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Progress on silicon and carbon foam composite wafers for interposer or hybrid use

Thursday 3 May 2012 20:00 (1 hour)

We present updated results of prototyping silicon and carbon foam composite wafers for use as either low mass interposers or active hybrids. Composite 4 inch wafers have been prototyped with approximately 4 mm thickness and average density 20% that of silicon. A composite wafer consists of top and bottom silicon face-plates on a carbon foam core, assembled with adhesive that can withstand 300 C process temperature. Embedded in the foam core are vertical silicon "fins"that can have passive vertical metal traces for interposer applications or active IC's for hybrid applications. Metal contacts on the vertical fins are exposed by grinding the face-plates. Lithographic processing of the composite wafer can then be applied to interconnect the exposed contacts. This final step has not yet been prototyped.

Summary

this is follow-on work to concepts and initial prototypes shown at WIT2010. IF there will be a poster session this could be a poster rather than an oral presentation.

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