Electron Beam Lithography

KNMF Karlsruhe NANO MICRO Facility

E-Beam VB6 UHR-EWF

- Substrate: 4” and 6“ wafer; special piece parts (on request, minimum size 20 mm x 20 mm)
- High voltage: 100 kV
- Main field: ≤ 1310 µm
- Resolution: < 1 nm (depends on main field size)

E-Beam lithography in extremely thick PMMA (3200 nm) with structural details in submicron range (~ 200 nm)
E-Beam lithography down to 20 nm scale in PMMA (resist thickness < 100 nm).

Contact

See KNMF website or contact the KNMF User Office.

Features

- Aspect ratio up to 10 depending on geometry
- Structural details ≥ 20 nm
- Resist thickness up to 3200 nm
  (e.g. for electroplating of high aspect ratio gold structures required for X-ray lithography)

Limitations/constraints

- Standard Resist: PMMA

Design rules

- Rounding of structural edges
- Design of dummy structures for stress reduction
- Homogeneous structure allocation (in case of subsequent electroplating)

Materials

Substrate materials: silicon, glass, metal
Other resist and substrate materials on request

Karlsruhe Nano Micro Facility (KNMF)
Karlsruhe Institute of Technology (KIT)
Hermann-von-Helmholtz-Platz 1
76344 Eggenstein-Leopoldshafen
Germany

User Office
Phone: +49 (721) 608-23123
Fax: +49 (721) 608-26273
Email: knmf-useroffice@kit.edu
Web: www.knmf.kit.edu