High Power Polarizing Beamsplitters | HPPB

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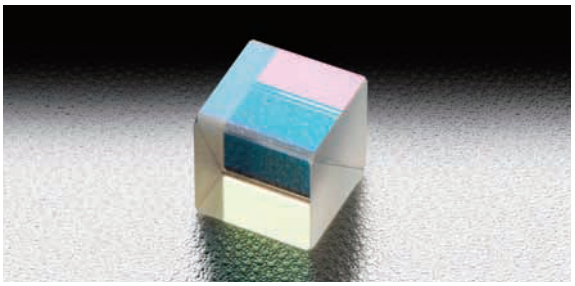
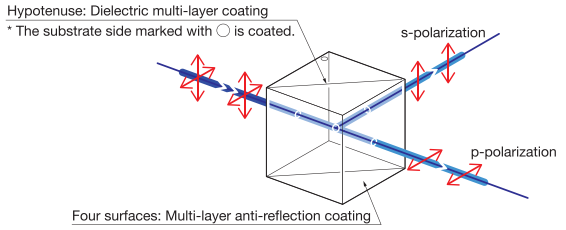
High Power Polarizing Beamsplitters has more laser durability compared to our standard Polarizing Beamsplitters (PB). Polarizing beamsplitters consist of two right angle prisms. One of them is coated with dielectric multi-layer polarizing coating on the hypotenuse face.

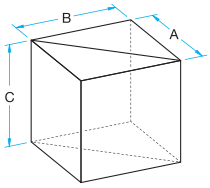
- Polarizing beamsplitters split monochromatic beam entering at zero degree into p-polarization as transmitted and s-polarization as reflected.
- Four surfaces of the cube are coated with narrowband multi-layer anti-reflection coatings.
- The losses of input beam of these products are minimized because of no absorption of dielectric coating.
- For cube beamsplitters, unlike plate beamsplitters, beam deviations of transmitted beams and ghosts rarely occur.



Schematic



Outline Drawing (in mm)



●Tolerance
Length A·B±0.2
Height C±0.1

Specifications

Material	BK7, Synthetic fused silica
Surface flatness of substrate	λ/4
Angular deviation of transmitted beam	<10′
Coating	Hypotenuse Surface: Dielectric multi-layer polarizing coating Four Surfaces: Narrowband multi-layer anti-reflection coating
Incident angle	0°
transmittance of P polarized light	>97%
Extinction ratio of transmission	Ts : Tp = 1 : 200
Surface Quality (Scratch–Dig)	20–10
Clear aperture	Circle inscribed in a square of 85% of the dimensions

Guide

- ▶Please contact our International Sales Division for customized products. (Customized on size, wavelength etc.)
- ▶There is also a high extinction ratio Glan-Thompson prism (GTPB/GTPC). Reference C087

Attention

- ▶Input beam from the prism on the side indicated by ○. When the light is incident from the side of the prism without mark, there is a possibility that the characteristics of the transmittance and extinction ratio changes.
- ▶The surface flatness is the reflected wave front distortion of the surface before coating.
- ▶Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.

Specifications

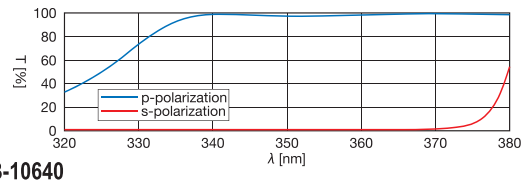
Part Number	Wavelength Range [nm]	A=B=C [mm]	Material	transmittance of S polarized light [%]	Laser Damage Threshold* [J/cm²]
HPPB-10-3550	355	10	Synthetic fused silica	>97	2
HPPB-15-3550	355	15	Synthetic fused silica	>97	2
HPPB-10-3550	355	20	Synthetic fused silica	>97	2
HPPB-10-5320	532	10	BK7	>98	5
HPPB-15-5320	532	15	BK7	>98	5
HPPB-20-5320	532	20	BK7	>98	5
HPPB-10-10640	1064	10	BK7	>98	7
HPPB-15-10640	1064	15	BK7	>98	7
HPPB-20-10640	1064	20	BK7	>98	7

* Incident angle 0°, laser pulse width 10ns, repetition frequency 20Hz

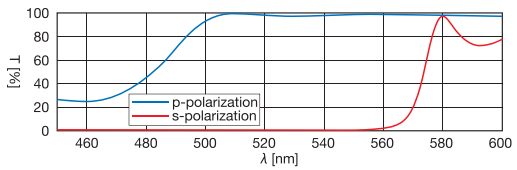
Typical Transmittance Data

T: Transmission

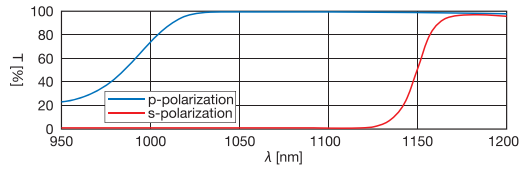
HPPB-3550



HPPB-5320



HPPB-10640



Compatible Optic Mounts

PH-20, -40 / PH-25PHRO, -40PHRO / KMH12.7PAD + KMH-MP30-NL / KMH-20PAD + KMH-MP30-NL