

TOTAL MEMS SOLUTIONS

***MEMS Design
and Fabrication Services***

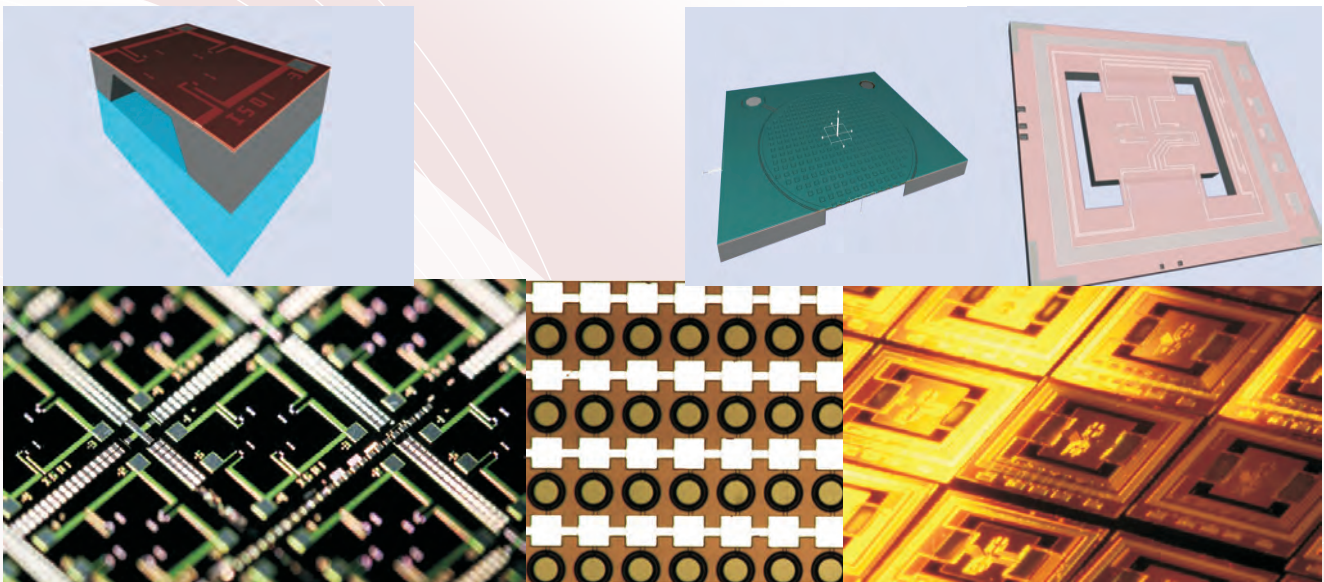


MEMS design and fabrication services

IntelliSense ignited the MEMS industry in the early 1990's with its IntelliSuite® family of innovative CAD tools — and is now the leading innovator and supplier of design and development solutions for the MEMS professional. With users in more than 30 countries, IntelliSense offers software tools and custom design, consulting and fabrication services to universities, blue-chip companies and start-ups worldwide.

IntelliSense facilities include a cleanroom that is compatible with 6" MEMS processes with some facilities also 4"- and 8"-compatible.

In addition to IntelliSense's world class design software package, IntelliSuite, the design and prototyping/fabrication services provide a one stop professional MEMS solution to our clients globally.





Design, development and fabrication for blue-chip companies and start-ups worldwide

Prototype and transfer MEMS-based components into production



- Sputter deposition (metal or non-metal)
- PECVD (SiO_2 , Si_3N_4 , $\alpha\text{-Si}$)
- Thermal oxidation
- Annealing
- Plasma treatment
- Reactive Ion Etching (RIE) for Silicon, SiO_2 , Si_3N_4
- Wafer surface profile and step measurement
- Wafer probe semiconductor parameter measurement (IV, CV, Frequency, etc.)
- Multi-Process Gold Wire Ball Bonding
- COLOR 3D Laser Scanning Microscope

