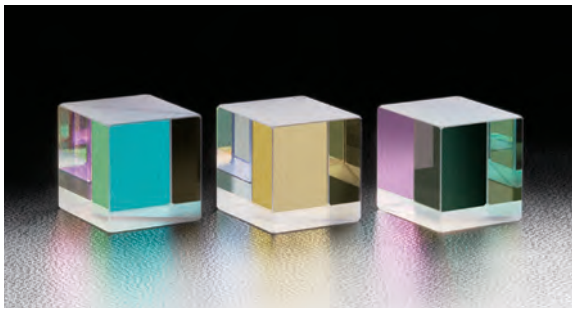
Dielectric Cube Beamsplitters | CSM

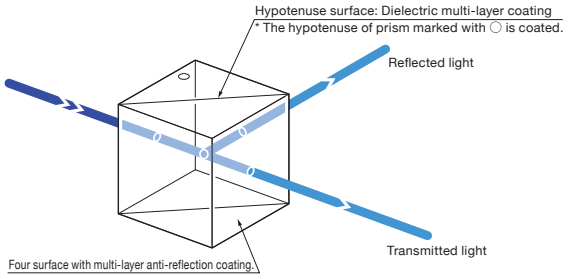
RoHS Catalog Code W3020

Cube beamsplitters with dielectric multi-layer coated on the hypotenuse face of a 45° right angle prism.
Divides beams at reflected light (R): transmission light (T) ratio of 1:2 or 1:3.

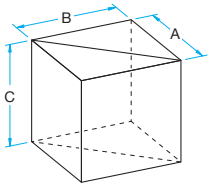
- Anti-reflection coating (AR coat) is applied to the incident and outgoing faces.
- The dielectric multi-layer films has virtually zero light absorption and very low light intensity loss. However, transmittance and reflectance may change according to wavelength, polarization and incident angles.
- In contrast to plate type half mirrors, cube mirrors have no ghosting or transmission optical path deviation.



Schematic



Outline Drawing (in mm)



●Tolerance
A ±0.2
B ±0.2
C ±0.1

Specifications

Material	BK7
Surface Flatness	λ/4
Wavelength Range	400 – 700nm
Beam Deviation	<5′
Coating	Hypotenuse surface: Dielectric multi-layer coating Four surfaces: Multi-layer anti-reflection coating
Incident angle	0°
Polarization of the incident beam	Unpolarized light or 45 degrees Linear polarization or cirlular polarization
Laser Damage Threshold	0.3J/cm^2 (Laser pulse width 10ns, repetition frequency 20Hz)
Surface Quality (Scratch–Dig)	20–10
Clear aperture	85% of actual aperture

Guide

- Please contact our Sales Division for customized products. (Customized on size, wavelength or R:T, etc.) Reference B068
- For a guarantee in reflected wavefront error or transmitted wavefront error, please contact our Sales Division with your requests.

Attention

- Input beam from the prism side is indicated by a "○"(hypotenuse coated side).
- The transmission curve on the graph is based on actual measurements and may vary from different production lots.
- Phase retardation of inputting light will not be preserved. Please use waveplate for phase compensation.
- Use only non-polarized light or circular polarized light as incident light for dielectric multi-layer coated beam splitters. Using polarized light may result in R:T ratios that vary according to polarization components.
- Dielectric multi-layer coated cube half mirrors sometimes do not function effectively. If this should occur, first check the polarization characteristics of the light source (laser) and keep in mind that lasers used in the semiconductor field emit a linear polarized light.

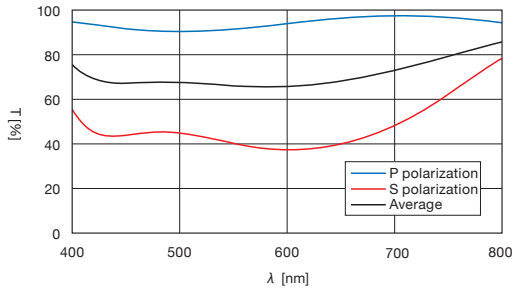
Specifications

Part Number	Reflectance : Transmittance	A=B=C [mm]	Transmittance at 550nm (The average value of the P-Polarization and the S-Polarization) [%]	Transmittance at 400･700nm (The average value of the P-Polarization and the S-Polarization) [%]
CSM33-10-550	1 : 2	10	67±5	<80
CSM33-20-550	1 : 2	20	67±5	<80
CSM25-10-550	1 : 3	10	75±5	<90
CSM25-20-550	1 : 3	20	75±5	<90

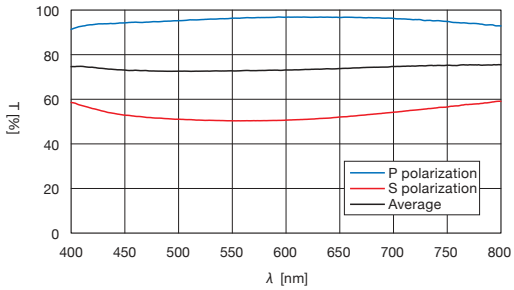
Typical Transmittance Data

T: Transmission

CSM33



CSM25



Compatible Optic Mounts

PLH-25, -40 / KKD-25PHRO, -40PHRO