PRESS RELEASE

Greater yields and improved quality in wafer separation with the V-DOE multibeam laser

ALSI LASER1205:   
Patented precision for SiC wafers

Munich (Germany), September 17, 2024 – ASMPT, the world’s leading provider of hardware and software for semiconductor and electronics production, presents the ALSI LASER1205, a multi-beam laser dicing platform that sets new standards in terms of precision and performance.

“With its superior electrical and thermal properties, silicon carbide (SiC) is an indispensable material for the energy transition. It can be used to produce innovative and compact power electronics for things like high-efficiency inverters,” explains David Felicetti, Business Development and Product Marketing Manager at ASMPT. “Unfortunately, SiC wafers are very thin and sensitive, which has often led to low throughput and high scrap rates during dicing and grooving.”

**Multi-beam technology improves quality and yields**

The ALSI LASER1205 multi-beam dicing platform cuts precisely, gently and efficiently thanks to its V-shaped patterned Diffractive Optical Element (V-DOE) developed and patented by ASMPT. The V-DOE uses multi-beam laser processes to separate semiconductor chips on a wafer. A DOE element splits the laser beam into multiple sub-beams that simultaneously work on different areas of the wafer. This makes it possible to efficiently cut through the layers of material, which drastically speeds up the process and increases its precision. In addition, the multi-beam technology minimizes the Heat Affected Zone (HAZ), which improves the quality of the diced chips and raises their die strength to between 450 and 500 Mpa. With this proven process and continuous innovation, ASMPT has managed to increase yields significantly while maintaining high productivity.

The ALSI Laser1205 can process wafers with thicknesses ranging from 10 to 250 microns with a positioning accuracy of less than 1.5 microns. The system’s cutting width is less than 12 microns on 100 microns of silicon with the multi-beam process, all while being 50 percent faster than traditional methods.

“ASMPT has more than 20 years of experience in laser technology,” says David Felicetti. “With machines like the ALSI LASER1205, we can offer our customers the highest process quality paired with low operating costs.”

**Illustrations for downloading**

The following print-ready artwork is available on the internet for downloading:   
<http://www.htcm.de/kk/asm>

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| **Maximum process quality and yields: The ALSI LASER1205 with patented V-DOE (vertical diffractive optical element) technology.** |  |

About ASMPT Limited (“ASMPT”)

ASMPT Limited is a leading global supplier of hardware and software solutions for the manufacture of semiconductors and electronics. Headquartered in Singapore, ASMPT’s offerings encompass the semiconductor assembly & packaging, and SMT (surface mount technology) industries, ranging from wafer deposition to the various solutions that organise, assemble and package delicate electronic components into a vast range of end-user devices, which include electronics, mobile communications, computing, automotive, industrial and LED (displays). ASMPT partners with customers very closely, with continuous investment in R&D helping to provide cost-effective, industry-shaping solutions that achieve higher productivity, greater reliability, and enhanced quality.

ASMPT is listed on the Stock Exchange of Hong Kong (HKEX stock code: 0522), and is one of the constituent stocks of the Hang Seng TECH Index, Hang Seng Composite MidCap Index under the Hang Seng Composite Size Indexes, the Hang Seng Composite Information Technology Industry Index under the Hang Seng Composite Industry Indexes, the Hang Seng Corporate Sustainability Benchmark Index, and the Hang Seng HK 35 Index.

To learn more about ASMPT, please visit us at asmpt.com.

About ASMPT Semiconductor Solutions (“ASMPT SEMI”)

ASMPT SEMI is the leading supplier in advanced packaging and semiconductor assembly solutions. With a commitment to innovation and customer satisfaction, ASMPT SEMI provides a comprehensive range of products and services that cater to the evolving needs of the microelectronics industry. Their expertise spans across areas such as flip-chip and wafer-level packaging, advanced interconnect technologies, and more. ASMPT SEMI's cutting-edge solutions enable customers to achieve higher performance, increased reliability, and improved cost-efficiency when producing their semiconductor devices.

For more information about ASMPT SEMI, visit semi.asmpt.com.

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