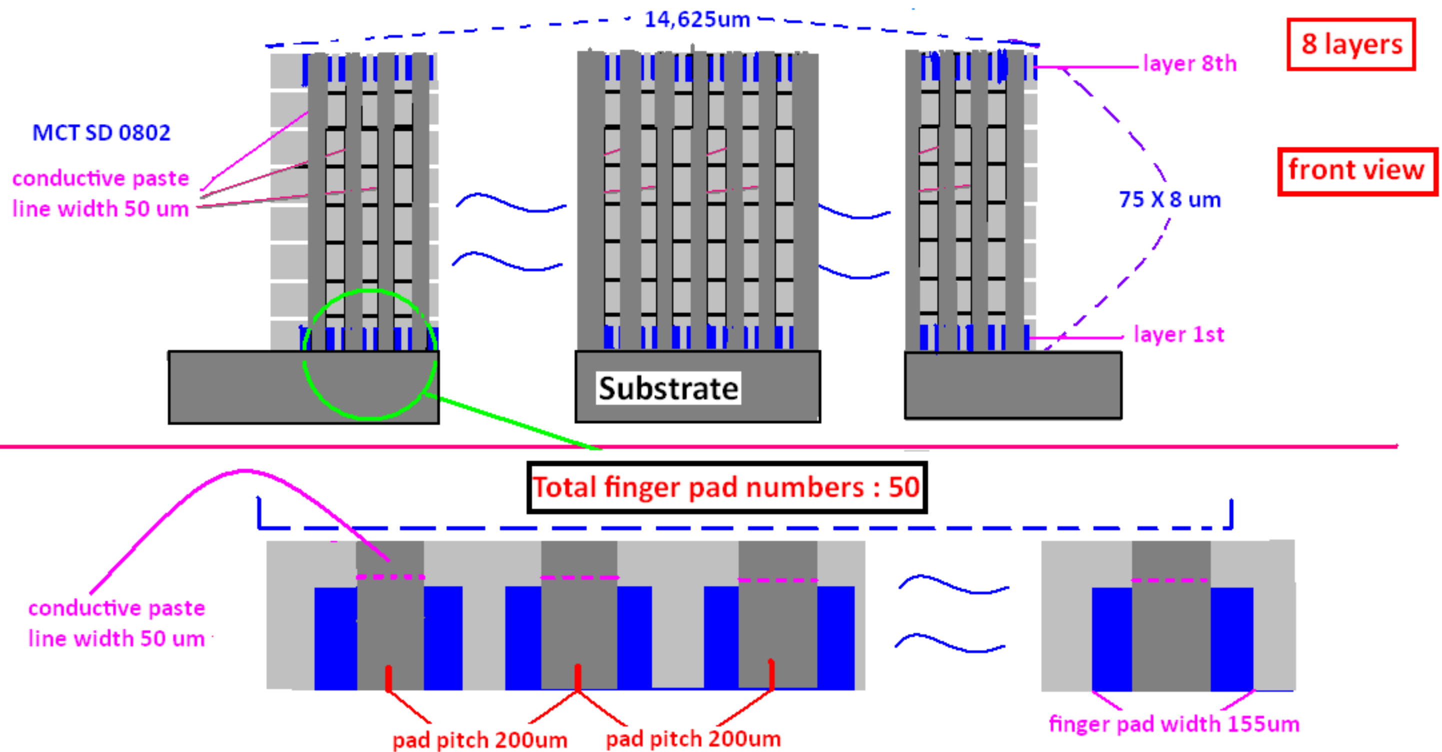
MicroCoat Technologies

McKinney, Texas USA

Application of MCT SD 0802 for an 8 layer DRAM

3D dispensing test – line width 50 um

