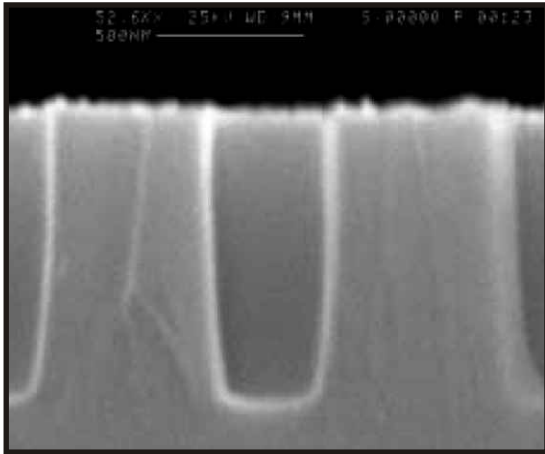
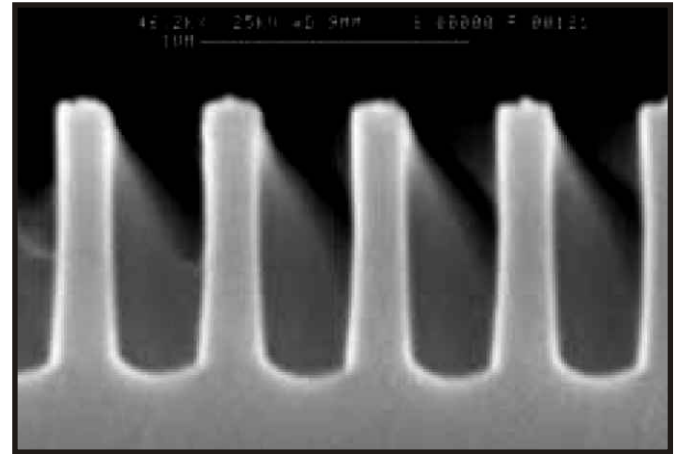


Plasmalab Data

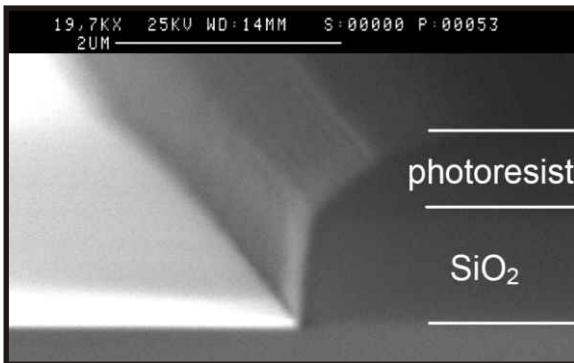
High Aspect Ratio SiO₂ Etching



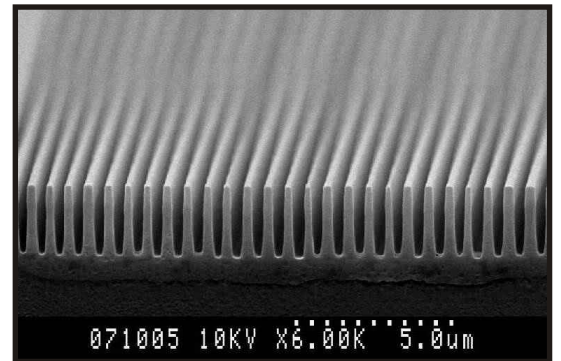
OPT application lab:
 400 nm wide contact hole, 1 µm deep
 PR removed in an O₂ plasma step



OPT application lab: 230 nm lines, 300 nm gaps, 1 µm deep
 PR removed in an O₂ plasma step



OPT application lab: anisotropic etch of
 1 µm deep SiO₂, PR still in place



4 µm deep SiO₂ RIE at 5 : 1 aspect ratio, selectivity
 to photoresist 5 : 1, Courtesy of Uni Kassel
 (1µm UVIIHS08 Resist, SHIPLEY)

- Plasmalab 80 Plus**
- Plasmalab 800 Plus**
- Plasmalab System 100**
- Plasmalab System 133**



Technology:

- Reactive Ion Etching
- 13.56 MHz Plasma Excitation
- Fluor based Process

Results:

- etch rates:
- 30 - 50 nm/ min with PR mask
- 100 nm/ min with PR mask and He cooling
- higher with hard masks
- selectivity to photoresist: 3 - 10 : 1
- anisotrop profile
- smooth walls
- selectivity to underlying Si 5 - 12 : 1
- uniformity ± 4 % (6" wafer)
- run to run over large batches ± 3 %