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\textsuperscript{®} 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.

### Applications

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

### Features

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nanowire\textsuperscript{®} Technology</td>
<td>Brightness and contrast uniformity</td>
</tr>
<tr>
<td></td>
<td>±20° AOI without depolarization</td>
</tr>
<tr>
<td></td>
<td>Wavelength and AOI independent</td>
</tr>
<tr>
<td></td>
<td>Broadband</td>
</tr>
<tr>
<td>Inorganic</td>
<td>High heat resistant</td>
</tr>
</tbody>
</table>

### General Specifications

**UBB01A**

- **Wavelength Range**: 300 - > 3250nm
- **Substrate Type**: Fused Silica
- **Thickness**: 1.0 ± 0.1mm
- **Index of Refraction**: 430nm: 1.4672, 1000nm: 1.4504
- **Thermal Expansion**: 5.5 x 10\(^{-7}\)/°C
- **AOI (Angle of Incidence)**: 0°± 20°
- **AR Coating**: Not standard
- **Maximum Temperature**: 200° C > 5,000 hours
- **Transmission Axis (TA)**: Referenced to long side of part
- **TA Tolerance**: ± 1°
- **Dimensional Tolerance**: ± 0.4mm
- **Edge Exclusion**: 2mm
- **RoHS**: Compliant

**UBB02A**

- **Wavelength Range**: 400 - 1100nm
- **Substrate Type**: Display Grade Glass
- **Thickness**: 0.7 ± 0.07mm
- **Index of Refraction**: 435.8nm: 1.5198, 643.8nm: 1.5078
- **Thermal Expansion**: 31.7 x 10\(^{-7}\)/°C (0-300°C)
- **AOI (Angle of Incidence)**: 0°± 20°
- **AR Coating**: Not standard
- **Maximum Temperature**: 200° C > 5,000 hours
- **Transmission Axis (TA)**: Referenced to long side of part
- **TA Tolerance**: ± 1°
- **Dimensional Tolerance**: ± 0.2mm
- **Edge Exclusion**: 2mm
- **RoHS**: Compliant

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See OPT-DATA-1011 for size and mounting options.
UBB01A Typical Optical Performance

This graph shows typical optical performance of the UBB01A for 300-3200nm. 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 at Normal Incidence

<table>
<thead>
<tr>
<th>Product</th>
<th>Range (nm)</th>
<th>300nm</th>
<th>400nm</th>
<th>450nm</th>
<th>550 nm</th>
<th>650nm</th>
<th>800nm</th>
<th>1100nm</th>
<th>2500nm</th>
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<tr>
<td></td>
<td></td>
<td>Tp% (min)</td>
<td>CR (min)</td>
<td>Tp% (min)</td>
<td>CR (min)</td>
<td>Tp% (min)</td>
<td>CR (min)</td>
<td>Tp% (min)</td>
<td>CR (min)</td>
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<td>UBB01A</td>
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<td>30</td>
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<td>600</td>
<td>83</td>
<td>650</td>
<td>81</td>
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<tr>
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<td>400-1100</td>
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<td>-</td>
<td>89</td>
<td>40</td>
<td>90</td>
<td>40</td>
<td>90</td>
<td>100</td>
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</table>

*Not measured on all parts