Lasertec

PRESS RELEASE

Lasertec Corporation
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Lasertec Releases OPTELICS UXM Ultra-Short Pulse Excitation Microscope

Yokohama, November 14, 2025 – Lasertec Corporation today announced the release of OPTELICS UXM, an ultra-short pulse excitation microscope that enables the non-destructive and three-dimensional analysis of defects that occur inside wide-bandgap compound-semiconductor wafers ("WBG wafers").

Lasertec has been providing advanced solutions to the inspection needs for SiC, GaN, and other WBG wafers in a timely manner, winning high reputation among the manufacturers of substrates, epi-wafers, and devices worldwide. In recent years, as the quality of WBG wafers has continued to improve, the manufacturers are increasingly seeking tools capable of performing detailed structural analyses of internal defects to identify their causes.

To meet this need, Lasertec has developed OPTELICS UXM, a microscope that enables the non-destructive, three-dimensional observation of internal defects in WBG wafers. While, in the past, destructive methods had to be used to observe the 3D structures of defects buried inside wafers, OPTELICS UXM allows the manufacturers to conduct such observation and analysis non-destructively and to use the results to improve their manufacturing processes and increase yields.

Lasertec offers a wide range of wafer inspection solutions that support yield improvement throughout the entire manufacturing process, from R&D to mass production. Lasertec will continue providing solutions that address the challenges faced by WBG wafer and device manufacturers, facilitating technological advancement and better quality control, while delivering higher value to the semiconductor industry.

Features

- Non-destructive 3D observation of internal defects in WBG wafers
- Motorized XY stage enabling automatic coordinate control and integration with other inspection tools

Applications

- Structural analysis of threading dislocations, basal plane dislocations, stacking faults, and other internal defects in WBG wafers
- Non-destructive analysis of dislocation density for WBG wafers and crystals

OPTELICS UXM Ultra-Short Pulse Excitation Microscope

Note: The photo above is a prototype model of OPTELICS UXM. The actual product's exterior may differ from the image shown.

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