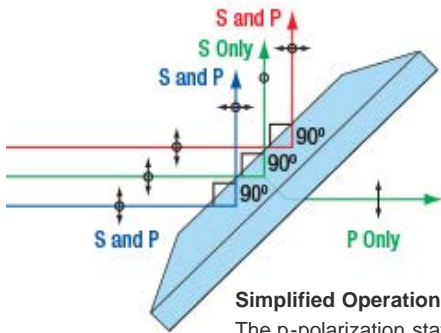


FPB353-15 - November 30, 2020

Item # FPB353-15 was discontinued on November 30, 2020. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

POLARIZING BANDPASS FILTER

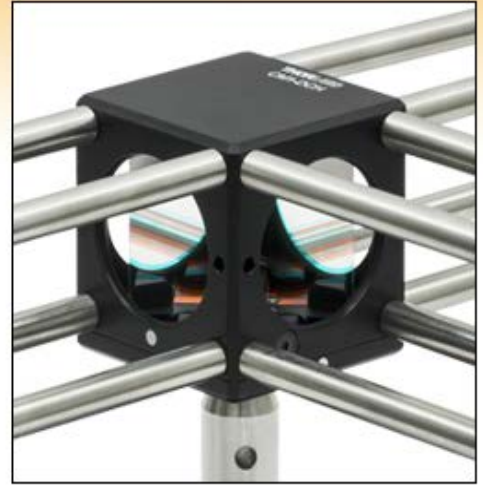
- ▶ **Wavelength Pass Band Only Contains P-Polarization**
- ▶ **Pass Band Transmission >85%**
- ▶ **10⁶:1 Extinction Ratio**
- ▶ **Center Wavelength at 355 nm**



Simplified Operation Drawing
 The p-polarization state is passed within the designed pass band, while the s-polarization state is rejected.



FPB353-15
 Polarizing Bandpass Filter,
 CWL = 355 nm



Polarizing Bandpass Filter Mounted in a
 CM1-DCH Cage Cube Filter Mount

[Hide Overview](#)

OVERVIEW

Features

- Extinction Ratio: 1 000 000:1
- 25.2 mm x 35.6 mm x 2.0 mm Unmounted Filter
- >85% Transmission Within the Pass Band
- Excellent Suppression in Blocking Regions (OD > 6)
- UV Fused Silica Substrate
- 355 nm +6 nm / -9 nm Center Wavelength

Thorlabs' Polarizing Bandpass Filter is designed to isolate key laser lines while also separating out the s- and p-polarization states. The p-polarized component is transmitted over a defined pass band and reflected (rejected) outside of the band, while the s-polarized component is reflected over the entire blocking region of the optic. This filter offers a high extinction ratio of $T_p:T_s > 10^6:1$, high p-polarized transmission in the pass band (>85%), and excellent suppression (OD > 6) in the blocking region.

The filter is 25.2 mm x 35.6 mm and has a thickness of 2 mm. It is designed to be used at a 45° AOI; however, when used at the center wavelength, the incident angle can be widened without loss of performance. See the table to the right for details. The item number is

FPB353-15 Specifications

Center Wavelength	355 nm	
Bandwidth	+6 nm / -9 nm	
Extinction Ratio^a	1 000 000:1	
Optic Size	25.2 mm x 35.6 mm	
Optic Thickness	2 mm	
Dimensional Tolerance	±0.1 mm	
Clear Aperture	>21.41 mm x 30.26 mm	
Acceptance Angle	45° ± 0.5° 45° ± 7° at 355 nm	
Coating	Polarizing Bandpass Filter	
Transmission (P-Pol., over Bandwidth)	>85%	
Blocking (Reflection) Regions	T_{P-Pol.}	300 - 339 nm: OD > 6 369 - 434 nm: OD > 6
	T_{S-Pol.}	300 - 455 nm: OD > 6
	T_{abs.}	434 - 1100 nm: OD > 2
Transmission / OD Data^b		

engraved on the coated side of the filter, on which we recommend the beam be incident.


The unique design of this filter allows it to be used as a laser line filter, as an analyzer within a DIC microscopy system, or as wavelength selectors within harmonic generation setups or fluorescence imaging systems.



**Limited
STOCK**

This item will be retired without replacement when stock is depleted. If you require this part for line production, please contact our OEM Team.

