# POLARIZING BEAM SPLITTER

## Technical Terms

Polarizing Beam Splitter :

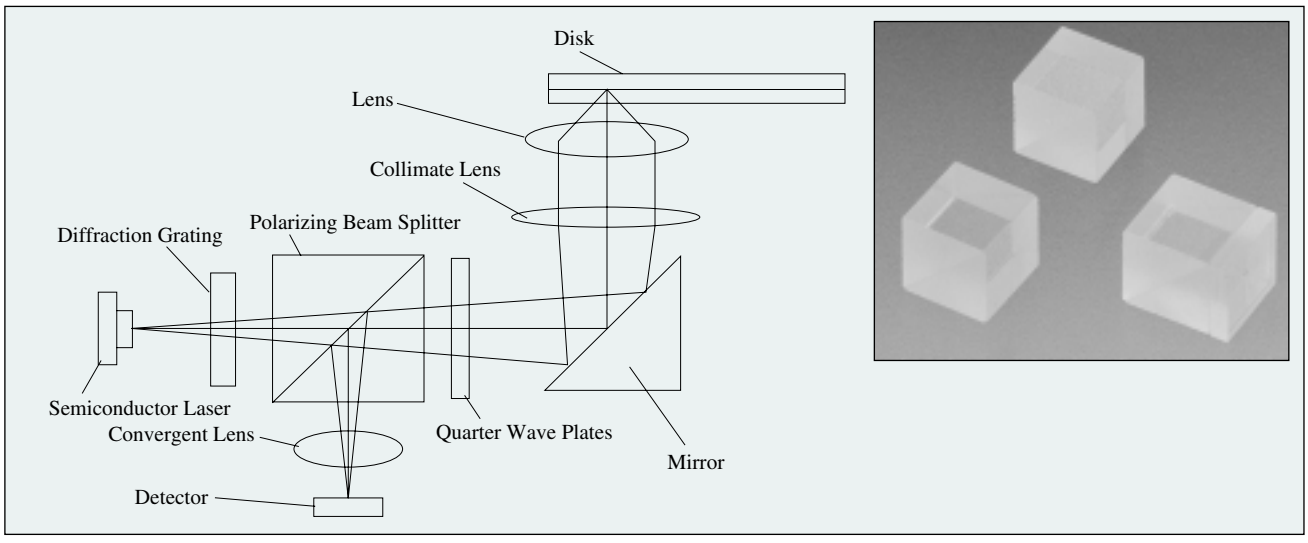
The cubic prism splits incident ray into P polarized ray and S polarized ray.
This prism is made of two bonded rectangular prisms where polarizing film is coated on the surfaces of bonded slants.

P polarized ray, S polarized ray:

Through polarizing film, incident ray factors are divided into P (runs through the polarizing film) and S (runs vertically against incident plane).

## Application

Mainly, as sketched below, beam splitters are applied for pickups for optical information files. [DVD, etc.]



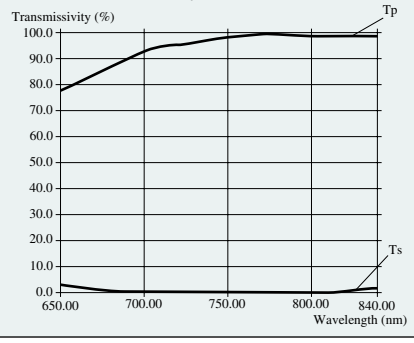

## Features

1. Accurate polarized characteristics are obtained because high processing and coating techniques are used.
2. Special request (Special polarized characteristics, different shape) can be produced on request.
3. Polarizing beam splitter with wavelength plate attached is available.

## Standard Specifications

| Specifications \ Name | |
|---|---|
| Wavelength range | Laser oscillation wavelength between 400 nm and 2,000 nm |
| Dimension | 5 ~ 10 mm Cubic size |
| Wave Front Aberration | λ/4 max (λ = 633 nm transmission) |
| Polarized ray characteristics | Tp ≧ 97%, Ts ≦ 1%<br>Rp ≦ 1%, Rs ≧ 97% |

Polarized ray characteristics




## Environments

NDK Optical Products satisfy designed optical characteristics in the below reliability tests.

| | |
|---|---|
| High Temperature Aging | +85˚C / 96 hours |
| Low Temperature Aging | –40˚C / 96 hours |
| Humidity | +60˚C, 95% / 96 hours |
| Heat-shock | –40˚C (30 minutes) → +85˚C (30 minutes) / 1 cycle, 10 cycles |
| Mechanical Strength | No damage after rub with absorbent cotton |