LOW PRESSURE CHEMICAL VAPOR DEPOSITION (LPCVD)
(Low Temperature Oxide Reactor, LTO)

MODEL: TEMPRESS

INSTALLATION PLACE: Cleanroom of "Nanotechnology and Microsystems Laboratory", Department of Microelectronics

DESCRIPTION: LPCVD refers to a thermal process used to produce chemical precursors needed to form a semiconductor-grade film on a substrate under low-pressure conditions. Deposition of film growth in a LPCVD process can be controlled precisely and accurately. LPCVD is an indispensable element in the semiconductor industry.

SPECIFICATIONS

1. One horizontal LPCVD quartz tube for LTO deposition (furnace A3)
2. Deposition Parameters:
3. Source Gases: Silane (SiH_4) with flux= 50sccm and Oxygen (O_2)
4. Fluxes: 50 – 150 sccm
5. Temperature: 400 – 425 ºC
6. Pressure: 200 – 250 mTorr
7. Deposition Rate: ~95Å/min
8. Substrates: Silicon, III-Vs, other semiconductors, Si_3N_4
9. Sample size: 3" / 4" wafer, small samples
10. Vacuum System: (~ 1mTorr) i) Booster pump (Booster WAU 251-Leybold), ii)Mechanical oil pump (Leybold D65 BCS)

APPLICATIONS

1. Passivation layers
2. Masking layers
3. Sacrificial layers for MEMS technology

CERTIFICATION/ACCREDITATION

The facility is not certified or accredited.

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