IceMOS Cooler than Cool

Foundry Services

Key Features:

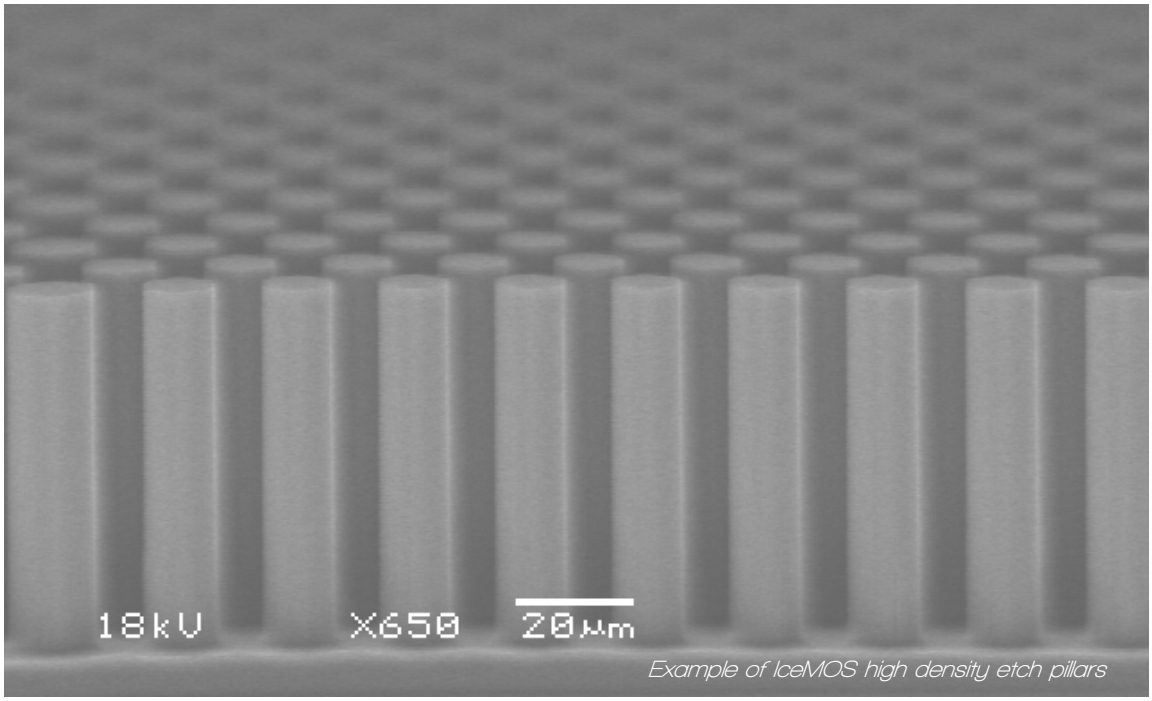
- High Quality
- Low cost
- Low defect density
- Multiple layers
- Process sequences specific to customer requirements can be offered

IceMos Technology offers a wide range of additional processing services for customers who simply require a high quality single unit process to be performed on their own wafers.

Icemos offers high resolution SAM (Scanning Acoustic Microscope) imaging of our bonded BSOI and CSOI wafers, this can also be offered as a service for customer's own bonded wafers. SAM inspection offers a means of non-destructive imaging of the bonded interface. In contrast to common non-destructive test methods such as conventional ultrasonic test methods, infrared microscopy and x-ray microscopy, Scanning Acoustic Microscopes scan the specimen surface pixel to pixel, line to line and detect with a special transducer the reflected ultrasonic waves out of the specimen. Icemos SAM inspection offers a detection limit in the range of 10µm lateral size of delamination with a delaminated height in the range of 15nm. Icemos can offer high resolution whole wafer scanning on wafer diameters 100mm – 200mm with a pixel size as small as 20 µm. Individual areas of the wafer can be scanned at higher resolutions.

IceMOS Technology will use engineering expertise to develop a process flow and CAD (Computer Aided Design) layout used to develop a new set of masks or cross-sectional concept drawings.

The standards of IceMOS unit process foundry services are unsurpassed by any other foundry. With processes operated within a ISO/TS 16949 manufacturing environment, controlled to tight tolerances by Statistical Process Control (SPC) and within contamination standards required by advanced CMOS, IceMOS offers you the perfect solution. All this is supported by a fast turnaround service and high compliance on On-Time-Delivery.



Example of IceMOS high density etch pillars

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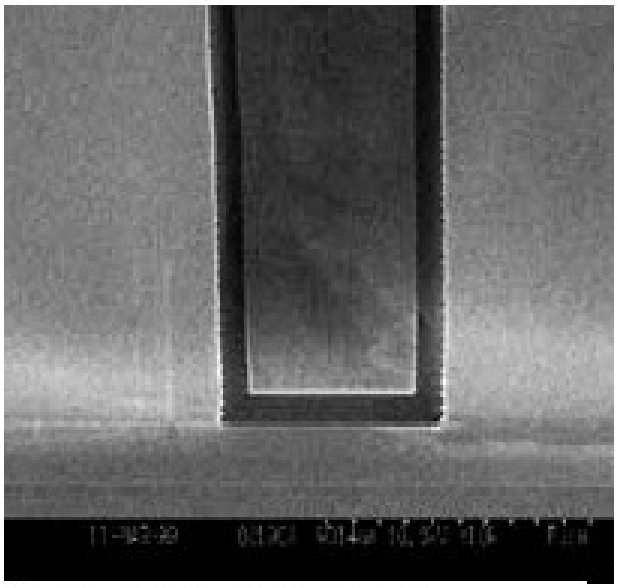
DRIE Etch Services

Deep trench etch is a core technology of IceMos. With over 20 years experience in this field, IceMOS Technology can offer DRIE Silicon etch options on SOI up to 300um thick, trenches with aspect ratios of 20:1, large area patterns on SOI and Si wafers with exposed areas up to 65% and greater and up to 500um through wafer etching on bulk Si and on SOI with aspect ratios up to 12:1.

