

**SCREEN Semiconductor Solutions Co., Ltd.**

## **SCREEN Boosts the Capabilities of Cutting-Edge Semiconductor Devices with a New Annealing System**

***- Provides High-Precision, Millisecond Control of Heating Temperature Profiles -***

Kyoto, Japan - July 10, 2017 - SCREEN Semiconductor Solutions Co., Ltd. has finalized development of its new LA-3100 flash lamp annealer,\* the latest addition to its highly regarded LA series. The LA-3100 is designed to provide optimized activation of dopants injected into silicon wafers during the semiconductor manufacturing process. The system will be available from July 10.



**LA-3100**

Please download the photo from

[www.screen.co.jp/eng/press/download/SPE170710-3.zip](http://www.screen.co.jp/eng/press/download/SPE170710-3.zip)

LA series flash lamp annealers have built an impressive reputation for their role in the production of cutting-edge semiconductors, particularly 65 nm generation and later devices. The series is known for providing highly effective activation of boron, arsenic, phosphorous and other dopants injected into silicon wafers as well as source/drain processing using silicon crystallization.

However, the continuing miniaturization of semiconductors in recent years has gradually shifted the processing requirements for source/drain formation. It is no longer sufficient to simply achieve a high degree of dopant activation. Systems must now also provide precise control of diffusion and defect curing during activation of the injected dopants.

SCREEN's new LA-3100 uses proprietary technologies to control heating temperature profiles by the millisecond, allowing it to instantly raise the surfaces of silicon wafers to 1,000 to 1,200°C. The system also includes a variety of new functions that greatly expand its ability to handle applications requiring annealing processes controlled in milliseconds. These features deliver significant improvements in the characteristics of cutting-edge devices.

SCREEN has also completely revamped the design of the previous transfer system, making it possible to manage oxygen concentrations at an even higher level. This allows the system to be easily adapted for annealing of titanium-based film, a substrate that is highly sensitive to oxidation.

The release of the LA-3100 significantly enhances SCREEN's already impressive lineup of annealing equipment. The system is expected to further improve the performance of advanced semiconductor devices even as continuing miniaturization increases the complexity of manufacturing processes.

- \* Annealing system that performs activation by raising and lowering the surface temperature of wafers at ultra-high speed. These systems use a xenon flash lamp to deliver an instantaneous burst of radiation lasting several milliseconds, in a similar way to the flash on a standard camera.

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