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sp³ Diamond Technologies, Inc. Diamond-On-Silicon Wafers

The sp³ Model 655 and 665 Hot Filament diamond deposition systems provide for uniform diamond deposition growth over areas exceeding 350 mm by 375 mm. sp³ can supply diamond on silicon wafers, coated to a variety of specifications.

TYPICAL APPLICATIONS

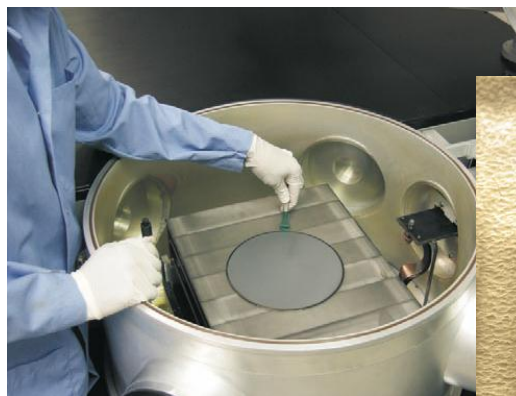
- MEMS
- Amorphous silicon deposition for solar cells and other products.
- Active circuit thermal layer
- Substrates for the III-IV community
- Silicon on Insulator (SOI) technology

FEATURES

- Wafer diameters of 50mm, 75mm, 100mm, 150mm, 200mm and 300mm.
- Film thickness from 0.2µm to 10.0µm (thicker films available via special order)
- Nano-crystalline and micro-crystalline films available
- Wafer Flatness: diameter/thickness dependent typically ± 50µm on 200mm wafer with a 1.0µm film
- Film thickness uniformity across specified diameter: ± 10%
- Young's modulus >1000 Gpa on larger grain films
- Grain size down to 10 nanometers
- 6mm edge exclusion

FILM TYPES:

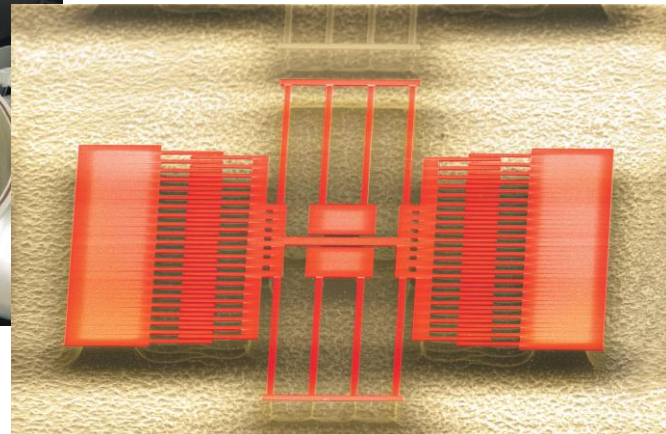
- Standard diamond films: grain size is typically 50% of the film thickness with a strong Raman peak
- Very smooth films with grains as small as 100nm and 20nm Ra. roughness can be grown
- Undoped or conductive boron doped films available (doped resistivity is .05 to 10 Ω-cm)



Spacious chamber and broad 350mm x 375mm deposition area can accommodate:

- Nine 100mm wafers
- Four 150mm wafers
- Two 200mm wafers
- One 300mm wafer

20 to 25 micron thick diamond film on 200mm and 300mm wafers



MEMS structure built from sp³ diamond on silicon wafers (Photo courtesy of U.C. Berkeley)

For more information, call 877-773-9940
www.sp3diamondtech.com

