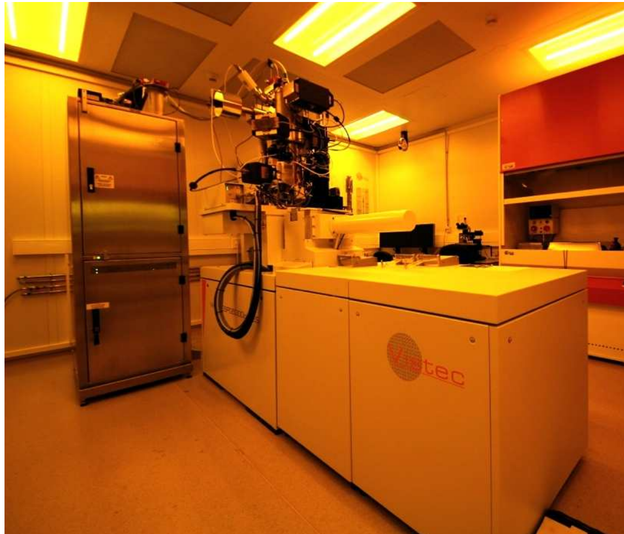
ELECTRON BEAM LITHOGRAPHY (EBL) FACILITY



MODEL: Vistec EBPG5000plusES

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

DESCRIPTION: EBL has long been established as a very flexible and reliable technology for a wide range of existing as well as emerging semiconductor and nanotechnology applications. EBPG5000plusES is an EBL tool addressing nanolithography solutions down to the sub-10 nm range. Electron-resist is spin-coated using Karl-Suss RC8 tool and is baked using high-precision hot-plate by ATV.

SPECIFICATIONS

1. High current density thermal field emission gun for operation at 50 and 100kV
2. Minimum feature size of less than 8nm
3. Rapid exposure with 20 MHz pattern generator
4. Stitching accuracy down to ±15nm
5. Availability of 150mm wafer platform
6. Direct writing on positive and/or negative resists
7. Advanced software for the optimization of e-beam parameters
8. GUI for ease of use operation for diverse "multi user environment"
9. Flexible configuration packages to ensure best fit with application requirements
10. 2 position load lock for batch processing of multiple substrates
11. Positioning Accuracy: 0.6nm (interferometric stage)

APPLICATIONS

1. Single and multilayer nanolithography on full wafers or irregular pieces for the formation of
    a. Nano-electrodes
    b. Nano-wires
    c. Nano-dots
    d. Nano-scale MOSFETs
    e. NEMS
2. Photolithography Mask fabrication
3. Fabrication of molds for nano-imprint lithography

CERTIFICATION/ACCREDITATION

The facility is not certified or accredited.

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