

120 nanometer wire grid

Applications

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

UBB01A

- Broadband polarizer covering UV starting at 300nm to near IR up to 4 μ m.

UBB02A

- Broadband polarizer covering visible starting at 400nm to near IR up to 1.1 μ m
- Transmission is relatively constant throughout the spectral range.

Ultra Broadband polarizer's 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
	>20° half angle without depolarization
	Wavelength and AOI independent
	Broadband
Inorganic	High reliability
	High heat resistant

Substrate Specifications

	UBB01A	UBB02A
<i>Type:</i>	Fused Silica	Display Grade Glass
<i>Thickness:</i>	1.0mm \pm 0.1	0.7mm \pm 0.07
<i>Index of Refraction:</i>	430nm: 1.4672	435.8nm: 1.5198
	1000nm: 1.4504	643.8nm: 1.5078
<i>Thermal Expansion:</i>	0.55 x 10 ⁻⁶ /°C	31.7 x 10 ⁻⁷ /°C (0-300°C)

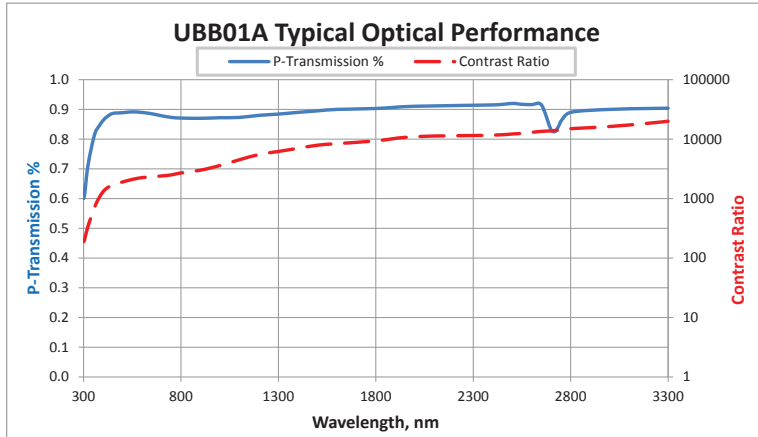
General Specifications

	UBB01A	UBB02A
<i>Wavelength Range:</i>	300nm - >4 μ m	400nm - 1100nm
<i>AR Coating:</i>	Not standard	Not standard
<i>Dimensional Tolerance:</i>	\pm 0.4mm	\pm 0.2mm
<i>Edge Exclusion:</i>	2mm	2mm
<i>Transmission Axis (TA):</i>	Referenced to long side of part	
<i>TA Tolerance:</i>	\pm 1°	\pm 1°
<i>Angle of Incidence:</i>	0° \pm 20°	0° \pm 20°
<i>Maximum Temperature:</i>	200° C > 5,000 hours	200° C > 5,000 hours
<i>RoHS:</i>	Compliant	Compliant



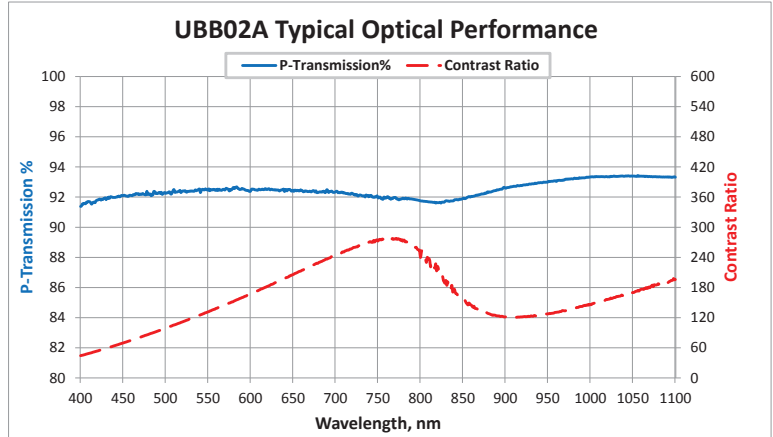
UBB01A Typical Optical Performance

This graph shows typical optical performance of the UBB01A for 300-3250nm. Excellent transmission is maintained throughout the visible and well into the IR spectrum. Contrast continuously increases throughout this range.



UBB02A Typical Optical Performance

The graph shows typical optical performance for the UBB02A for 400-1100nm. Extremely high transmission is maintained throughout the visible and well into the IR spectrum.



Performance Specifications (Minimum)

The specifications shown in the Table below are the guaranteed performance minimum on these products.

Performance	Range (nm)	300nm		400nm		450nm		550 nm		650nm		800nm		1100nm		1000-2500nm		3200nm	
		Tp	CR	Tp	CR	Tp	CR	Tp	CR	Tp	CR	Tp	CR	Tp	CR	Tp	CR	Tp	CR
UBB01A	300-3200	50	30	Not Measured		82	600	83	650	81	650	79	700	82	800	82	800	86	5000
Developmental Production- Limited Availability																			
UBB02A	400-1100	-	-	90	40	90	40	90	100	90	100	90	100	90	100	-	-	-	-

Visual Criteria Specification

The Visual Criteria (VC) Specification is shown in the table below. There are four different visual grades for small polarizers. VC1 and VC0 are not available on standard large area polarizers (>2500mm²).

Max Part Size:	VC4		VC2		VC1		VC0	
	100 x 100mm		50 x 50mm		25.4 x 25.4mm		25.4 x 25.4mm	
Criteria	Size	Max Quantity	Size	Max Quantity	Size	Max Quantity	Size	Max Quantity
Pinholes	>1.5mm	0	>0.5mm	0	>0.3mm	0	>0.15mm	0
	0.6- 1.5mm	5	0.3- 0.5mm	4	0.15- 0.3mm	4	<0.15mm	No limit
	<0.6mm	No limit	<0.3mm	No limit	<0.15mm	No limit		
Spots	>1.5mm	0	>0.5mm	0	>0.3mm	0	>0.3mm	0
	0.6- 1.5mm	5	0.3- 0.5mm	4	0.15- 0.3mm	6	0.15- 0.3mm	6
	<0.6mm	No Limit	<0.3mm	No limit	<0.15mm	No limit	<0.15mm	No limit



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