Laser Lines	Nd:YAG
Surface Quality	60-40 Scratch-Dig
Substrate	UV Fused Silica ^c
Mass	4 g

- The extinction ratio (ER) is the ratio of maximum to minimum transmission of a sufficiently linearly polarized input. When the transmission axis and input polarization are parallel, the transmission is at its maximum; rotate the polarizer by 90° for minimum transmission.
- Click on  for a plot and downloadable data.
- Click Link for Detailed Specifications on the Substrate

[Hide BS Selection Guide](#)

BS SELECTION GUIDE

Thorlabs' portfolio contains many different kinds of beamsplitters, which can split beams by intensity or by polarization. We offer plate and cube beamsplitters, though other form factors exist, including pellicle and birefringent crystal. Many of our beamsplitters come in premounted or unmounted variants. Below is a complete listing of our beamsplitter offerings. To explore the available types, wavelength ranges, splitting/extinction ratios, transmission, and available sizes for each beamsplitter category, click *More [+]* in the appropriate row below.

Non-Polarizing Beamsplitters

Plate Beamsplitters

Cube Beamsplitters

Pellicle Beamsplitters

- 45° AOI Unless Otherwise Noted

Polarizing Beamsplitters

Plate Beamsplitters

Cube Beamsplitters

Birefringent Crystal Beamsplitters

- Mounted in a protective box, unthreaded ring, or cylinder.
- Available unmounted or mounted in a protective box or unthreaded cylinder.

Other Beamsplitters

Other Beamsplitters

[Hide Polarizer Guide](#)

POLARIZER GUIDE

Polarizer Selection Guide

Thorlabs offers a diverse range of polarizers, including wire grid, film, calcite, alpha-BBO, rutile, and beamsplitting polarizers. Collectively, our line of wire grid polarizers offers coverage from the visible range to the beginning of the Far-IR range. Our nanoparticle linear film polarizers provide extinction ratios as high as

100 000:1. Alternatively, our other film polarizers offer an affordable solution for polarizing light from the visible to the Near-IR. Next, our beamsplitting polarizers allow for use of the reflected beam, as well as the more completely polarized transmitted beam. Finally, our alpha-BBO (UV), calcite (visible to Near-IR), rutile (Near-IR to Mid-IR), and yttrium orthovanadate (YVO₄) (Near-IR to Mid-IR) polarizers each offer an exceptional extinction ratio of 100 000:1 within their respective wavelength ranges.

To explore the available types, wavelength ranges, extinction ratios, transmission, and available sizes for each polarizer category, click *More [+]* in the appropriate row below.

Wire Grid Polarizers

Film Polarizers

Beamsplitting Polarizers

alpha-BBO Polarizers

Calcite Polarizers

Quartz Polarizers

Magnesium Fluoride Polarizers

Yttrium Orthovanadate (YVO₄) Polarizers

Rutile Polarizers

- Click on the graph icons in this column to view a transmission curve for the corresponding polarizer. Each curve represents one substrate sample or coating run and is not guaranteed.
- Mounted in a protective box, unthreaded ring, or cylinder.
- Available unmounted or in an SM05-threaded (0.535"-40) mount that indicates the polarization axis.
- Available unmounted or in an SM1-threaded (1.035"-40) mount that indicates the polarization axis.
- Available unmounted or mounted in cubes for cage system compatibility.
- Calcite's transmittance of light near 350 nm is typically around 75% (see *Transmission* column).
- * Available unmounted or in an unthreaded Ø1/2" housing.
- Ⓒ The transmission curves for calcite are valid for linearly polarized light with a polarization axis aligned with the mark on the polarizer's housing.
- Ⓐ The 1064 nm V coating corresponds to a -C26 suffix in the item number.
- Available unmounted or mounted in a protective box or unthreaded cylinder that indicates the polarization axis.

[Hide Polarizing Bandpass Filter](#)

