



Electro-Optics Technology, Inc.

Innovative High Quality Laser Solutions

PAVOS Ultra

Faraday Rotators & Isolators
1010 nm to 1080 nm



The PAVOS Ultra line of Faraday devices offers roughly 1/10th the absorption and thermal lens focal shift and can provide 3-10 times lower non-linear refractive index compared to the standard PAVOS rotators and isolators. This results in less Kerr Lens focal shift and a lower B-integral. The PAVOS Ultra line has been specifically designed to meet the needs of the high power and high energy 1 μm (1010 nm to 1080 nm) laser market with stable performance up through 400 W* of average power.

Our PAVOS Ultra rotators and isolators delivery industry-best laser reliability and performance. The PAVOS Ultra family of Faraday devices provide superior isolation, especially at higher average power levels, while maintaining very high transmission values.

EOT's PAVOS Ultra 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. The PAVOS Ultra is available as a rotator or an isolator.

FEATURES

- 1/10th the absorption and thermal lens focal shift compared to standard PAVOS
- 3-10 times lower non-linear refractive index
- Complete passive; no tuning required
- Stable performance to 400 W; tested to 1.2 kW average power without damage
- Optically contacted PBS cubes for improved damage threshold
- All isolators contain escape ports
- Adjustable to handle any angle of linear input polarization without additional optics

OPTIONS

- Input/Output waveplates available
- Precision mounting available
- Precision rejected beam pointing available
- Customization available

APPLICATIONS

- High average power applications
- Ultrafast R&D
- Microelectronics
- Medical Systems & Device Manufacturing
- Micromachining
- Particle Acceleration



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SPECIFICATIONS

	Rotator	Isolator ^a
Clear Aperture	5 mm, 8 mm, 12 mm	5 mm, 8 mm, 12 mm
Peak Transmission ^b	>95%	>95%
Peak Isolation ^b	N/A	>33 dB typical >27 dB minimum
Extinction	>36 dB typical >30 dB minimum	N/A
Rotation	45° +2/-5°	45° +2/-5°
Storage Temperature Range	-40 °C to 70 °C	-40 °C to 70 °C
Operational Temperature Range	10 °C to 30 °C	10 °C to 30 °C
Isolated Beam Pointing ^c	N/A	<5 mrad
Damage Threshold ^c	7 J/cm ² at 10 ns 600 mJ/cm ² at 8 ps	7 J/cm ² at 10 ns 600 mJ/cm ² at 8 ps

Product specifications are subject to change. All products are RoHS compliant.

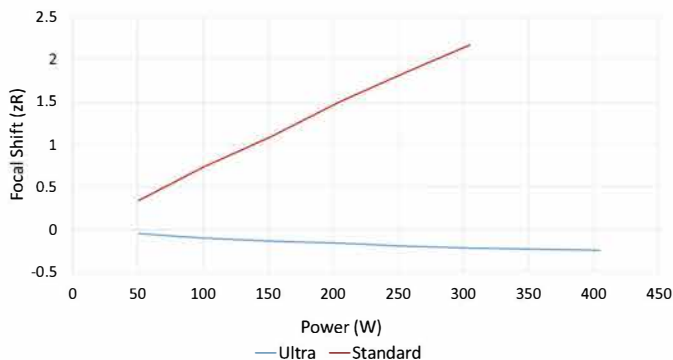
^a Escape ports should be used if rejected light is >1 W or 0.15 J/cm² at 10 ns or forward light is >25 W. All stray beams should be properly terminated.

^b At customer-specified wavelength and temperature

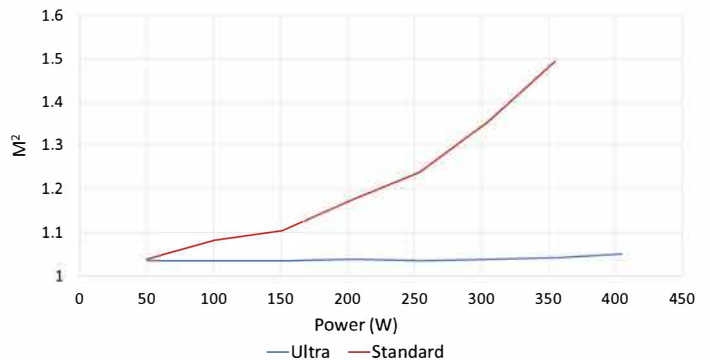
^c Input cube only

NOTE: For powers higher than 400 W, contact EOT.

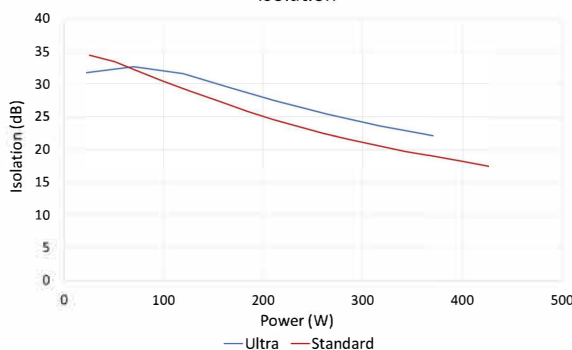
Thermal Lens Focal Shift



Beam Quality - M²



Isolation



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