

Volume Holographic Gratings
Wavelength Stabilized Lasers

Pulse Compression Filters
Notch Filters and Systems

ASE Suppression Filters
VHG Wavelength Combiners

Product Selector Guide

SureLock™

PowerLocker™

SureBlock™

PicoPulse™

VHG™

NoiseBlock™

Ondax, Inc. is the market leader in the design, manufacture and marketing of high-performance holographic optical filters and wavelength-stabilized laser sources for a wide range of industrial, scientific, defense and consumer applications. Our core technology is state-of-the-art **Volume Holographic Gratings (VHG)** – specialized optical filters which are fabricated from proprietary photosensitive glass – that provide wavelength stabilization, spectral and temporal control for lasers and laser-based systems, and enhanced optical performance and resolution of spectroscopy systems. Our products enable our customers to make their lasers and optical systems smaller, more portable, more efficient, less expensive and more environmentally stable and robust.

VHG™ Volume Holographic Gratings

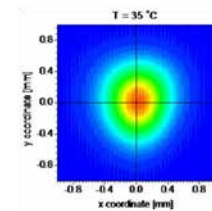
Ondax VHG are bulk “solid-state” diffractive holographic filters, which unlike thin films or gels, can deliver ultra-stable, degradation-free performance for the lifetime of the filter. Capable of very tight wavelength, efficiency, bandwidth, and diffraction angle control, Ondax VHG can be precisely and reproducibly engineered to demanding spectral and temporal specifications.

PowerLocker®

PowerLocker® wavelength stabilization gratings are designed to reflect a specified wavelength at a given reflectivity, locking the emission wavelength, increasing spectral brightness, and improving environmental performance of laser diodes. The short external cavity enabled by the PowerLocker® provides better mode selection than systems based on Littrow or Littman cavities at a much lower cost. Available in wavelengths from 375nm to 2.5µm, efficiencies from 5% to >99%, and bandwidths from 0.03 to 1nm to match any application requirement.

PicoPulse™

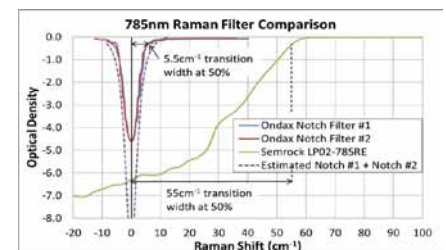
Ondax PicoPulse™ pulse stretcher/compressor filters enable high peak power in femtosecond pulsed laser systems, with a distortion free round output beam. PicoPulse™ filters allow larger input beams to be used with many orders of magnitude higher power than chirped Fiber Bragg Gratings (FBGs). Ondax’s proprietary packaging is designed to minimize the spatial chirp commonly found in chirped volume holographic gratings (CVHGs). This robust, compact format is less complex than equivalent dispersive diffraction grating pairs, which require multiple components with precise alignment adjustment. The output is stable over a wide range of temperatures, with nearly diffraction limited beam quality.



Spatial mode measured after 1.5m of free-space propagation

SureBlock™

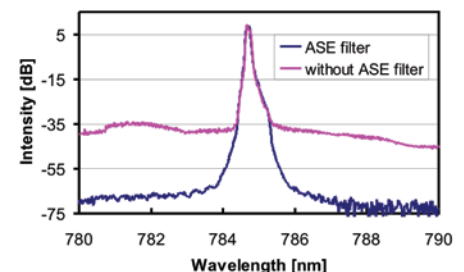
Ondax SureBlock™ ultra narrow-band notch filters boost the performance of single-stage Raman spectrometers to triple-stage levels. Each filter has up to OD 6 rejection with <10 cm⁻¹ bandwidth. High transmittance away from the notch enables simultaneous Stokes and anti-Stokes measurements. Available in standard 1” optical mounts, or pre-aligned in the light-tight SureBlock™ XLF Notch Filter System for total rejection > OD 8. Standard wavelengths include: 488nm, 514nm, 532nm, 633nm, 78Xnm. Custom wavelengths and integration options are available.



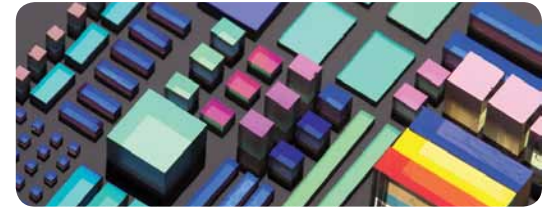
SureBlock wavelength selectivity compared to a thin-film edge filter shows 10x improvement in resolution

NoiseBlock™

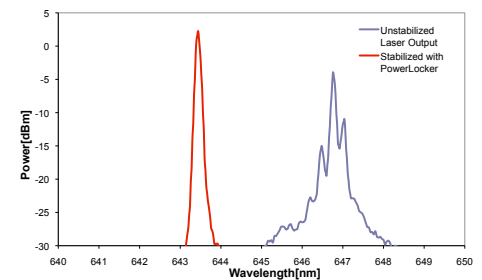
Ondax NoiseBlock™ ASE (Amplified Spontaneous Emission) filters suppress the broad spectrum of spontaneous emission from laser diodes to provide a pure, ASE-free, single frequency laser output. The ASE filter is a reflective VHG with bandwidth of less than 150pm and throughput greater than 90%. The VHG is manufactured with a slant that provides an angular separation between the specular reflections from the surface of the VHG and the filtered laser beam. Available in both free-space and fiber-coupled configurations.



