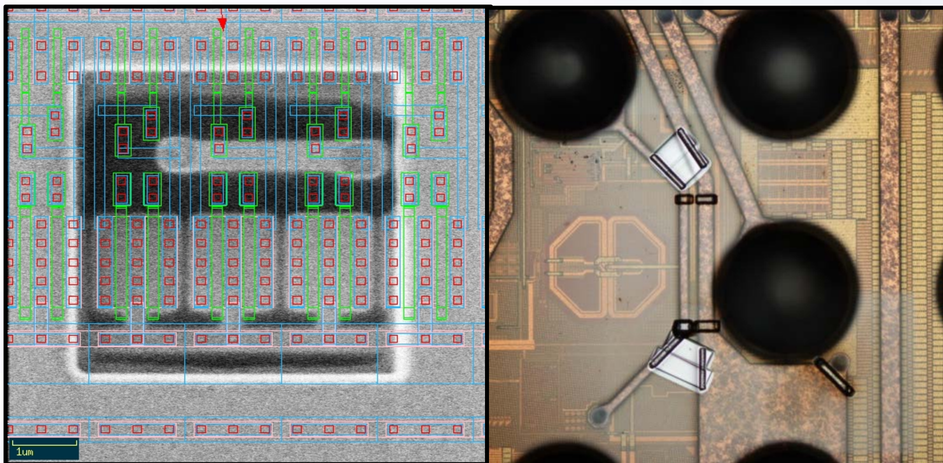
FIB Circuit Edit Services

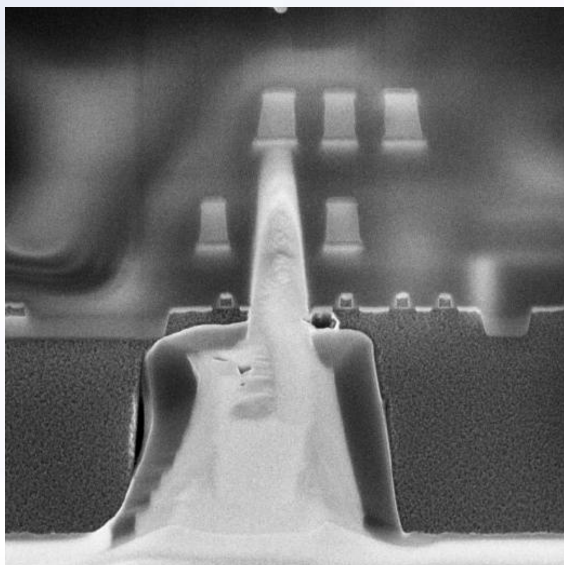
MASER Engineering provides high quality FIB circuit edit services. The high tech equipment is capable to perform front- and back-side FIB circuit edits up do 28 nm process node copper metal.



Chemical

COPPER METAL SILICON EDIT:

- Dedicated FIB Circuit Edit system
- Platinum and Molybdenum gas for conductive deposition
- Dual nozzle gas injection for uniform deposition/etching
- Up to 28 nm low-K process nodes
- CAD navigation using GDS-II files



BACK-SIDE CIRCUIT EDIT:

- Coaxial NIR microscope
- SiO2 dielectric deposition
- FIB Assisted end point detection
- XeF2 gas for faster trenching/etching
- Mechanical sample preparation before back-side FIB edit

ADVANCED ENDPOINT DETECTION:

- DCG systems OptiFIB IV
- Current sensitivity < 500fA
- 25:1 aspect ratio holes
- Piezo stage ± 300nm accuracy
- Shallow Trench navigation with 10 nm placement accuracy

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Focussed Ion Beam Services

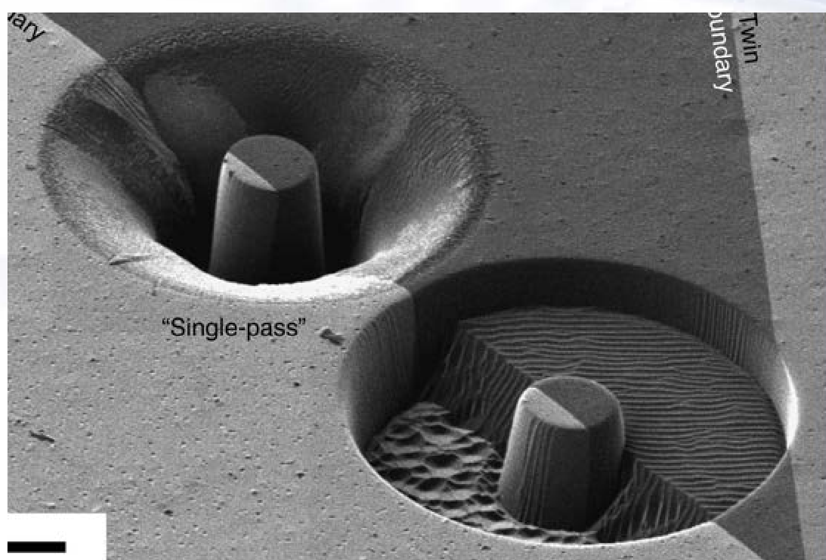
Different Focussed Ion Beam services are provided by MASER Engineering. Besides FIB circuit edit a dual beam system is used for FIB cross-sectioning and (S)TEM sample preparation. The dual beam system is equipped with a Omniprobe for extraction of TEM samples.

FIB CROSS-SECTIONING:

- FEI quanta 3D FEG dual beam system
- Slice and view capabilities
- High resolution FEG SEM imaging
- FEI Gallium FIB optics
- Equipped with an EDAX Genesis XM2i+ EDX detector

TEM SAMPLE PREPARATION:

- Omniprobe 100.7 probe needle for TEM sample extraction
- Gallium beam sample milling
- In-situ sample lift out
- 100nm probe accuracy
- Cu TEM grid for extraction
- Shipment boxes available for transport



MEMS MICRO STRUCTURES ANALYSIS:

- Single beam FIB systems
- Dual beam FIB systems
- Laser beam systems
- A wide range of etch chemistry is provided
- The systems are equipped with oxide and metal depositions

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