

# High Temperature CVD system

# Oxidation system for VCSELs production

## CVD system for SiC (HTC3100)



CVD system for SiC (HTC3100), supplied to National Institute of Advanced Industrial Science and Technology

- Reactor : Vertical type, Made of quartz  
Face down
- Load-lock system : With transfer rod
- Substrate size : 1 × φ 3"
- Substrate heating : RF heating type
- Maximum heating : 1800°C (Pyrometer value)  
temperature
- Applications : SiC, etc.

## All-in-one CVD system



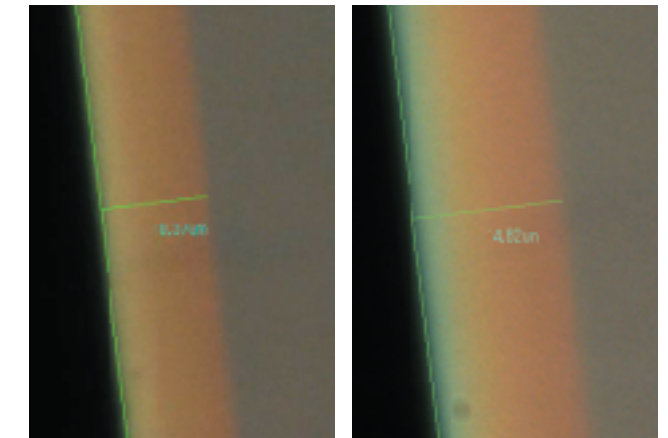
All-In-One CVD system supplied to Nara Institute of Science and Technology

- Reactor : Horizontal type, Made of quartz
- Substrate size : 1 × φ 2"
- Substrate heating : RF heating type
- Maximum heating : 1500°C (Pyrometer value)  
temperature
- Foot print : 1.3m × 1.3m
- Applications : SiC, etc.

## iVOX3001 (with monitoring system) / VOX3001



- Substrate size : 1 × φ 3"
- Substrate heating : Resistance heating type
- Maximum heating : 600°C (T.C. Value for control)  
temperature
- Flow control : Liquid mass flow control
- Vaporizer : Heating type Vaporizer (Max. 180°C)
- Vacuum exhaust : Diaphragm pump  
system
- Control system : Programmable Logic controller
- Oxidation ability : Uniformity 20 μm ± 0.2 μm  
(except for the edge of tray)  
Reproducibility 20 μm ± 0.2 μm  
(run to run)  
\* Depending on the characteristics of  
AIAs epitaxial layer
- The Image of Sample : (Magnification: 50x) **Patent awarded**  
(iVOX3001)



- Oxidation temperature : 450°C
- Oxidation time : 10min
- Oxidation length : 10 μm
- Oxidation temperature : 450°C
- Oxidation time : 15min
- Oxidation length : 15 μm

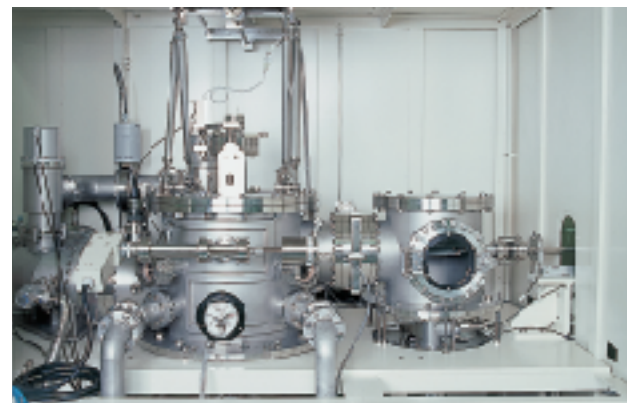
## Ultra High Temperature CVD system (SH2001-HTA)



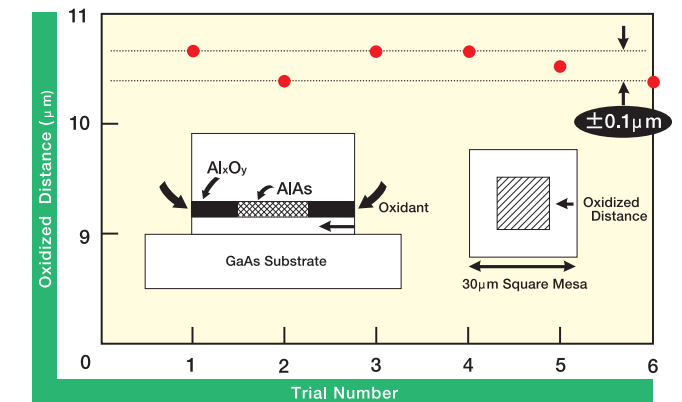
Ultra High Temperature CVD system (SH2001-HTA) supplied to Meijo University

- Reactor : Horizontal type, Made of stainless steel  
Face down
- Substrate size : 1 × φ 1"
- Substrate heating : Resistance heating type
- Maximum heating : 1800°C  
temperature (T.C. Value for control)
- Applications : AlN, etc. **Patent pending**

## High Temperature CVD system / Oxidation system (OV4001)



- Reactor : Vertical type, Made of stainless steel
- Substrate size : 1 × φ 4"
- Substrate heating : Resistance heating type
- Maximum heating : 1400°C (T.C. Value for control)  
temperature
- Applications : Oxidation for SiC, etc. **Patent awarded**



Data offered by courtesy of Tokyo Institute of Technology (Jpn. J. Appl. Phys. Vol. 39(2000)PP. 3468-3469)