



PHOTONICALS

Laser Diodes and Accessories

Photonic accessories and laboratory tools are just as important as the laser itself.

Researchers in modern optical laboratories need to prepare their laser beams in the requested shape, separate them from undesired feedback, control

the spectral performance and monitor the wavelength, to name just a few everyday tasks.

TOPTICA offers a variety of Photonicals – instruments and components that upgrade, refine or characterize lasers.

We focus on a “selection of the best”: Unique components and top-grade instruments that are extremely useful in the daily operation of diode lasers.

For detailed product specifications, please refer to our website www.toptica.com.



Laser Diodes

- Unique selection of FP, AR and DFB diodes, 369 .. 3500 nm
- Tapered amplifier chips, 660...1495 nm with up to 3.5 W
- All diodes and amplifiers extensively tested and qualified
- Check our regularly updated diode and TA chip stock list:

www.laser-diodes.com

FiberDock – Patented ultra-stable precise 6-axes mount for convenient single-mode fiber coupling.

Free Space Optical Isolators

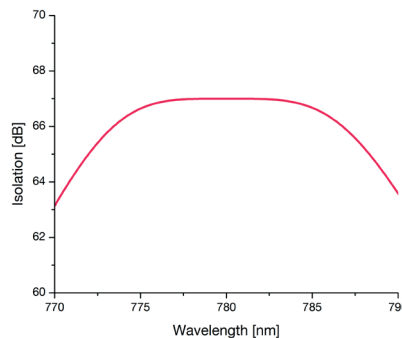
High Power Tunable Single and Dual Stage Performance

TOPTICA's product line of Faraday optical isolators are specially designed and manufactured in-house by the laser experts of TOPTICA to give industry leading performance in single and dual stage configurations. Single stage devices provide at least 38 dB isolation and 85 % transmission (>43 dB and >92 % average) over individual wavelength ranges in total spanning 395 - 425 nm and 630 - 1400 nm. Dual stage models provide at least 60 dB isolation and 80 % transmission (> 67 dB and >90 % average) over individual wavelength ranges in total spanning 640 - 1100 nm. All models are wavelength adjustable and can handle power densities up to 4 kW / cm².

High isolation, transmission, and power densities are achieved with precision polarizers and precisely designed Faradayrotator elements. Most isolators have magnetically locked and removable protective endcaps and mounting fixtures. All internal optical components are angled to eliminate collinear back reflections. Extensive individual, wavelength-specific testing guarantees performance of each isolator. All optical sub-components are inspected upon receipt, and all assembled devices are tested for transmission and isolation over their design wavelength ranges before shipment.

TOPTICA's isolators enable state of the art protection for the most stable lasers in the world. These are the same components already used by TOPTICA in the industry-leading DL pro, DL 100, TA-SHG pro, and TA-FHG pro product lines. They have been demonstrated to effectively reduce feedback in external cavity diode laser systems, block reflections from free-space fiber coupling, increase power stabilization in optical systems, and eliminate feedback-induced damage to sensitive optical components. The same superior isolators that make TOPTICA lasers the industry standard are now offered individually.

Other wavelengths and broadband isolators as well as OEM customizations are available upon request. Additional wavelengths spanning the UV to NIR regions are also available for integration into our scientific laser systems.



TOPTICA offers single-stage and dual-stage optical isolators.

Key Features

- High power damage threshold (4 kW / cm²)
- Highest guaranteed isolation in industry
 - > 38 dB (single stage)
 - > 60 dB (dual stage)
- High transmission
- Wavelength coverage 395-425 nm, 630-1400 nm
- All internal components angled 1° to eliminate back reflections
- 4.7 mm clear aperture
- All isolators are wavelength adjustable

Single Stage Isolators

Model	SSR405	SSR650	SSR690	SSR730	SSR780	SSR835	SSR885	SSR945	SSR1150	SSR1250	SSR1350
Design Wavelength [nm]	405	650	690	730	780	835	885	945	1150	1250	1350
Tunable Wavelength Range [nm]	395-425	630-670	670-710	710-750	750-810	810-860	860-910	905-985	1100-1200	1200-1300	1300-1400
Fixed Operation Range* [+/- nm]	2.5	5	6	6.5	7	7.5	8	9	10	10	10
Clear Aperture	4.7 mm										
Isolation at Design Wavelength (Min/Ave)	38/43 dB										
Operating Temperature Range	15 °C to 40 °C, non-condensing										
Storage & Transport	Shock 25 g / 10 ms., Vibration 3 g (15-100 Hz), 0 °C to 60 °C non-condensing										

*with respect to design wavelength >35 dB and >85 %

Dual Stage Isolators

Model	DSR660	DSR700	DSR740	DSR780	DSR820	DSR880	DSR950	DSR1020	DSR1070
Design Wavelength [nm]	660	700	740	780	820	880	950	1020	1070
Tunable Wavelength Range [nm]	640-680	680-720	720-760	760-805	800-865	860-930	930-995	995-1050	1050-1100
Fixed Operation Range* [+/- nm]	6	6.5	7	7.5	8	10	11.5	12	12
Clear Aperture	4.7 mm								
Isolation at Design Wavelength (Min/Ave)	60/67 dB								
Operating Temperature Range	15 °C to 40 °C, non-condensing								
Storage & Transport	Shock 25 g / 10 ms., Vibration 3 g (15-100 Hz), 0 °C to 60 °C non-condensing								

*with respect to design wavelength >60 dB and >80 %