NoiseBlock™ preserves > 90% of the single frequency line while removing ~ 40dB of ASE



The PowerLocker® can be fabricated in a wide range of sizes, wavelengths, and efficiencies. PowerLocker® “locks” a laser’s wavelength into a narrowed spectrum, delivering stable operating performance over a wide temperature range.



Model	Center Wavelength								
	405	640	658	685	690	780.25	785	808	830
TO		9mW	35mW	45mW	45mW	80mW	80mW	170mW	200mW
CP	12/25/ 40mW						500mW NB*		
RO		7mW	30mW	40mW	40mW	75mW	75mW		180mW
LM	12/25/ 40mW	8mW	30mW	40mW	40mW	75mW	75mW	150mW	180mW
FCLM (SM/ MM)*	6mW 12mW	2.7mW 5.4mW	10mW 20mW	13mW 27mW	13mW 27mW	25mW 48mW	25mW 48mW	150mW	
BF							600mW NB*	Custom	Custom

All Powers Single Frequency (Except Where Noted as NB)

*NB = Narrow Band, SM = SM Fiber, MM = MM Fiber

SureLock™ Wavelength Stabilized Lasers

All SureLock™ Wavelength Stabilized Laser Diodes and Laser Modules incorporate the Ondax PowerLocker® VHG filter to provide single-frequency or narrowed linewidth spectral performance, stabilized temperature operating characteristics, and low power consumption – delivering affordable, portable, instrument-quality performance for a diversity of applications. Available in a wide range of wavelengths, power levels, and form factors, Ondax can also custom-configure a wavelength-stabilized solution to meet your exact application requirements.

TO Can Lasers

Our TO can lasers deliver stabilized, single-frequency performance in the industry's most compact and affordable package. Ideal for OEM applications, our TO lasers can be easily integrated into OEM platforms for Raman spectroscopy, metrology, sensing, or bio-instrumentation applications. Ondax TO lasers incorporate PowerLocker® VHG's directly inside the can. Available in wavelengths from 640 to 830nm.

CP Collimated TO Can Lasers

The CP laser package incorporates both a PowerLocker® and an aspherical collimating lens to roughly collimate the output beam, simplifying integration into compact optical systems. Available in 405nm single frequency and 785nm multimode configurations.

Raman Butterfly Lasers

The BF Package is a stabilized 600mW, 785nm multimode laser with a linewidth of 0.15nm and a 100 micron MM fiber output. Available with FC/PC or FC/APC connectors.

RO Series Collimated Laser Modules

The Ondax RO Series Single Frequency Collimated Laser Module integrates our TO wavelength-stabilized lasers with collimating optics, active TEC cooling and precision current control circuitry into a compact, cylindrical package. Designed for easy mounting and integration, this rugged self-contained module is ideal for incorporation into precision instrumentation or for laboratory applications. Available in wavelengths from 640nm to 830nm.

LM Series Compact Laser Module

The Ondax LM Series Compact Single Frequency Laser Module incorporates any of our TO or CP stabilized laser diodes into a user-friendly, ultra-compact footprint. Offering both computer and integrated user controls, the LM Series includes precision temperature and current controls to stabilize output with less than 1 minute warm-up. This tightly integrated package makes it the ideal choice for both OEM instrumentation and laboratory applications. The LM module is available in wavelengths from 405nm to 830nm.

FCLM Series Compact Laser Module

The Ondax FCLM Series Fiber Coupled Single Frequency Laser Module can incorporate any Ondax SureLock™ VHG-stabilized laser diode into a convenient, fiber-coupled package, delivering single frequency performance with exceptional mode quality. Remotely controlled via an analog control interface, the FCLM includes precision temperature and current controls to deliver better than 1m coherence length and excellent power stability. The fiber coupled output affords easy integration into Raman or OEM instrumentation applications.



Over 10 years of Excellence and Innovation

Optimized Design



World-Class Quality



High-Volume Manufacturing



Founded in 2000 by Caltech Doctorates with vast experience in holography, Ondax became the first commercial company to manufacture VHGs for use in industrial and commercial product lines. Our extensive technology portfolio extends across a broad range of patents, licenses, and proprietary manufacturing and test methods – along with a multi-year, multi-million-dollar investment in a high-volume manufacturing infrastructure – providing the foundation for delivering the highest volume, performance, quality, consistency, and traceability in the industry. With tens of thousands of units operating in the field, Ondax has established the benchmark of both performance and reliability with customers across the world.



Ondax's principal fabrication and integration facility is located in Monrovia, CA within convenient reach of downtown Los Angeles and all Southern California airports.



Visit the Ondax Online Store to find off-the-shelf samples of hundreds of products, available for immediate delivery.

www.ondax.com



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