

HVPE

Hydride Vapor Phase Epitaxy



수소화 기상 증착장비

HVPE(Hydride Vapor Phase Epitaxy)

Metal(aluminum) or semiconductor(Gallium, Indium) reacts with hydrochloric acid gas(HCl) and produces gas-stated gallium chloride(GaCl). It is sent to a reaction chamber and then reacts with ammonia gas(NH₃) at above 1000°C. After that, on the surface of sapphire wafer is grown nitride compound(AlN, GaN).

HVPE is much cheaper and faster deposition than current MOCVD equipment for compound semiconductor. And it may make 10~900 μ m excellent membrane.

LEADERS & GLOBAL offers flexible, configurable process.

LEADERS & GLOBAL World leading solution

LEADERS & GLOBAL offers flexible, configurable process tools and leading-edge processes for the precise, controllable and repeatable engineering of micro- and nano-structures.

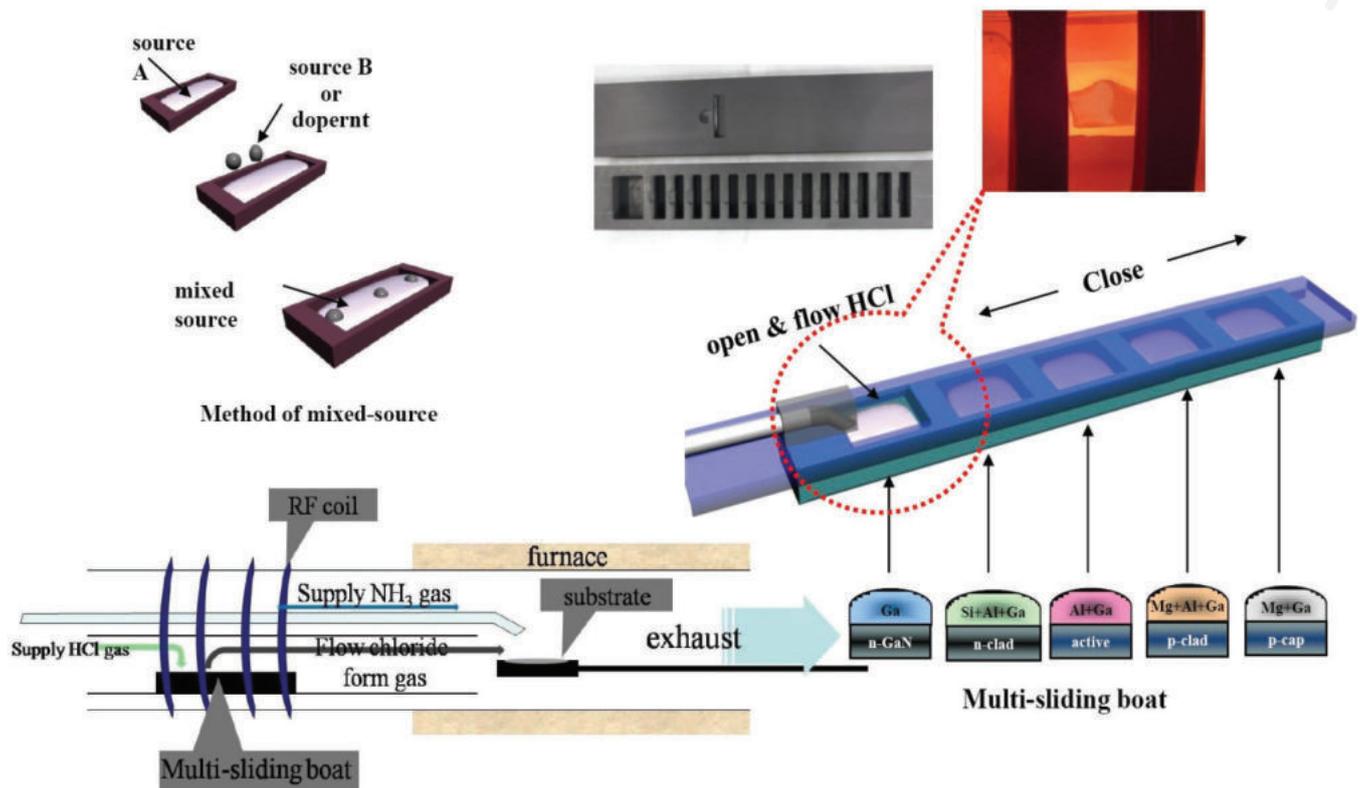
Using HVPE technology, HVPE equipment can produce tools for applications such as High Brightness Light Emitting Diodes (HBLEDs), Laser Diodes and High Electron Mobility Transistors (HEMT).

