performance. This minimizes light losses and aberrations while maintaining the

May 22, 2026

Custom High-Precision Polarizing Beam Splitters

Choose our category of custom high-precision polarizing beam splitters, featuring high extinction ratio and ultra-smooth surface polish, ISO-certified quality.

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