MEMSCAP®
The Power of a Small World™

# Detailed MEMS Fabrication Capabilities List

(150mm toolset)

## LPCVD Films

- Low Stress Nitride (70-130MPa)
- Near-Zero Stress Nitride (5-30MPa)
- Low Stress Polysilicon (5-30MPa)
- Low Temperature Oxide
- PSG

## Lithography

*(Features down to 1.5µm)*

- Projection Alignment
- Contact Alignment
- Front/Back Alignment(1µm alignment)

## Thermal Processing

- Silicon Oxidation
- Anneals

## Metalization Methods and Targets

| | Cr | Au | Ti | Cu | Pt | Ni | Al | Pd | PdCo | Rh |
|---|---|---|---|---|---|---|---|---|---|---|
| **Dome Evaporation*** | X | X | X | X | X | X | X | | | |
| **Planetary Evaporation*** | X | X | X | X | X | X | X | | | |
| **Sputtering** | X | X | X | X | | | | | | |
| **Electroplating** | | X | | X | X | X | | X | X | X |

*Etched, Liftoff, or Blanket

## Dry Etching

- Deep RIE – Silicon
- RIE Polysilicon
- RIE Dielectrics
- Plasma Cleans

## Wet Processing

- Wet Anisotropic Silicon
- Wet Oxide
- Wet Metal
- Immersion Cleans
- Spray Cleans
- Solvent Cleans

## Post-Processing

- Dicing
- Die Bond
- Wire Bond
- HF Vapor Release
- HF Liquid Release
- Supercritical CO2 Dry
- Pick and Place

## Testing

- Wafer Probing
- Dynamic MEMS Motion Analysis
- White Light Interferometer
- Optical Measurements
- Doppler

## Reliability

- Static Life Testing
- Cyclic Life Testing
- Thermal Characterization
- Shock
- Bond Pull
- Die Shear

## Metrology

- SEM Measurement and Analysis
- Film Stress, Thickness and Resistivity
- Profilometer
- Interferometer
- Infrared Inspection
- OMIS(Optical Measurement Inspection System)

## Wafer Bonding

- Fusion
- Anodic

## Design Services

- Photomask Layout and Verification
- Modeling and Simulation
- Process Flow Design
- Design Verification and Viability Report

**For more detailed information, please contact MEMSCAP at 919-314-2200**