MOCVD reactor ensures high quality growth of GaAs and InGaAs semiconductor substrates

UniversityWafer, Inc. and partners are now providing MOCVD services for research and development.

SOUTH BOSTON, MA, UNITED STATES, March 14, 2022 /EINPresswire.com/ -- UniversityWafer, Inc. and our partners offer a new type of molecular beam epitaxy (MBE) reactor that is capable of producing high-quality crystalline structures for semi-conductor devices. The company's revolutionary design improves the well-known MBE process by integrating "a vacuum chamber into the substrate holder" which provides a more uniform and stable deposition environment. This new design allows UniversityWafer to use their MOCVD reactors in production environments where they can produce up to 4x as many wafers per day than competitors using conventional MBE reactors.

The MOCVD service can fabricate GaAs and InP substrates with superior quality and low cost. With our service, one can get the best performance from their devices while keeping production costs low.

Metal-Organic Chemical Vapor Deposition (MOCVD) is a process used for creating highly pure crystalline compounds with high atomic density. This method can also produce micro and nanostructures. The key advantages of MOCVD are its ability to provide a highly controlled dopant concentration, precise fine-tuning, and rapid synthesis. Hence, it is widely used in LED and laser diode manufacturing.

UniversityWafer, Inc. and our partners specialize in Gallium Arsenide (GaAs) and Indium Phosphide (InP) and we can grow an epi layer on indium to fabricate Indium Gallium Arsenide (InGaAs) wafers in single or multi-wafer reactors. Wafer diameters can range from 2", 3", 4", and 6" diameter. We also provide custom services for customer-specific dimensions.

The epitaxial growth of a semiconductor material using metal-organic chemical vapor deposition is a very versatile and cost-effective process. The material is directly deposited onto a substrate and has a very high resistivity. It can also be grown on an epitaxial buffer layer. The method is particularly effective for producing thin films with a wide bandgap, and it has the advantage of being faster and more reproducible than Silicon implantation.

Contact us today for more information.

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