OXIDE

December 16, 2025
OXIDE Corporation
Masayuki Yamamoto,
President (COO & CFO)

Begins Accepting Orders for DUV Lasers for Semiconductor Inspection:
"266nm High-Power Laser / New Wavelength 193nm All-Solid-State Laser"
~Accelerating Inspection Sensitivity and High Throughput
from Semiconductor Wafers to Photomasks~

OXIDE Corporation. (Headquarters: 1747-1 Maginohara, Mukawa, Hokuto, Yamanashi, Japan; President (COO &CFO): Masayuki Yamamoto) will begin accepting orders in 2026 for its flagship DUV laser series for semiconductor inspection. This includes a 266nm High-Power Laser (standard 8W, maximum 12W) and a newly developed 193nm All-Solid-State laser.

266nm High-Power Laser(Standard 8W, Maximum 12W)

193nm All-Solid-State Laser

1. Product Overview

The "QCW Kalama" series is a deep ultraviolet (DUV) picosecond pulsed laser(Note1) developed for semiconductor wafer inspection, which demands high reliability and long lifetime. As semiconductor devices continue to shrink, achieving higher sensitivity and efficiency in inspection remains an ongoing challenge. To address this, OXIDE is enhancing the performance and expanding the lineup of the "QCW Kalama" series.

266nm High-Power Laser:
Enhanced Inspection Efficiency and Improved Throughput

The new 266nm high-power Laser increases output from the previous 3W to a standard 8W and a maximum 12W. This higher fundamental laser output is achieved using our proprietary high-quality CLBO

crystal, while maintaining the same housing size as previous models. This is expected to enhance the detection capability of minute defects on semiconductor wafers, contributing to reduced inspection times. This model is a pseudo-continuous-wave, picosecond-pulsed laser with a 100 MHz repetition rate and a wavelength of 266 nm.

New Wavelength 193nm All-Solid-State Laser:
Expanding Inspection Targets and Addressing New Application Fields

The newly developed 193nm laser is an all-solid-state DUV picosecond laser achieving a wavelength of 193nm, a repetition rate of 50 MHz, and an average output exceeding 0.2 W. Leveraging our long-cultivated wavelength conversion technology and high-quality CLBO crystals, we achieved both high output and short wavelength. Beyond conventional wafer inspection, it can be applied to ArF lithography photomask inspection, medical fields, and as a light source for optical component inspection.

2. Key Features

【266nm High-Power Laser】

- Significantly improves sensitivity and throughput in semiconductor wafer inspection with standard 8W and maximum 12W DUV output
- Maintains the same housing size as previous models, featuring a space-saving design that facilitates easy integration into existing inspection equipment

【New Wavelength 193nm All-Solid-State Laser】

- Achieves the 193nm wavelength required for ArF lithography photomask inspection, expanding the scope of semiconductor inspection applications
- Achieves the same wavelength as ArF lasers (excimer lasers) using an all-solid-state laser
- High beam quality
- High-quality CLBO crystal adoption enables stable operation and long-term use meeting the stringent demands of semiconductor manufacturing environments
- Applications extend beyond semiconductor wafer inspection and photomask inspection to diverse fields including medical applications and optical component inspection

3. Exhibition Information

The development results of the high-power model are scheduled to be presented at Photonics West 2026, the world's largest exhibition in the field of optical engineering and lasers. (Presentation Title: DUV quasi-CW laser of average power scalable over 10 W and long lifetime using CLBO crystal for industrial application)

Event Name: PhotonicsWest 2026
Dates: January 20-22, 2026
Venue: Moscone Center, San Francisco, USA
Details https://spie.org/conferences-and-exhibitions/photonics-west/photonics-west-exhibition

(Note1) a picosecond laser : Lasers are classified into those that emit light continuously and those that emit light intermittently in repeated bursts; the latter are called pulsed lasers. Pulsed lasers emit light for a fixed duration in repeated bursts. Lasers where this duration ranges from several picoseconds to several hundred picoseconds are called picosecond lasers. A picosecond represents an extremely short duration of one trillionth of a second.

Contact for inquiries regarding this matter
OXIDE Corporation, Laser Business Division
sales@opt-OXIDE.com
TEL: 045-444-9511

[Company Overview]

OXIDE Corporation was founded in 2000 as a venture company originating from the National Institute for Materials Science (NIMS). The Company is headquartered in Hokuto City, Yamanashi Prefecture, Japan, where it operates its head office and manufacturing facilities, and also maintains a business office in Hodogaya Ward, Yokohama City, Kanagawa Prefecture. Since its establishment, OXIDE Corporation has aimed to become a global niche leader in the fields of single crystals and lasers. Guided by the following management philosophy, the Company has continuously focused on businesses in which it can fully leverage its strengths in single-crystal development and optical technologies across the optical value chain. Management Philosophy: Be a global-niche-top company in Single Crystals and Lasers ・Use the results of our research to benefit society, and provide key materials to the world ・Provide material solutions to customers and contribute to the development of society ・Develop products centered on single crystals, and continue to create future market opportunities The Company's core business consists of the development, manufacturing, and sales of single crystals, optical components, laser light sources, and optical measurement systems—technologies that are essential to the "Age of Light" in the 21st century. OXIDE operates three business domains: New Frontiers, Semiconductors, and Healthcare. In recognition of its technological excellence and global competitiveness, OXIDE was selected as one of the Ministry of Economy, Trade and Industry's Global Niche Top 100 Companies in 2014. In February 2021, the Company received the Grand Prix at the Small Giants Award 2021, hosted by Forbes Japan. OXIDE's distinctive strengths include: a strong base of highly specialized experts and engineers in single-crystal and optical technologies, enabling sustained growth as a research-driven technology company; and proven capabilities in acquiring optical technologies from both domestic and international companies and successfully commercializing them. These strengths form the foundation of the Company's originality and competitive advantage.