



Mounted BIR ProFlux Polarizers

Applications

- Astronomy
- Forensics
- Medical
- Microscopy
- NVG (Night Vision Goggles), low light imaging
- Spectroscopy
- Security



Broadband IR polarization, such as provided by Moxtek BIR04A and BIR05A, are essential in enhancing night vision and deep space imaging applications that generate these stunning images.

The ProFlux® BIR Series Infrared polarizer, designed using Moxtek® Nanowire® Technology, provides unparalleled broadband infrared performance. Moxtek's high volume production capacity ensures availability and supports high volume applications.

BIR polarizers are designed and manufactured to support broadband applications to easily match your applications design goals. BIR04A High Contrast Infrared Polarizer is optimized for ultimate contrast while BIR05A High Transmission Infrared Polarizer is designed for optical efficiency.

BIR04A and BIR05A Infrared Polarizers can also be customized to deliver contrast and performance levels to meet your specific application and design parameter needs. Please contact Moxtek sales representatives for more information.

Features	Benefits
Nanowire Technology	Brightness and contrast uniformity
	>20° half angle without performance loss
	Wavelength and AOI independent
Inorganic	Broadband
	High reliability
	High heat resistant

Substrate Specifications

Type: Display Grade Glass

Thickness: 0.7mm ± 0.07

Index of Refraction: 435.8nm: 1.5198

643.8nm: 1.5078

Thermal Expansion: 31.7 x 10⁻⁷/°C (0-300°C)

General Specifications

Wavelength Range: 700nm - 2,500nm

AR Coating: None

Dimensional Tolerance: ± 0.2mm

Edge Exclusion: 2mm

Transmission Axis (TA): Referenced to long side

TA Tolerance: ± 1°

Angle of Incidence: 0° ± 20°

Maximum Temperature: 200°C > 5,000 hours

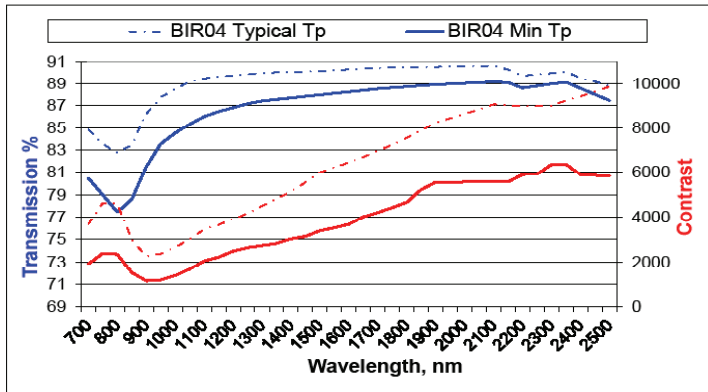
RoHS: Compliant



Performance Graphs

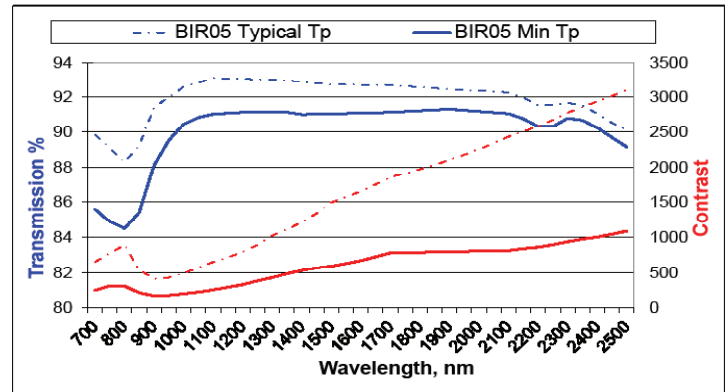
BIR04A Performance Graph

BIR04A is designed for high contrast with typical contrast values ranging from 2,000:1 at 1,000 nm and as high as 9,000:1 at 2,400nm with typical “p” polarization transmission of 83% or greater.



BIR05A Performance Graph

BIR05A is designed for the highest transmission efficiency possible. Typical “p” polarization transmission ranges from 88% at 850nm to 92% at 2,200nm with typical contrast of 500:1 and higher.



Performance Specifications at Normal Incidence

Note: Performance specifications are for polarizer manufactured on high grade display glass. Polarization for wavelengths greater than 2,700nm is available by using fused silica and other substrates. Please contact us to discuss your application requirements.

Optical Performance		900nm		1400nm		1900nm		2400nm	
		Tp	Ts	Tp	Ts	Tp	Ts	Tp	Ts
BIR04A	Min/Max	81.5%	0.071%	87.7%	0.029%	88.9%	0.016%	88.5%	0.015%
BIR05A	Min/Max	88.1%	0.529%	91.0%	0.172%	91.3%	0.114%	90.2%	0.090%

Tp- Transmitted “p” polarization, Ts- Transmitted “s” polarization, Tp/Ts



Image courtesy of NASA/JPL-Caltech. Image of Stellar Snake enabled by IR polarizer technology.



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