Lasertec

PRESS RELEASE

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Lasertec launches a new SiC wafer inspection and review system, WASAVI series SICA88

Yokohama, Japan, September 24, 2015 – **Lasertec Corporation** announced today that it has launched SICA88, the latest model of its SiC wafer inspection and review systems. Featuring both surface and photoluminescence (PL) inspection capabilities in one body, SICA88 enables customers to concurrently inspect and analyze surface defects as well as crystallographic defects. Lasertec has already started sales promotion of SICA 88 and received orders from multiple customers including ROHM Co., Ltd.

SiC power devices are already being used in such applications as air conditioners, solar cells and railway cars and are beginning to capture additional markets. Expectations are high that they will be widely used on electric vehicles. Producing SiC power devices is technically demanding, however. Various problems remain unsolved, including crystallographic defects that occur in production process. Quality control and cost reduction are therefore posing major challenges. SiC wafer manufacturers find it necessary to enhance and maintain wafer quality while SiC device manufacturers are expected to keep higher yields and reduce production cost.

SICA is an inspection tool that is designed to help overcome these challenges. Lasertec launched SICA61 in 2009 for R&D use and SICA6X in 2011 for production use. Since then, SICA has become renowned for its high sensitivity and accurate defect classification capability and widely adopted by many customers.

SICA88 introduces a new platform that combines the PL inspection capability with the confocal DIC optics used in the previous generation SICA models for surface inspection. It now offers simultaneous detection and classification of not only scratches and Epi defects on wafer surface but also crystallographic defects such as basal plane dislocations (BPD) and stacking faults (SF) inside Epi layers, thereby assisting the detection and analysis of defects that cause device malfunctions. The throughput of SICA88 is twice as high as that of SICA6X and, furthermore, BPD inspection is possible without compromising the throughput performance. One of the best ways to utilize

SICA88 is to use it as a process monitor in wafer production, Epi process and device-making process for assisting root cause analysis. It also offers a wafer grading capability that helps achieve process cost reductions and higher device yields.

Lasertec will continue to pursue the development and advancement of defect inspection technologies in order to facilitate the further enhancement of power device quality and productivity.

【Key Features】

- Concurrent inspection of various surface defects and Epi layer BPD/SF
- High accuracy Automatic Defect Classification (ADC) by virtue of ultra-high resolution review images
- High throughput (20 WPH with 6 inch wafer in high throughput mode)

【Applications】

- Incoming and outgoing inspection of bare SiC wafers and SiC Epi wafers
- Monitoring of SiC polishing and epitaxial growth processes
- Management of SiC device manufacturing processes

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