

Broadband Polarizing Beamsplitters

BPB

RoHS

Broadband Polarizing Beamsplitters set up a polarizing band widely.

Polarizing beamsplitters consist of two right angle prisms.

One of them is coated with dielectric multi-layer polarizing coating on the hypotenuse face.

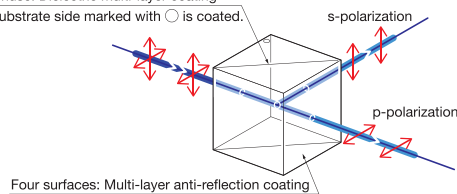
- Polarizing beamsplitters split the light entering at zero degree into p-polarization as transmitted and s-polarization as reflected.
- Four surfaces of the cube are coated with multi-layer anti-reflection coatings.
- For cube beamsplitters, unlike plate beamsplitters, beam deviations of transmitted beams and ghosts rarely occur.



Schematic

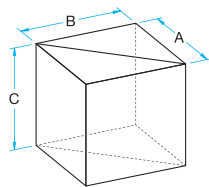
Hypotenuse: Dielectric multi-layer coating

* The substrate side marked with ○ is coated.



Outline Drawing

(in mm)



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

Specifications

Material	BK7, SK2, SF15, Synthetic fused silica
Surface flatness of substrate	$\lambda/4$
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°
Laser Damage Threshold	0.3J/cm ² (Laser pulse with 10ns, repetition frequency 20Hz)
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/ PPH). [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 P polarized light [%]	transmittance of S polarized light [%]	Extinction ratio of transmission* Ts : Tp
BPB-10-250	235 - 265	10	Synthetic fused silica	>85	>90	1:100
BPB-15-250	235 - 265	15	Synthetic fused silica	>85	>90	1:100
BPB-20-250	235 - 265	20	Synthetic fused silica	>85	>90	1:100
BPB-10-350	330 - 370	10	Synthetic fused silica	>85	>95	1:100
BPB-15-350	330 - 370	15	Synthetic fused silica	>85	>95	1:100
BPB-20-350	330 - 370	20	Synthetic fused silica	>85	>95	1:100
BPB-10-550	450 - 650	10	BK7	>85	Ravg >85	1:200
BPB-15-550	450 - 650	15	BK7	>85	Ravg >85	1:200
BPB-20-550	450 - 650	20	BK7	>85	Ravg >85	1:200
BPB-10-800	750 - 850	10	BK7	>92	>97	1:200
BPB-15-800	750 - 850	15	BK7	>92	>97	1:200
BPB-20-800	750 - 850	20	BK7	>92	>97	1:200
BPB-10-3/7	380 - 850	10	SK2	Ravg >92	>95	1:500*
BPB-15-3/7	380 - 850	15	SK2	Ravg >92	>95	1:500*
BPB-20-3/7	380 - 850	20	SK2	Ravg >92	>95	1:500*
BPB-10-4/10	450 - 1080	10	SF15	Ravg >92	Ravg >95	1:500*
BPB-15-4/10	450 - 1080	15	SF15	Ravg >92	Ravg >95	1:500*
BPB-20-4/10	450 - 1080	20	SF15	Ravg >92	Ravg >95	1:500*
BPB-10-10/20	1000 - 2000	10	SF15	Ravg >94	Ravg >95	1:300*
BPB-15-10/20	1000 - 2000	15	SF15	Ravg >94	Ravg >95	1:300*
BPB-20-10/20	1000 - 2000	20	SF15	Ravg >94	Ravg >95	1:300*

* It is the average extinction ratio transmission in the wavelength range.

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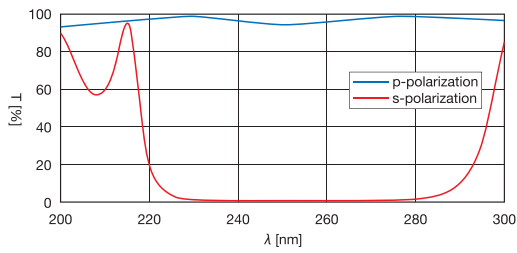
Holder & Vibration isolator

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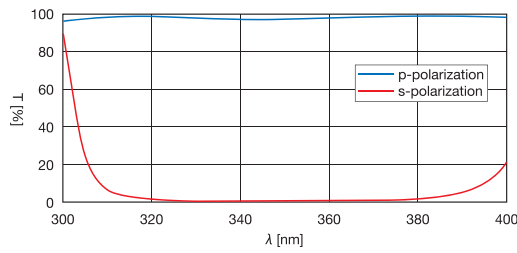
Typical Transmittance Data

T: Transmission

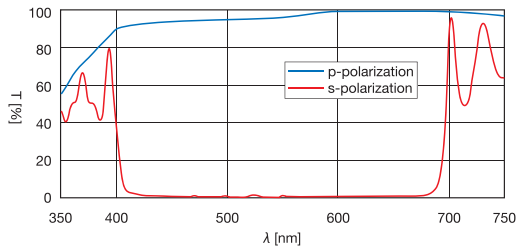
BPB-250



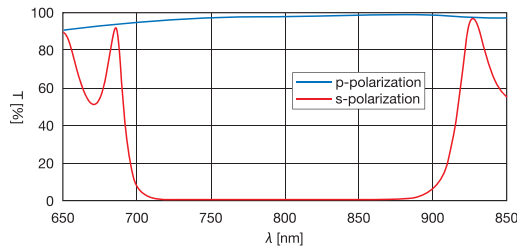
BPB-350



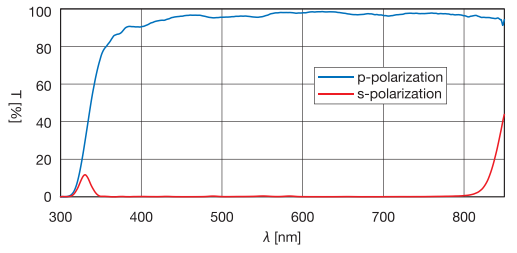
BPB-550



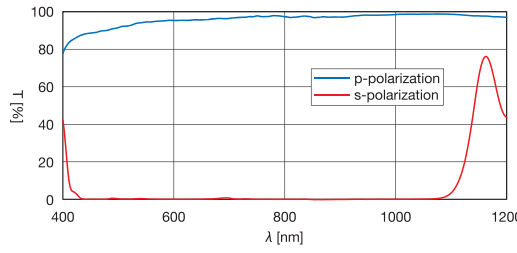
BPB-800



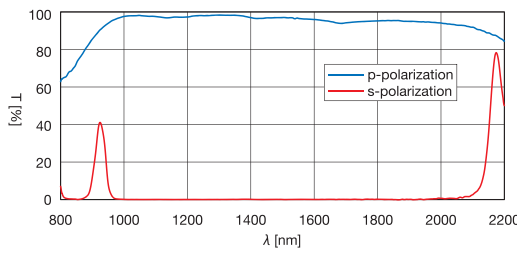
BPB-3/7



BPB-4/10



BPB-10/20



Compatible Optic Mounts

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