

FIFL-SF-589-3



3W Fiber-Optic Raman Sodium-Doped Laser

Core Parameters

Operating wavelength 589nm, Output optical power 3W, $M^2 < 1.1$, Line width 10MHz

Overview

LD-PD PTE. LTD.'s Raman fiber laser is a high-performance all-fiber light source based on stimulated Raman scattering technology. Different from rare-earth doped fiber lasers, it realizes wide wavelength coverage from 1270 nm to 1370 nm, covering all major optical communication bands.

Equipped with wavelength-locked pump diodes and built-in precise TEC temperature control, the laser features narrow linewidth, low noise and no mode hopping. It achieves excellent beam quality with $M^2 < 1.1$ and superior long-term power stability. Optimized fiber design effectively suppresses SBS effect to support stable high-power output.

With compact structure and complete protection circuits, the product passes strict telecom reliability tests. Customizable fiber pigtails, wavelengths and output power are available. Widely applied in long-distance fiber communication amplification, distributed optical sensing, high-precision spectroscopy and biomedical microscopy, this Raman laser delivers stable, cost-effective photonics solutions for industrial and scientific research customers worldwide.

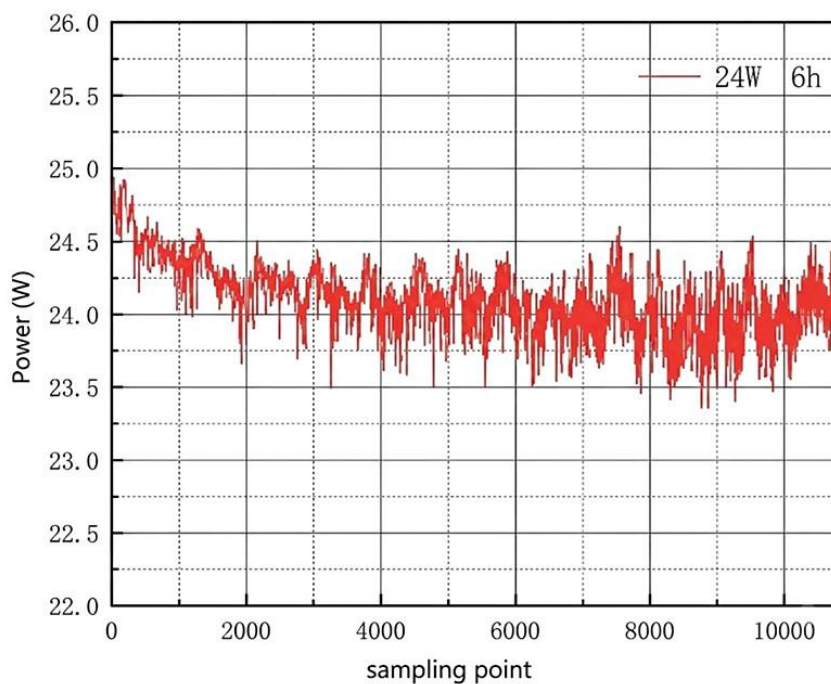
Features

- 1270-1370nm wavelength
- Direct modulation rate 25Gbps
- Non-cooling work
- Single transverse mode transmission
- Comply with ROHS standard
- Reliability conforms to Telcordia GR-468

