

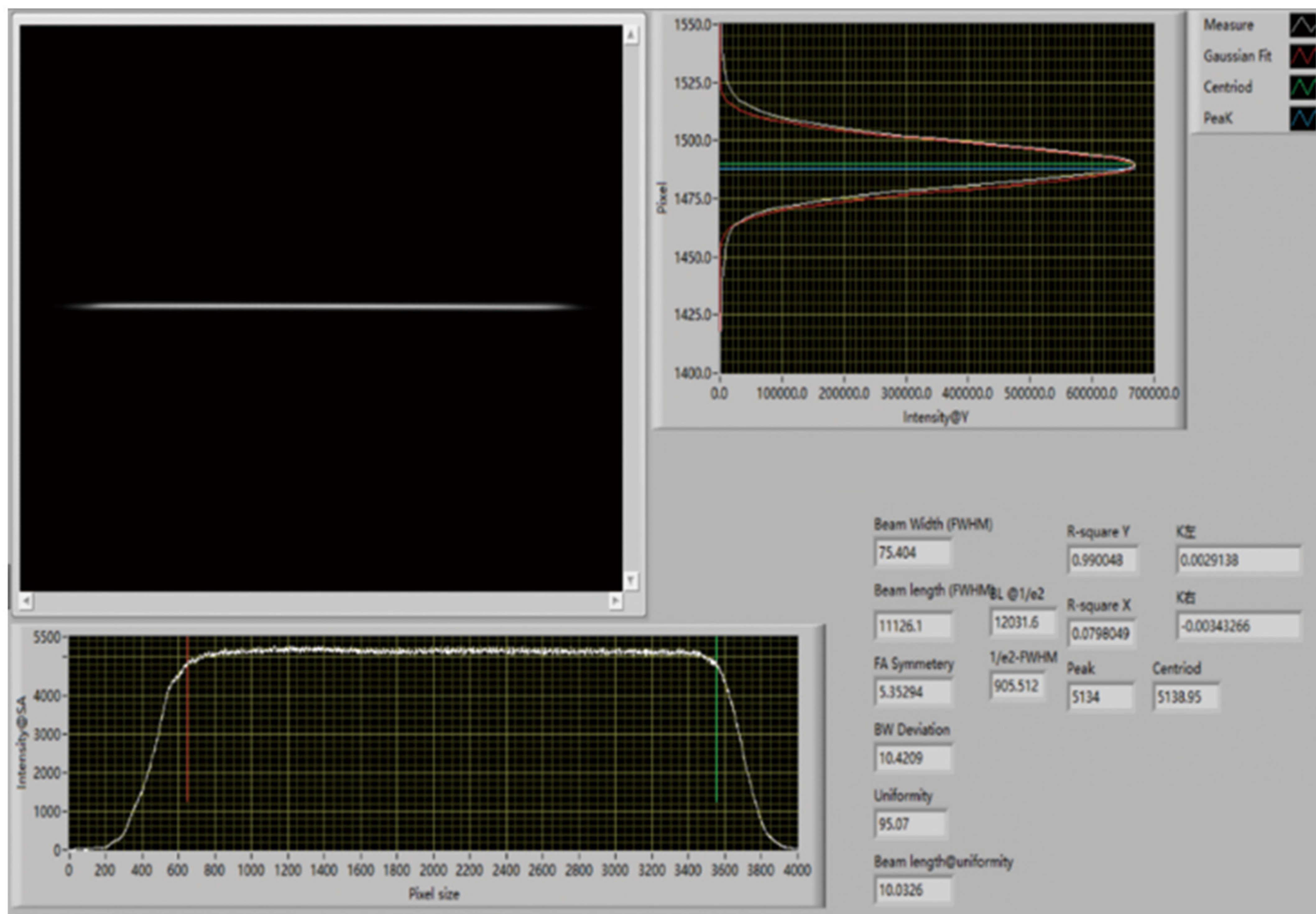
- Up to 1500 W laser power
- Stable central wavelength
- Line width 70  $\mu\text{m}$  (customizable)
- Uniformity of beam length > 95%
- Output power stability > 98%
- Up to 160  $\mu\text{m}$  focal depth range
- Modular design, easy maintenance
- High product consistency
- Multiple additional functions

# SEMICONDUCTOR WAFER ANNEALING

## DLight<sup>®</sup> S SERIES DIODE LASER SYSTEM

With the development of semiconductor manufacturing technology and the improvement of VLSI design and manufacturing capacity, laser annealing technology has gradually replaced the traditional furnace annealing technology and become the mainstream technology in the field of semiconductor manufacturing. Compared with traditional annealing, laser annealing has lots of advantages, like selective heating, closed-loop temperature control, high power density and stable energy output. It is suitable for various semiconductor wafer annealing processes.

Laser annealing is one of the indispensable key processes in the manufacturing of logic chip manufacturing with 28 nm technology node and below. Such process heats the wafer surface atomic layer to more than 1000 °C in less than 1 millisecond, and then cools rapidly, to effectively reduce wafer electrode defects in the process, and to improve product performance and production yield.



Max Output Power	1500 W
Power Stability	> 98%
Beam Length(Top-hat Area)	12 mm
Beam Length(Beam Profile)	Top Hat
Beam Length: Uniformity	≥ 95%
Beam width (FWHM)	70 μm
Beam width : Beam Profile	Gaussian
Beam width : Stability	± 1 μm

Focuslight Technologies has launched DLight® S series Diode Laser System for laser wafer annealing. This system combines eutectic bonding technology, thermal management and thermal stress control technology for photon generation and beam transformation and beam homogenization technology for photon control. DLight® S generates 70 μm, extremely narrow line laser beam with an aspect ratio of 160:1. Such laser system provides continuous energy output up to 1800 W/mm<sup>2</sup>, which can achieve > 95% beam uniformity and > 98% output power stability. At the same time, it also has additional functions such as processing temperature monitoring and in-situ detection of output beam quality.

## COMPANY INTRODUCTION

Founded in 2007 and headquartered in Xi'an, China, Focuslight Technologies is a fast-growing company that develops and manufactures high-power diode laser components and materials (photon generation), laser optics (photon control), photonic application modules, assemblies, and sub-systems (photonics application solutions) with a focus on automotive, pan-semiconductor, and medical & health application solutions. After the successful IPO at the Shanghai Stock Exchange Star Market (Ticker Symbol: 688167) in December 2021, Focuslight has unified its brand globally in January 2022. Focuslight has over 420 patents worldwide and is ISO 14001, ISO 45001, ISO 9001, and IATF 16949 certified.