

Ultra Broadband Polarizers

UBB Series Datasheet



UBB Polarizers
(mounting optional)

Applications

- FTIR Spectroscopy
- UV Curing, Exposure
- IR Imaging
- Forensics
- Communications
- Semiconductor
- Machine Vision
- Microscopy

Standard Product Options

Product Name	Description
UBB01A	Broadband, High Contrast, (300 - 3,200nm)
UBB02A	High Transmission (400 - 1,100nm)

See OPT-DATA-1011 for size and mounting options

Ultra Broadband polarizers are designed to offer an excellent solution for almost any multi-wavelength application. The wide-band characteristics of this polarizer, enables a wide range of products and technologies. Performance begins at 300nm and works well throughout the visible and infrared range enabling its use in a wide variety of applications (see sidebar). With anhydrous Fused Silica substrate material, the performance will work well up to the 4 μ m wavelength.

As with all ProFlux[®] polarizers, the UBB series are capable of large acceptance angle which eases alignment concerns. Durability is similarly equivalent to all our ProFlux products recognized for their high durability in hot and environmentally difficult applications.

Moxtek's advanced manufacturing technology is able to manufacture precision polarizers in high volume quantities for spectroscopy, astronomy, communications, semiconductor, machine vision, and other applications.

Features	Benefits
Nanowire [®] Technology	Brightness and contrast uniformity
	$\pm 20^\circ$ AOI without depolarization
	Wavelength and AOI independent
	Broadband
Inorganic	High heat resistant

General Specifications

	UBB01A	UBB02A
<i>Wavelength Range:</i>	300 - $\geq 3,200$ nm	400 - 1,100nm
<i>Substrate Type:</i>	Fused Silica	Display Grade Glass
<i>Thickness:</i>	1.0 ± 0.1 mm	0.7 ± 0.07 mm
<i>Index of Refraction:</i>	430nm: 1.4672 1000nm: 1.4504	435.8nm: 1.5198 643.8nm: 1.5078
<i>Thermal Expansion:</i>	$5.5 \times 10^{-7}/^\circ\text{C}$	$31.7 \times 10^{-7}/^\circ\text{C}$ (0 - 300 $^\circ\text{C}$)
<i>AOI (Angle of Incidence):</i>	0 $^\circ \pm 20^\circ$	0 $^\circ \pm 20^\circ$
<i>AR Coating:</i>	Not standard	Not standard
<i>Maximum Temperature:</i>	200 $^\circ\text{C}$ > 5,000 hours	200 $^\circ\text{C}$ > 5,000 hours
<i>Transmission Axis (TA):</i>	Referenced to long side of part	
<i>TA Tolerance:</i>	$\pm 1^\circ$	$\pm 1^\circ$
<i>Dimensional Tolerance:</i>	± 0.4 mm	± 0.2 mm
<i>Edge Exclusion:</i>	2mm	2mm
<i>RoHS:</i>	Compliant	Compliant

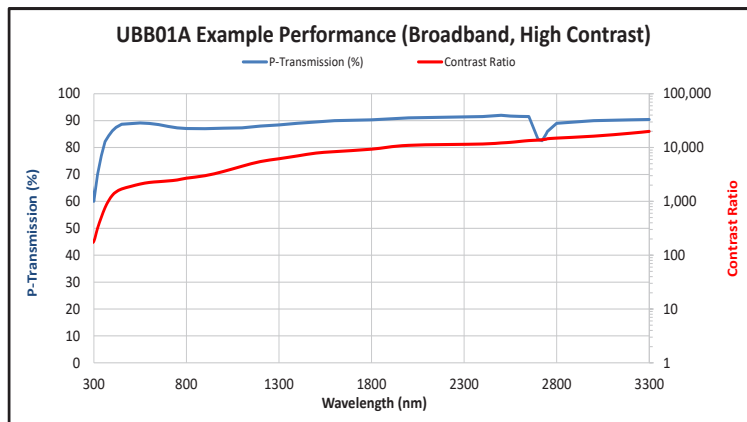
Do not touch or clean the wire-grid polarizer surface otherwise the polarizer will be damaged.

Performance Specifications at Normal Incidence

Product	Range (nm)	300nm		400nm		450nm		550 nm		650nm		800nm		1100nm		2500nm		3200nm	
		Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)
UBB01A	300-3200	50	30	Not Measured		82	600	83	650	81	650	79	700	82	800	82	800	*86	*5000
UBB02A	400-1100	-	-	89	40	90	40	90	100	90	100	90	100	90	100	-	-	-	-

*Not measured on all parts. Measurement data available on request.

Example Optical Performance (Tested at 0°)



Performance data was taken from sample evaluations. Some part-to-part variation is expected.

For more detail, please use our Polarizer Comparison Tool at www.moxtek.com

For warranty and ordering information, please visit www.moxtek.com.



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