OXFORD INSTRUMENTS

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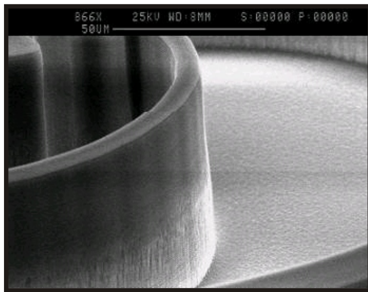
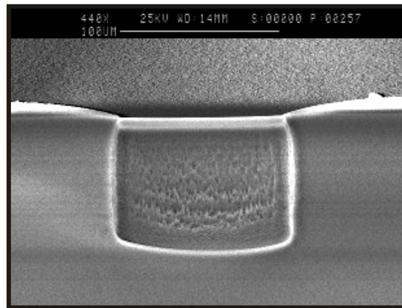
Plasmalab Data

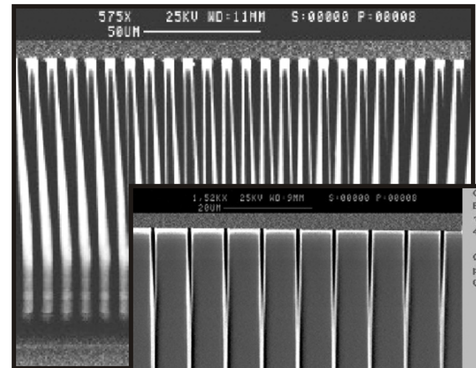
Bosch Process Optimisation Options

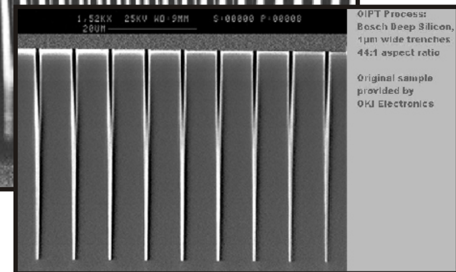


100 µm deep etch at
400 : 1 selectivity to the SiO2 mask

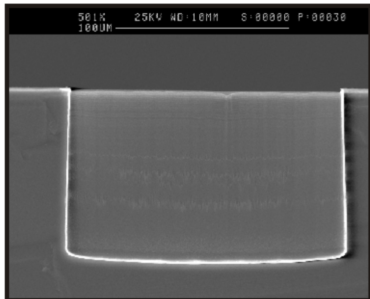


100 µm deep etch at 17 µm/ min
using the ICP accelerator technology

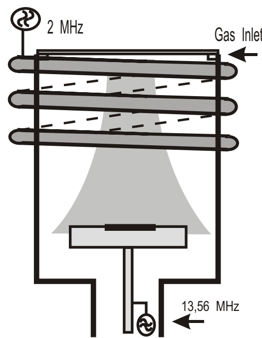




100 µm very high aspect ratio etch: 44 : 1

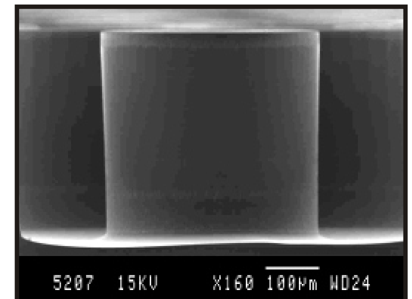


150 µm deep etch with
reproducible wall angle (91°)
at 6.5 µm/ min and
60 : 1 selectivity to PR
uniformity over a 6" wafer ±1.7 %

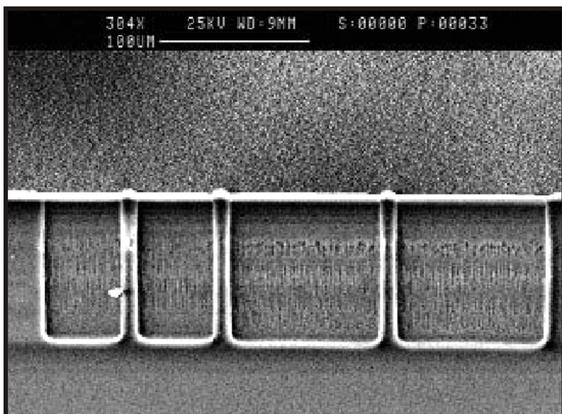


Plasmalab 80 Plus

Plasmalab System 100
Plasmalab System 133



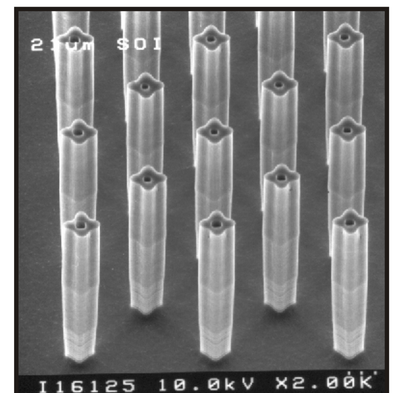
400 µm deep etch with reproducible
wall angle (91°) at 3.5 µm/ min and
75 : 1 selectivity to PR
courtesy of Acreo Kista



110 µm deep Bosch Si etch "without" ARDE effect

Reactive Ion Etching
Inductive Coupled Plasma Source
room temperature “Bosch” process
He backside cooling

The process can often be optimised for very high rates/ aspect ratios/ uniformities/ selectivities.
The optimisation options strongly depend on mask details !



21 µm deep anisotropic etch
stopping on SiO2
courtesy of Uni Kassel