



Flip chip prototyping service

Why keep using the traditional wire bond?

Flip chip is a relatively new technology and it can be quite a challenge for the inexperienced. At DELTA you have the opportunity to try this new technology in your products. DELTA offers the so-called Stud Ball Bumping (SBB) flip chip process as a standard prototype assembly service. If you have other types of flip chip process requirements or odd shape mounting problems we are happy to look at that as well.

DELTA offers standard flip chip assembly on various substrates like alumina (thick-film), silicon, FR-4 PCB (glass epoxy), and flexible PCB (polyimide). Other types of substrates can of course be discussed.

Stud ball bumping can be performed on single dies or on wafers up to 6". Your flip chip adventure does not necessarily end with a prototype from DELTA. Through our network of DELTA qualified sub-contractors we can provide you with high volume flip chip components or we can help you with the technology transfer to your company.

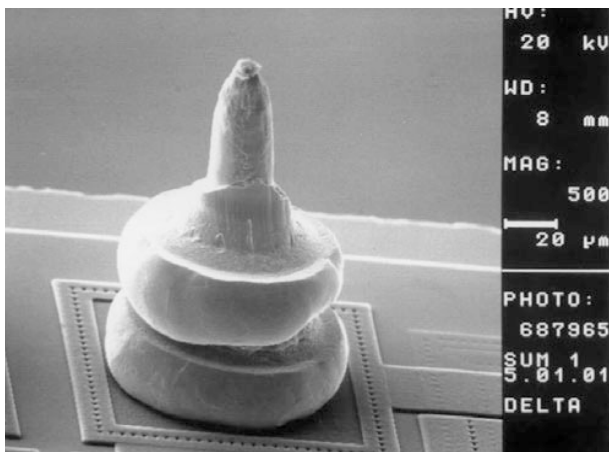
DELTA prototype service is constantly undergoing development so give us a call to hear if we can meet your requirements today.

Related services

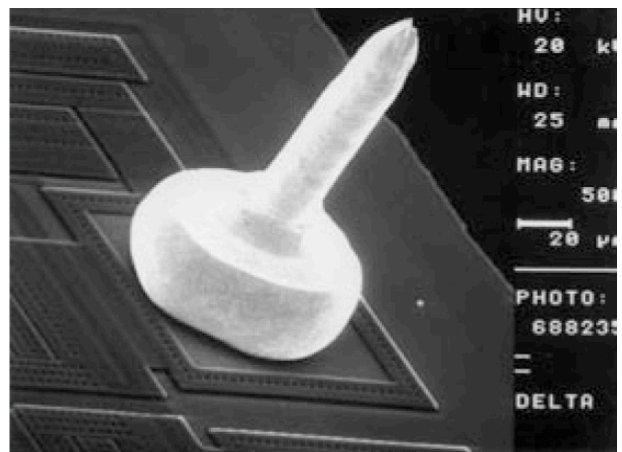
- Wire bonding (wedge-wedge and ball-wedge bonding)
- Chip bumping (gold studs only)
- Reliability test
- Delivery of known good dies
- Wafer dicing
- Failure analysis
- Microsystem packaging

Machine specifications

- Bump height: ~60 μ or ~110 μ
- Minimum pitch of flip chip connections (at the moment): 150 μ
- Possible throughput:
 - 100 placements per hour



Double bumps for higher standoff.

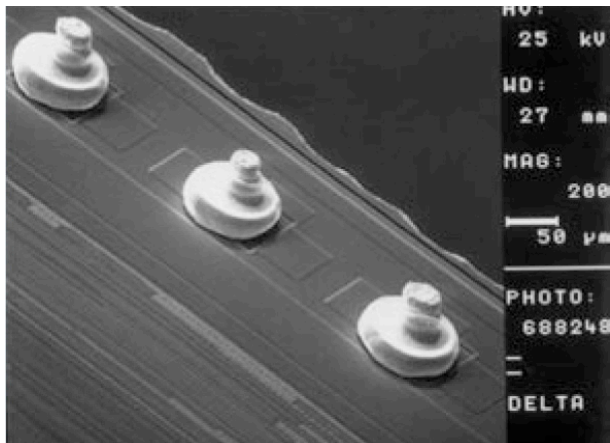


Gold stud before coining.

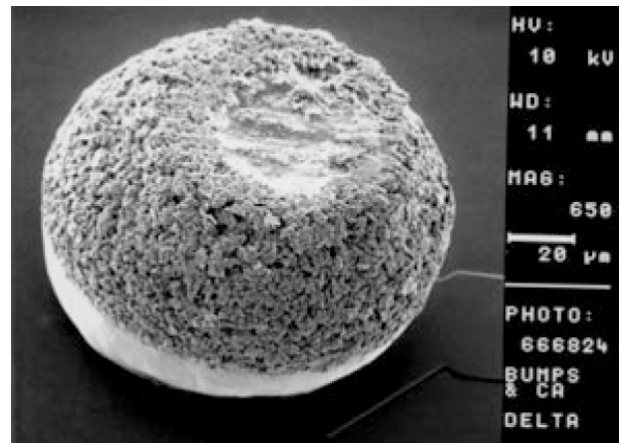
- Temperature range:
 - Chip: 250°C
 - Stage: 400°C
- Variable pick and bond load:
 - 50 g to 10 kg
- Delvotec equipment - ball-wedge bonder
- Semiconductor equipment corp. - flip chip

Material requirement

- On chip: Aluminium or aluminium with plated gold
- On substrate: Gold finish. A noble, non-oxidising surface required



Three coined gold studs on a line for SBB flip chip.



Coined gold stud with conductive adhesive prior to flip chip mounting.

For further information please contact

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Material & Component Technology