

■ Polarizing Beam Splitter

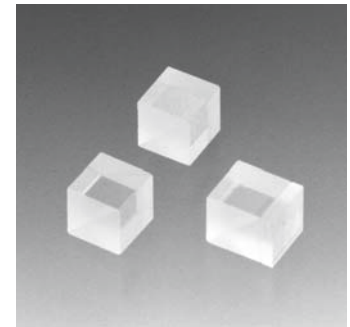
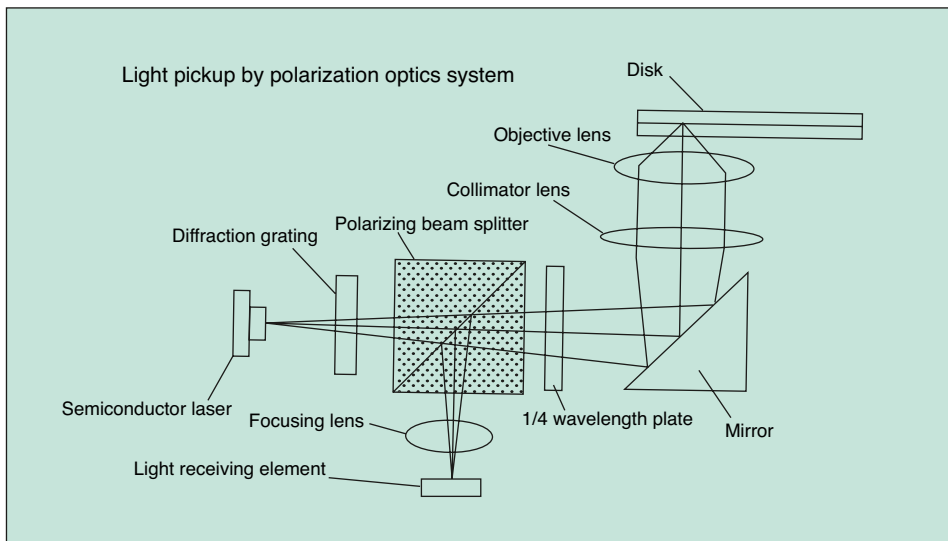
● Terms and Definitions

Polarizing Beam Splitter: A cube-like light polarizer created by vapor-depositing a polarizing film on the slants of a rectangular prism and bonding the slants. It splits incident light into P polarized beams and S polarized beams.

P Polarized Beam and S Polarized Beams: Polarized light that causes the electric field to vibrate on a plane (incident plane) that is created by incident light and the incidence normal is P polarized light, and the polarized light that vibrates in the direction perpendicular to the incident plane is S polarized light.

● Application

A polarized beam splitter is mainly used to pick up optical information files (DVD, etc.) as shown in the figure below.

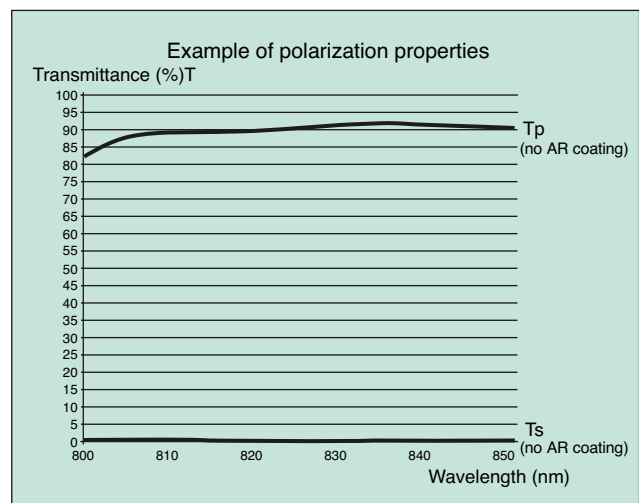


● Features

1. By using advanced processing and coating techniques, accurate polarization properties can be obtained.
2. Polarizing beam splitters with special polarization properties and polymorph can be manufactured upon request.
3. Polarized beam splitters bonded to a wavelength plate can be manufactured.

● Standard specifications

Specifications	Standards
Wavelength range	Laser oscillation wavelength between 400 to 2,000 nm
Outline size	Cube of 5 to 10 mm
Wavefront aberration	$\lambda/4$ max. ($\lambda=633$ nm transmittance)
Example of polarization properties	$T_p \geq 97\%$, $T_s \leq 1\%$ $R_p \leq 1\%$, $R_s \geq 97\%$



● Environment Resistance

The following reliability tests guarantee the specified optical characteristics of NDK' s optical components.

Subjected to high temperature	For 96 hours at +85°C
Subjected to low temperature	For 96 hours at -40°C
Subjected to high temperature and high humidity	For 96 hours at +60°C and 95%
Heat shock	10 cycles (one cycle is conducted for 30 minutes at -40°C and 30 minutes at +85°C)
Mechanical strength	No flaws after the surface is rubbed with absorbent cotton