



EVG[®] Layer Release System



Introduction

The EVG[®] Layer Release System is a fully automated system and enables precise release of layers from silicon carrier substrates using an IR laser.

The EVG Layer Release System enables nanometer-precision release of bonded, deposited or grown layers from silicon carrier substrates using an infrared (IR) laser coupled with specially formulated inorganic release materials in a proven, high-volume-manufacturing (HVM) capable platform.

The innovative process eliminates the need for glass substrates and organic adhesives overcoming the temperature limitations resulting in front-end process compatibility for ultra-thin layer transfer and downstream processes.

Enabling silicon carriers with inorganic release layers avoids these temperature and glass carrier compatibility issues. In addition, the nanometer precision of IR laser-initiated cleaving allows for processing extremely thin device wafers without changing processes of record. Subsequent stacking of such thin device layers enables higher-bandwidth interconnects and new opportunities to design and segment dies for next-generation, high-performance devices.

The EVG Layer Release System is based on the same platform as EVG's industry-leading EVG850 series of automated temporary bonding/debonding and silicon-on-insulator (SOI) bonding systems, with a compact design and HVM proven wafer handling system.

Features

- Fully automated, front end compatible HVM equipment
- Substrate size up to 300 mm (SEMI M1)
- Substrate ID reader and SECS/GEM integration
- ISO 3 environment
- Complete process control including laser metrology at point of use
- Integrated Cleave Module for separation of exposed substrates

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