If required, our refill technology will not only ensure a completely filled trench, but will also leave a fully planar silicon surface for subsequent processing. Examples of just a small sample of what we can do are shown below

Neighbouring High and Low aspect ratio trenches in SOI without undercut



Conformal Oxide + Poly refill in trenches etched in SOI with sidewall

Process	Diameter	MinFeature Size (CD)
DRIE Silicon Etch	100mm,125mm, 150mm & 200mm	2um
RIE Oxide / Nitride Etch	100mm,125mm, 150mm & 200mm	2um

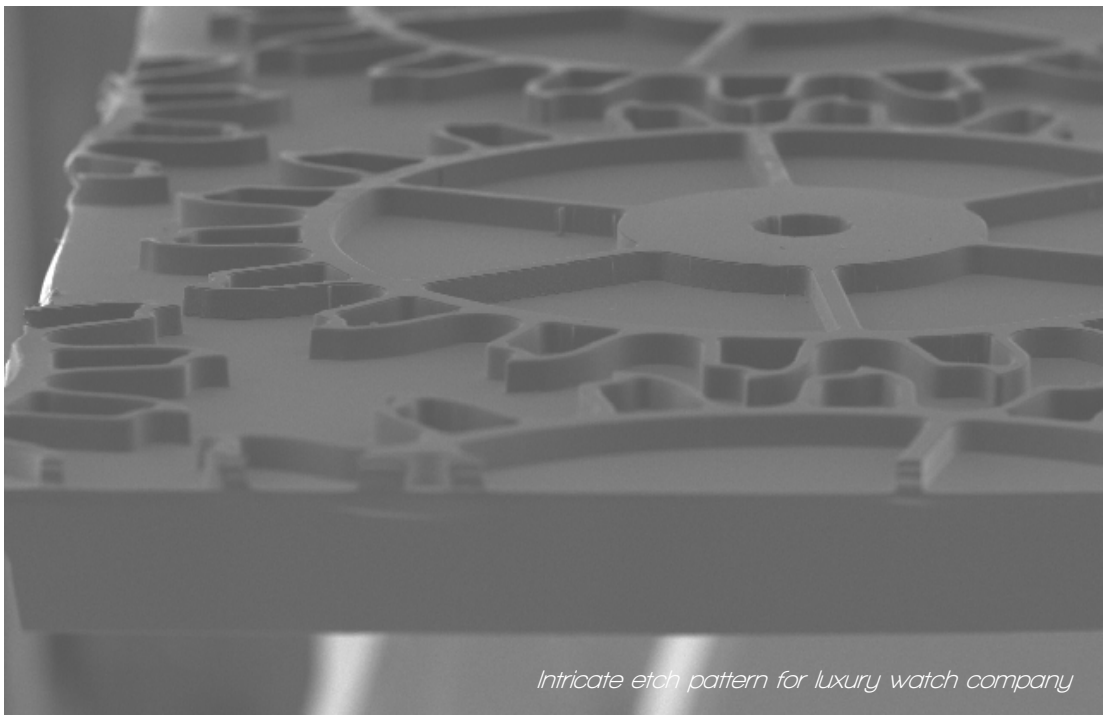
Contact our engineering team to discuss etch depth, sidewall angle, aspect ratio, exposed etch area and whether you require refill.

Thin Film Depositions & Diffusion

Excellent process control and a suite of High temperature thermal oxidation and LPCVD TEOS oxide and LPCVD polysilicon allow IceMOS to offer excellent facilities for those wishing to refill etched features or deposit stacks of thermal or sacrificial oxide layers and heavily n++ doped or undoped LPCVD Polysilicon layers.

Process	Diameter	Min Thickness	Max Thickness	Tolerance (+/-)	Notes
Dry Oxidation	100mm, 125mm, 150mm & 200mm	24nm	200nm	15%	
Wet Oxidation	100mm, 125mm, 150mm & 200mm	100nm	6000nm	5%	
Undoped LPCVD Polysilicon	100mm, 125mm & 150mm	200nm	4500nm	10%	Per deposition
Heavily doped LPCVD Polysilicon (n++)	100mm, 125mm & 150mm	200nm	4500nm	10%	Per deposition
Heavily doped LPCVD Polysilicon (p++)	100mm, 125mm & 150mm	200nm	2000nm	10%	Per deposition
LPCVD TEOS	100mm, 125mm & 150mm	200nm	1200nm	5%	Densification at 1050C optional

The above is a standard IceMOS specification; however, we are always happy to work with our customers to engineer specific solutions. If you would like to discuss an alternative specification, please contact our sales team: sales@icemostech.com



Intricate etch pattern for luxury watch company