

Data Sheet

MEMS & Custom Assembly

Advanced Microelectronic Packaging

Over the last 7 years, Aspen Technologies has become the premier sub-contract MEMS packaging and assembly facility in the U.S., removing a critical stumbling block to the development and manufacture of commercial and military MEMS devices. Experience includes custom MEMS package design, development, and manufacturing of photonics, imagers, displays, fluid regulation and control devices, fuel cells, inertial sensors, RF devices, and more. Initially using adaptations of IC assembly techniques, Aspen Technologies has made continued refinements in MEMS package design and manufacturing techniques, having developed numerous MEMS-specific processes. A multidisciplinary field, Aspen's engineers have designed unique packaging solutions using new materials for several MEMS devices currently in volume production.

MEMS services include:

Development Engineering

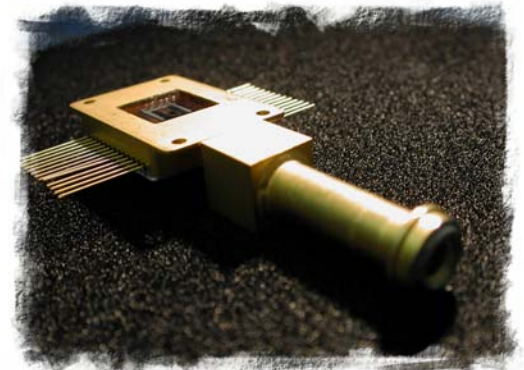
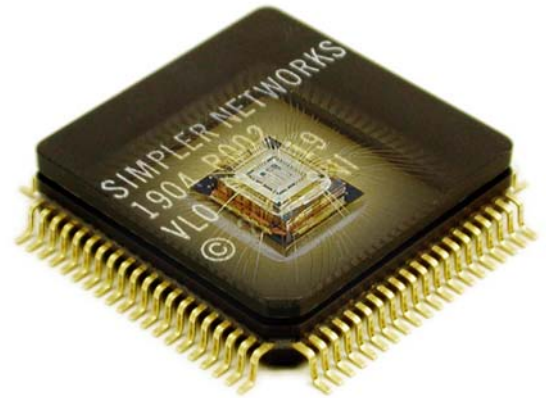
- Analysis of device specific design concepts, technologies, and materials
- Planning (product development roadmaps, risk analysis, qualification plan)
- Package, system, and product test design
- Manufacturing process design and materials validations
- Package, manufacturing process, and test vehicle tooling
- Quality and document planning
- Pre-production prototyping and product qualification

Manufacturing Services

- Custom wafer / die inspection processes
- Coat-saw-strip wafer singulation
- Wet and dry MEMS release processes, including XeF₂ etch
- Custom dispense processes and low stress materials
- Custom Au ball and wedge wirebonding techniques
- Au Stud Bumping
- Flip Chip assembly
- Getter integration
- Lid seal (seam seal, solder seal, epoxy seal, etc.)
- Frit-based and solder-based wafer or die bonding
- Custom test benches
- Pilot Production
- Volume Manufacturing

Facilities

- Full Class 100 MEMS manufacturing cleanroom



Aspen Technologies' strength is making our customers successful through MEMS and Custom Assembly.

How can we help you be successful?

ASPEN TECHNOLOGIES

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