

The Coherent MAKROS line of Faraday devices builds on over 30 years of experience in successfully protecting lasers from destabilizing and potentially damaging back reflections. These products have been specifically designed to meet the needs of high power and high energy 2 μm (1900 nm to 2100 nm) lasers.

Our MAKROS rotators and isolators deliver industry-best laser reliability and performance while providing superior isolation and maintaining very high transmission.

Our MAKROS products rely on the Faraday effect from high Verdet constant, low absorption materials to rotate the plane of linearly polarized light in the forward direction and an additional 45° of non-reciprocal rotation in the reverse direction. When these Faraday rotators are placed between crossed polarizers, they can be used as a Faraday Isolator. The MAKROS is available as a rotator or an isolator.



Features

- Completely passive; no tuning required
- Rugged design suitable for harsh operating environments
- Specified performance to 30 W
- Optically contacted PBS cubes for improved damage threshold
- All isolators contain rejected beam escape ports

Options

- Input/Output waveplates available
- Precision mounting available
- Customization requests encouraged

Applications

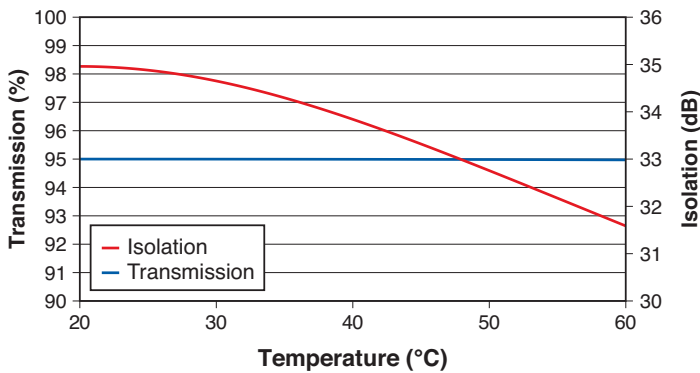
- Ho or Tm lasers
- High Harmonic Conversion
- High Energy Physics
- Biological and Medical Systems, Research, and Device Manufacturing
- Ultrafast R&D
- Microelectronics
- Micromachining
- Particle Acceleration

SPECIFICATIONS

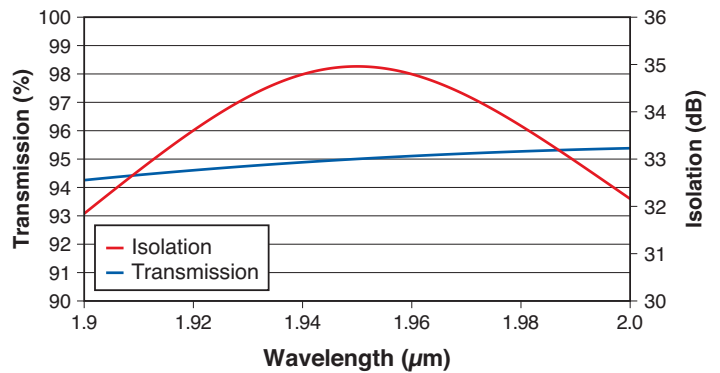
	Rotator	Isolator ¹
Clear Aperture (mm)	4	4
Transmission at 22 °C (%)	>95	>92
Isolation at 22 °C (dB)	N/A	>30
Pulsed Damage Threshold (J/cm ²)	5 at 10 ns	5 at 10 ns
Power Handling (W)	30	30

¹ Escape ports should be used if rejected light is >1 W or 0.15 J/cm² at 10 ns or forward light is >25 W. All stray beams should be properly terminated.
NOTE: Return loss-free working distance ≥25 mm for a collimated beam.

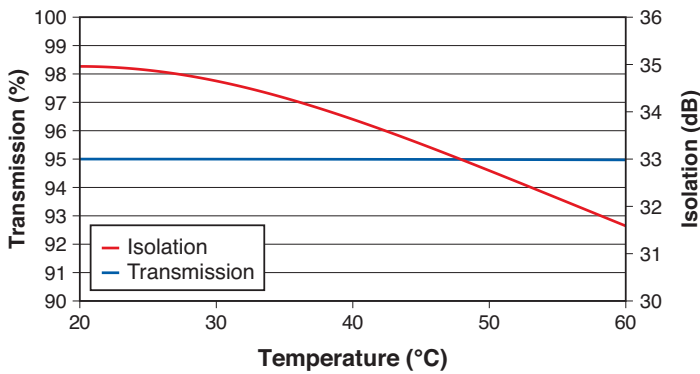
Typical 1950 nm Isolator Performance



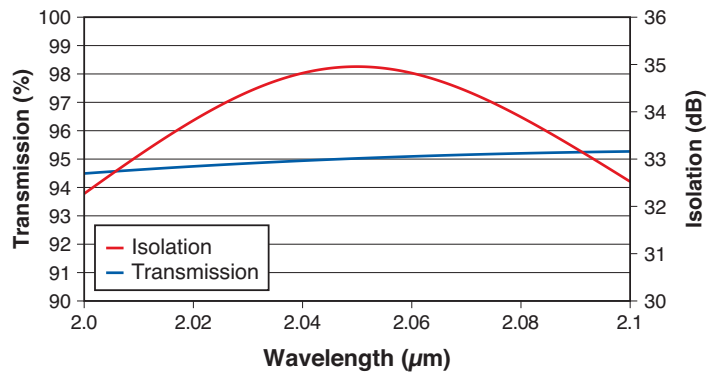
Typical 1950 nm Isolator Performance



Typical 2050 nm Isolator Performance



Typical 2050 nm Isolator Performance



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. All products are RoHS compliant.

Coherent offers a limited warranty for all MAKROS Rotators and Isolators. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative. Copyright ©10/21 Coherent, Inc.