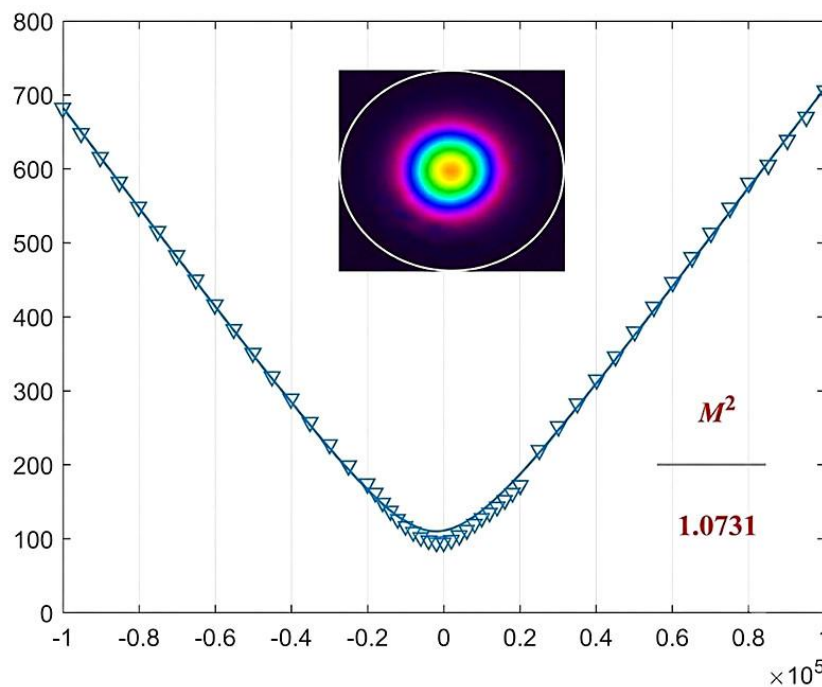
Technical Specifications

model	FIFL-SF-589
Work pattern	Continuous/Quasi-continuous/Pulse output
Wavelength	589.1591 nm & 589.1571 nm (simultaneously excited at a certain ratio of $D_{2\alpha}/D_{2\beta}$)
Power	> 22W
Line width	~10MHz
Polarization	Linear polarization/Circular polarization
Power stability	RMS < 1%@6h
Beam Quality	Single transverse mode output, $M^2 < 1.1$
Output Method	Spatial optical alignment output
Cooling-down method	Hydrocooling
Weight	<50kg
Power Supply Requirements	220 V/50 Hz
Control method	Control via upper-level software / Simulation-based control
Electro-optical conversion efficiency	>4 %
Size (Length × Width × Height)	<500 × 482 × 338 mm ³ + 400 × 167 × 83 mm ³

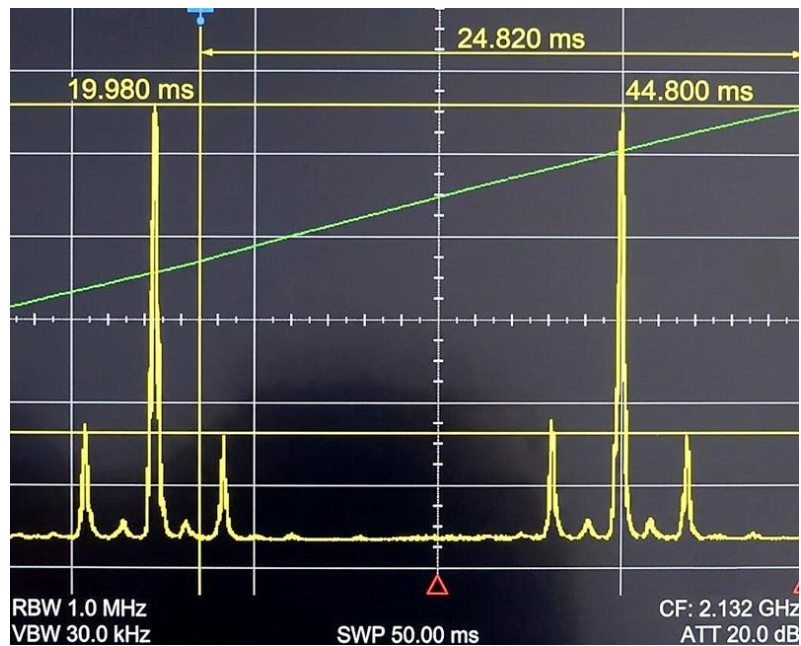
High Power Stability



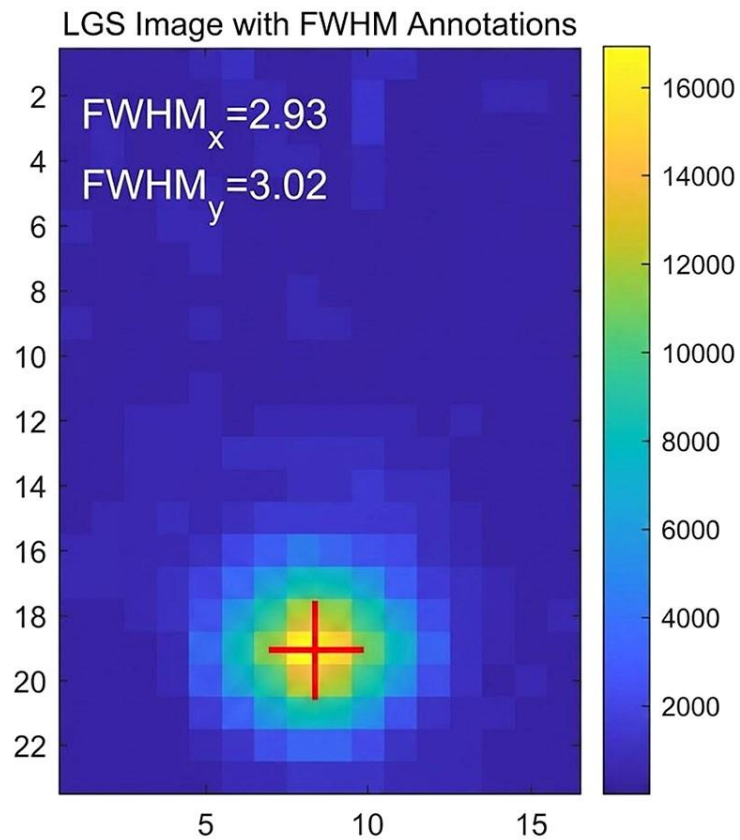
High Beam Quality



D2a/D2b line excitation



Sodium Beacon Spot



Mechanical Assembly Diagram

