



BIR Polarizers
(mounting optional)

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.

Applications

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

Standard Product Options

Product Name	Description
BIR04A	High Contrast
BIR05A	High Transmission

*See OPT-DATA-1011 for mounting options

Features	Benefits
Nanowire® Technology	Brightness and contrast uniformity
	±20° AOI without depolarization
	Wavelength and AOI independent
Inorganic	Broadband
	High heat resistance

Substrate Specifications

Substrate 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 (see back page)

AR Coating: None

Dimensional Tolerance: ± 0.2mm

Edge Exclusion: 2mm

Transmission Axis (TA): Referenced to long side of part

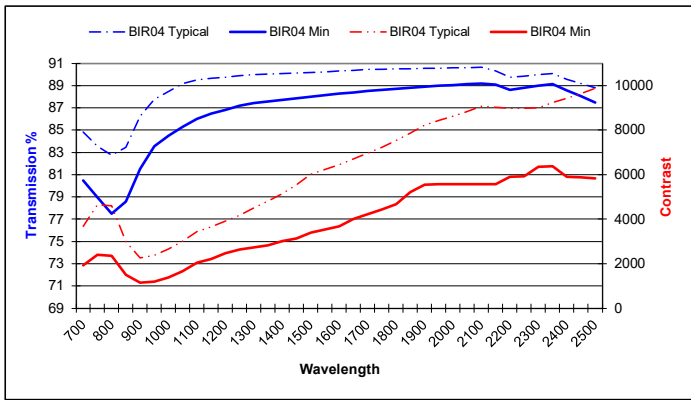
TA Tolerance: ± 1°

Angle of Incidence: 0° ± 20°

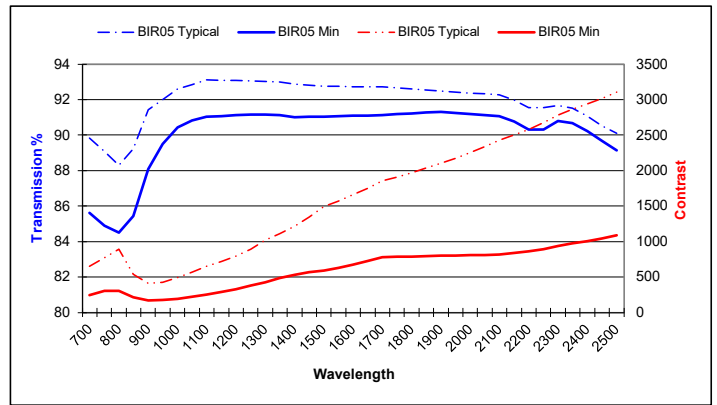
Maximum Temperature: 200°C > 5,000 hours

RoHS: Compliant

BIR04A Typical Performance (High Contrast)



BIR05A Typical Performance (High Transmission)



Performance Specifications at Normal Incidence

Note: Performance specifications are for polarizers 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.



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

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



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