MCT SD 0802 test for 8 layers

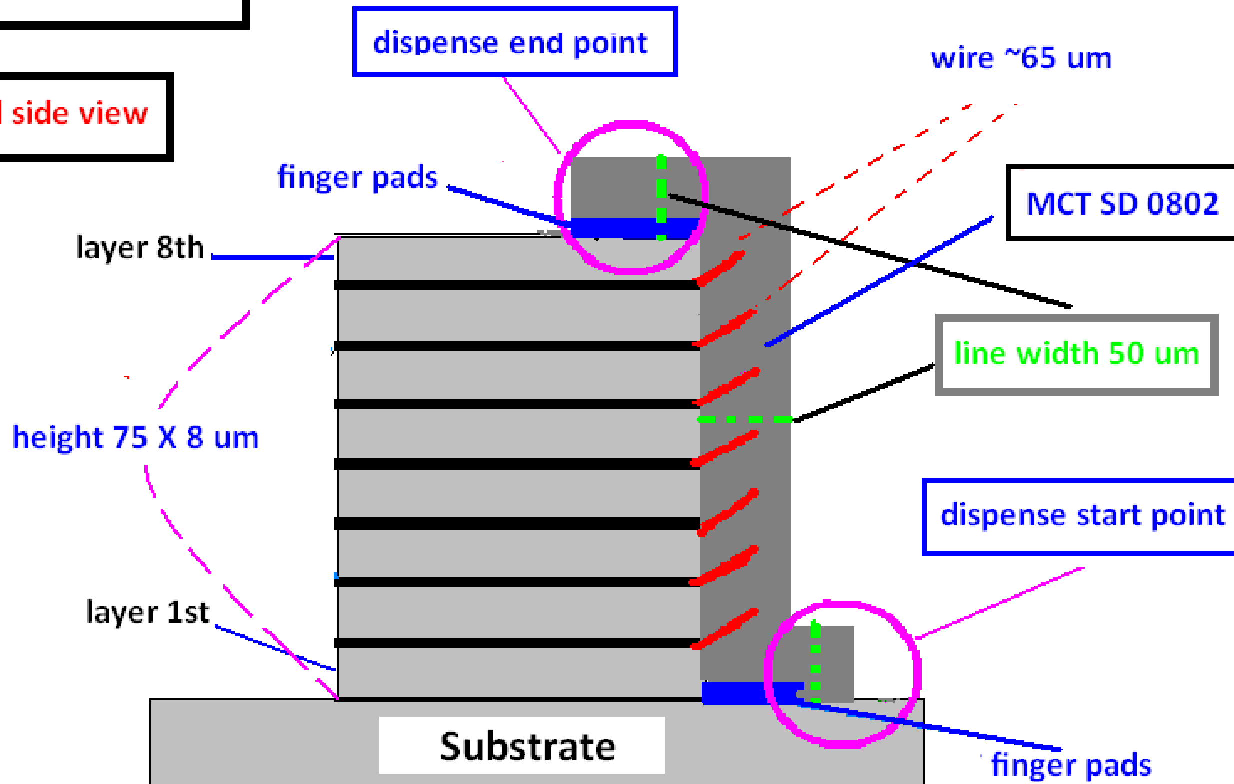


MCT SD 0802

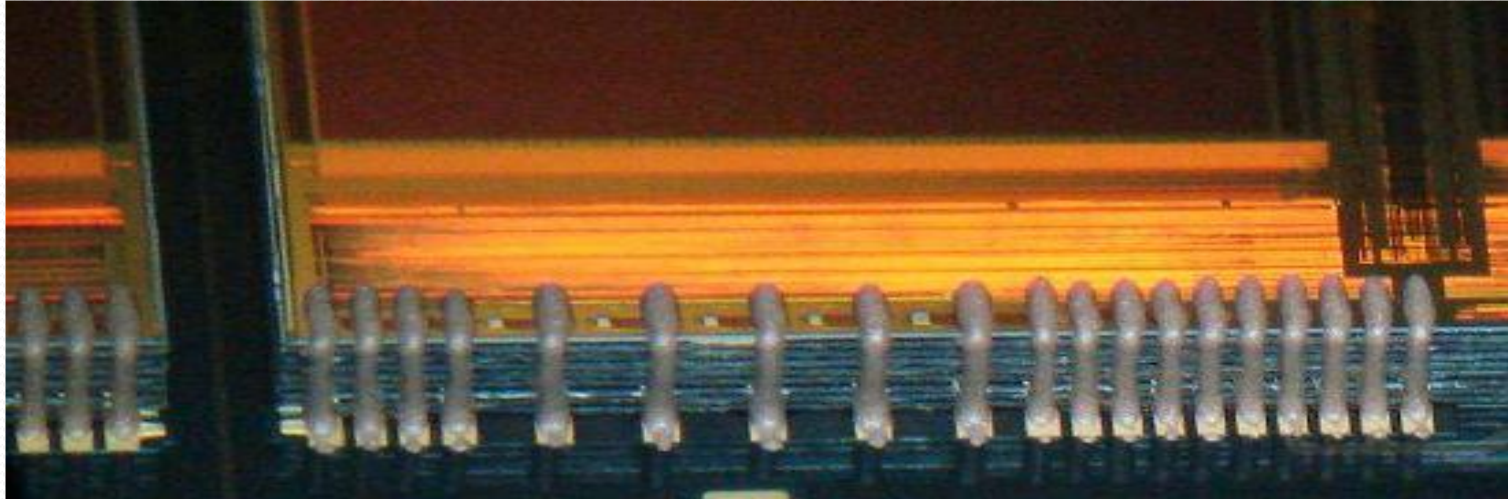
Total pad numbers : 50

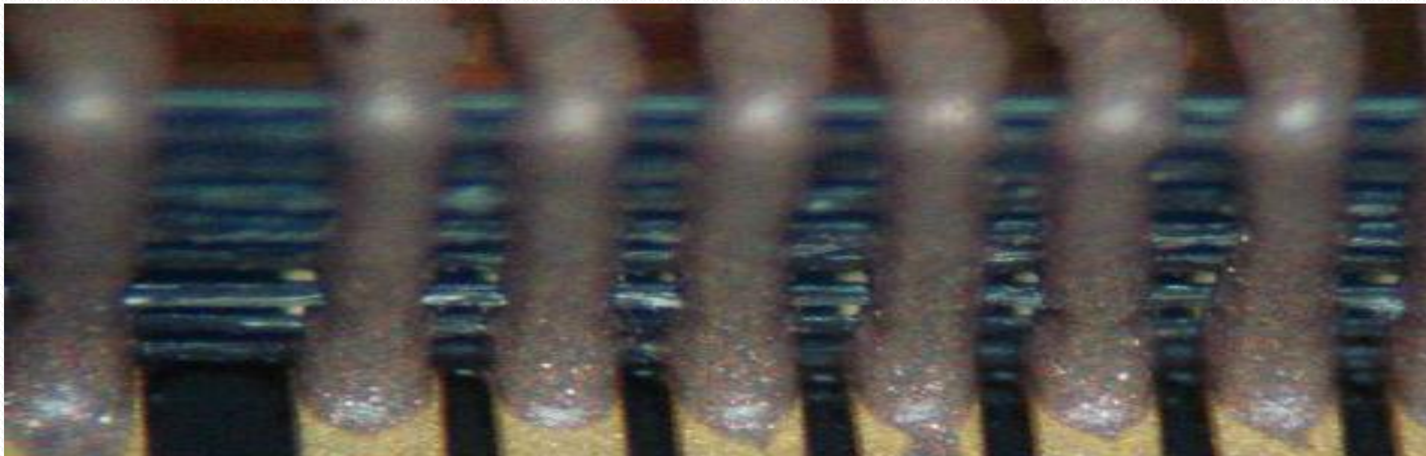
