



Silicon Genesis[™] is a provider of breakthrough technology, processes and equipment for engineered substrate solutions for the Semiconductor, Solar, Display and Optoelectronic Markets. The substrates are made using our proprietary SiGen NanoTec[™] suite of Layer Transfer (LT) technologies.

Markets



Applications

SOI (silicon-on-insulator) Used to reduce device voltage operation and power consumption, improve device speed.

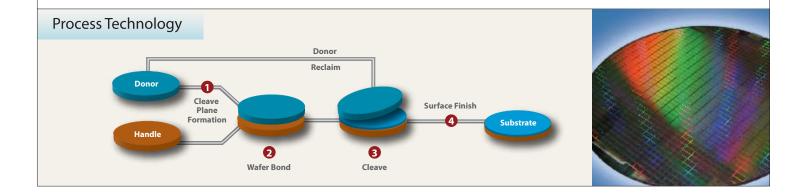
DSB (direct silicon bond) Improved device mobility in CMOS circuitry by providing separate crystal orientation layers for NMOS and PMOS.

SOQ (silicon-on-quartz) Transferred single-crystal silicon onto a quartz substrate used for RF, display and optical applications.

SOG (silicon-on-glass) Transferred singlecrystal silicon onto bulk glass enabling low-cost, high-efficiency solar cells, displays, and optical applications.

CSS (customer-specific-substrate)

A combination of donor-layer materials on unique handle substrates, including III-V and II-VI donor materials and sapphire, ceramics, and flexible handle substrates.



SiGen History

comp tiona techn		d as a fabless IP y to leverage revolu- thin-film lamination ogy enabling the ion of engineered tes. 1999		Changed business focus to technology licensing.Plasma activated bonding technology licensed to EV group.		Entered into a broad IP license agreement with Shin-Etsu Chemical and shipped first 300mm Standalone Plasma Activation Tool. 2005			
		1998 Opened development c in Campbell, California t expand its IP and bonde wafer fab technologies.	о	2000 Company transitions fro development to pilot production.	om	2004 Licensed bonded SOI wa layer transfer technology MEMC. Shipped first 200 300mm DB & C Tool.	/ to	2006 Shipped 200mm/300mm DB & C Tool for 3D applications.	2007 Delivered DSB substrates. Extended LT technology to solar.

Enabling Equipment



DB & C Tool

The DB & C tool is a small footprint tool designed for layer transfer applications in high volume manufacturing. The process is a dynamic, mechanically-assisted, low-stress cleave action in which a donor layer transfers to a handle wafer at room temperature. SiGen's proprietary cleave technology combines a cleave initiation action followed by a programmed separation force profile that optimizes cleave quality and uniformity.

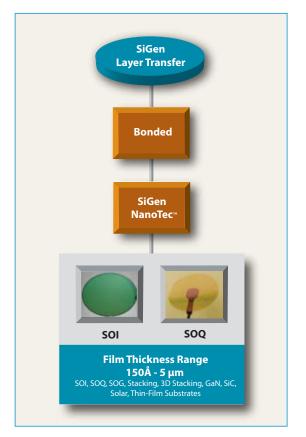


SISE

Stand-Alone Plasma Activation Tool

The standalone plasma-activation (SPA) tool is a small footprint tool designed to provide a reactive surface to bond silicon wafers and heterogeneous substrates. The plasma technology utilizes proprietary dual-frequency RF sources to activate wafer substrates prior to bonding. Driven by customer demand, the stand-alone system allows the integration of SiGen PA benefits for high yield and throughput substrate production using non-plasma bond equipment.

Layer Transfer





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