Key features of HVPE technology

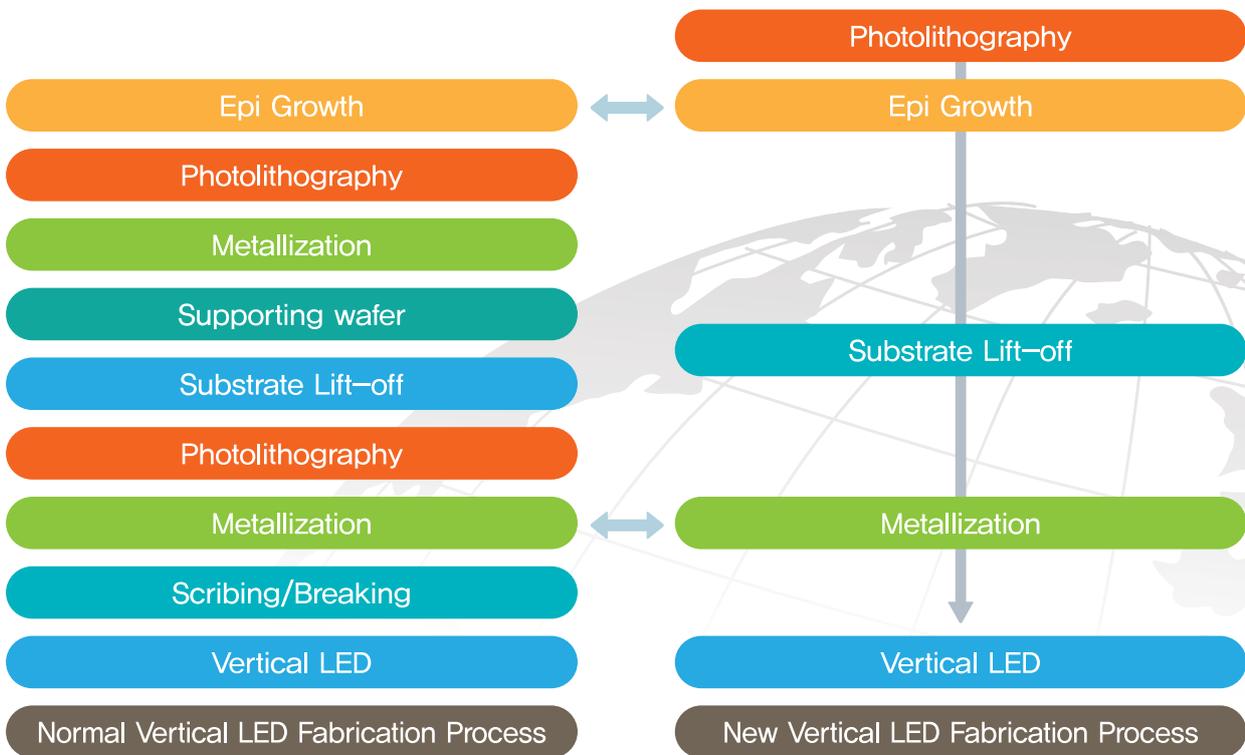
- Flexible growth rates, from 1 μ m/hour (for submicron layer control) to 1000 μ m/hour (for fast buffer layer growth)
- Low defect density
- Wide range of layer thickness up to 100 μ m
- Cost effective templates for device manufacturing
- P and N type doped materials are available
- Low cost of ownership (No metal organics, and low usage rate for Gaseous reactant materials such as HCl and NH₃)
- Growth of novel materials (AlGa_n/Ga_n, InGa_n/Ga_n, InN and AlN)

Processing capabilities

- Custom design Epitaxy
- Many templates supplied from stock
- Low to medium volume templates on 2", 3", 4" wafers as standard
- Research and development programmes & contracts undertaken for specific client requirements



Single Chip Growth Process for Vertical-type LED Fabrication



LEADERS AND GLOBAL CO., LTD.

ADD: 231-26 Geumgok-ro, Hwaseong-si, Gyeonggi-do, Korea
 TEL : +82-70-7762-2118
 FAX : +82-70-4216-2118
 www.leadersng.com
 E-mail : lng@leadersng.com