- Double-side lithography process
- Varied silicon/ glass wafer bonding process:

- Glass-glass thermal bonding
- Glass-silicon anodic bonding
- Silicon-silicon thermal bonding
- Multi-stack bonding

- Wet etching and standard cleaning process:

- Nonmetallic etching (SiO_2 , Si_3N_4)
- Metallic etching (Al, Cu, Cr, Au & Alloy)
- KOH anisotropic etching for silicon
- TMAH anisotropic etching for silicon
- Standard cleaning (H_2SO_4 , Ammonia water HCL)

- Wafer Dicing processing:

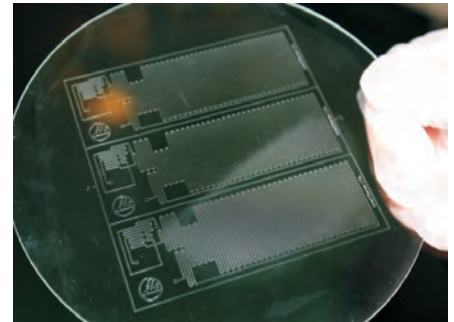
- Silicon wafer, Glass wafer
- Si-Glass bonding wafer
- Glass-Glass bonding wafer

- CNC Engraving processing:

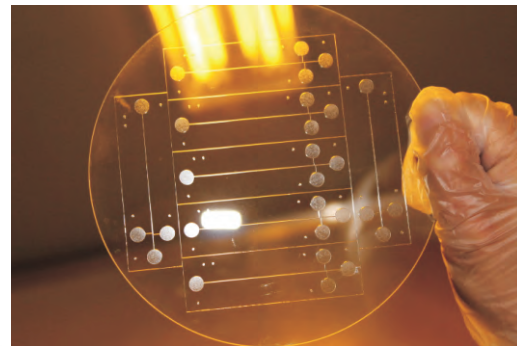
- Drilling holes on glass wafer
- Thread cutting
- Engraving and stamping

Microfluidic chip design / fabrication

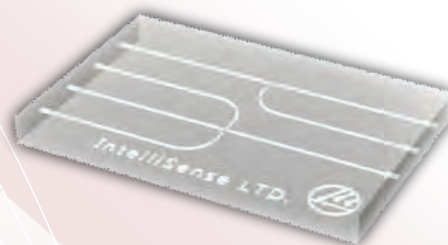
- Microfluidic chip design and multiphysics analysis
- 3D process fabrication analysis and verification
- Custom system design and rapid prototype
- Silicon substrate based surface and bulk process
- Glass wafer based lithography and wet etching
- Varied glass-silicon wafer process available



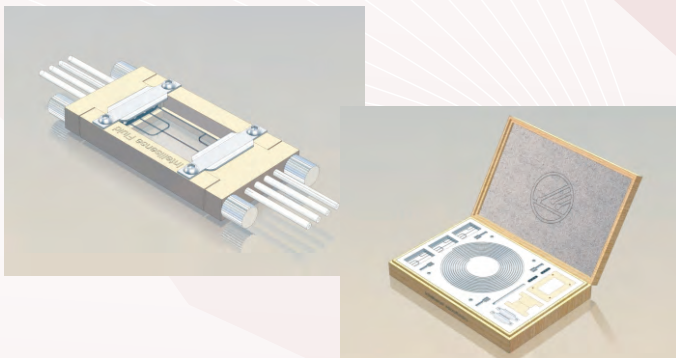
Glass-glass thermal bonding
Glass-silicon anodic bonding
Silicon-silicon thermal bonding
CNC drill on glass
Glass-glass thermal bonding with gold electrical wires
Microfluidics clamps custom design and prototype



MicroDroplet Generator



- X-Junction
- T-Junction



Microfluidics clamps custom design and prototype

Bead Generator

- Photonics
- Pharmacy
- Chemical detection