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 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 $4\mu m$ 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					
	Brightness and contrast uniformity					
Nanowire® Technology	±20° AOI without depolarization					
	Wavelength and AOI independent					
	Broadband					
Inorganic	High heat resistant					

General Specifications

	UBB01A	UBB02A
Wavelength Range:	300 - 3,200nm	400 - 1,100nm
Substrate Type:	Fused Silica	Display Grade Glass
Thickness:	$1.0\pm0.1\text{mm}$	$0.7 \pm 0.07 mm$
<i>Index of Refraction:</i>	1.4672 (430nm)	1.5198 (435.8nm)
	1.4504 (1000nm)	1.5078 (643.8nm)
Thermal Expansion:	5.5 x 10 ⁻⁷ /°C	31.7 x 10 ⁻⁷ /°C (0 - 300°C)
AOI (Angle of Incidence):	$0^{\circ}\pm20^{\circ}$	$0^{\circ}\pm20^{\circ}$
AR Coating:	Not standard	Not standard
Maximum Temperature:	200°C, >5,000 hours	200°C, >5,000 hours
Transmission Axis (TA):	Referenced to long side	
	of part	
TA Tolerance:	±1°	±1°
Dimensional Tolerance:	$\pm 0.4 mm$	$\pm 0.2 mm$
Edge Exclusion:	2mm	2mm
RoHS:	Compliant	Compliant

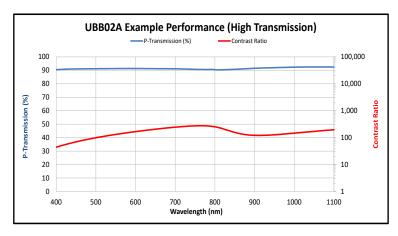
Do not touch or clean the wire-grid polarizer surface otherwise the polarizer will be damaged.

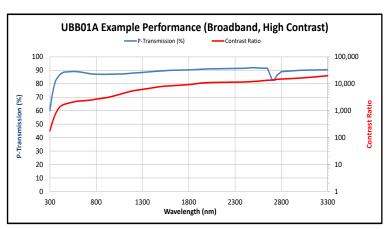


Performance Specifications at Normal Incidence																			
Product	Range (nm)	300nm		400nm 4		450	50nm 550		0 nm 650nm		nm	800nm		1100nm		2500nm		3200nm	
		Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	CR (min)	Tp% (min)	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.



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