Polarizing Bandpass Filter

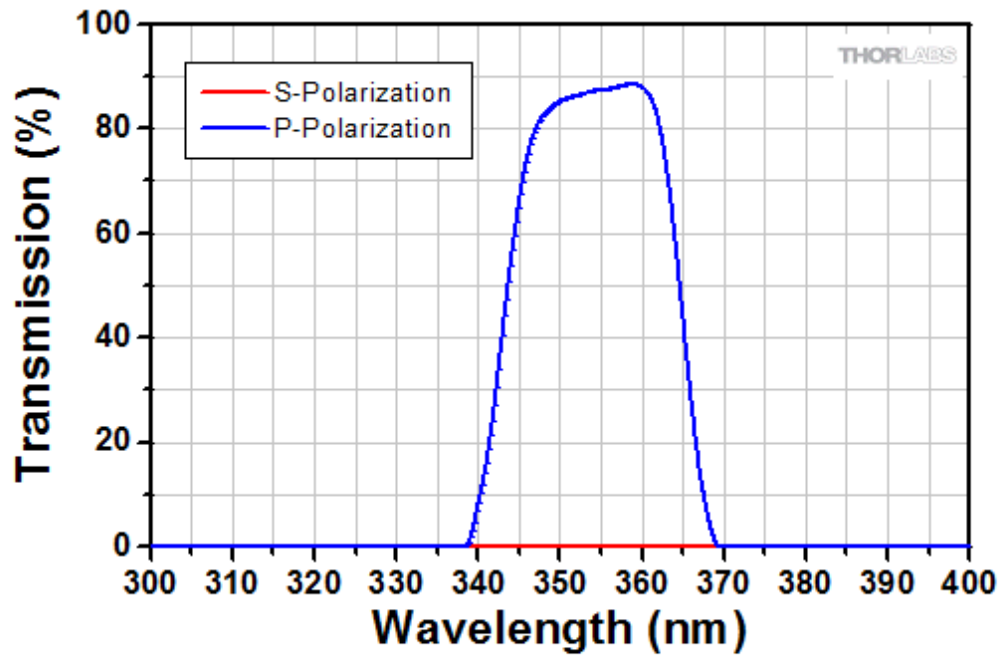
Part Number	Description	Price	Availability
FPB353-15	Polarizing Bandpass Filter, CWL = 355 nm, Bandwidth = +6 nm / -9 nm	\$896.46	Lead Time



Transmission

Optical Density

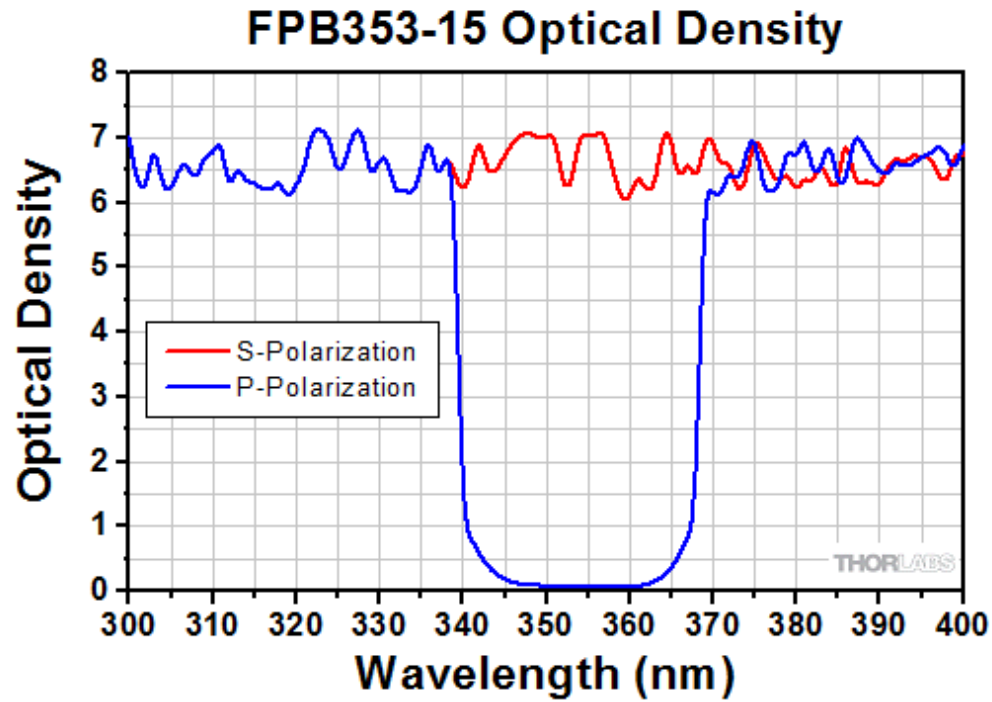
FPB353-15 Transmission



To view an excel file that lists all of the measured transmission values for this filter, please click [here](#).

Transmission

Optical Density



To view an excel file that lists all of the measured transmission values for this filter, please click [here](#).