single pad side view

8 layers

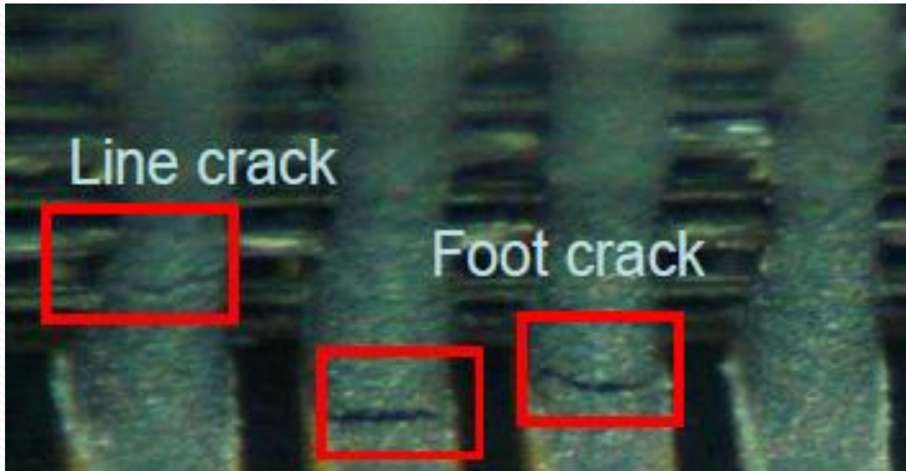


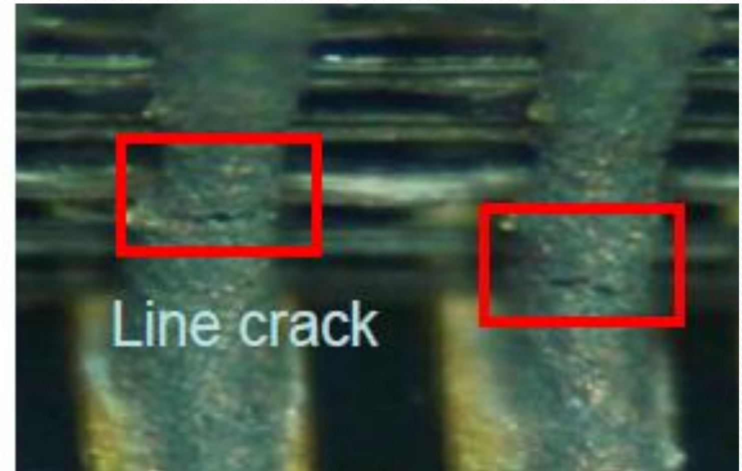
Most Important part of deposition is foot pad length/thickness

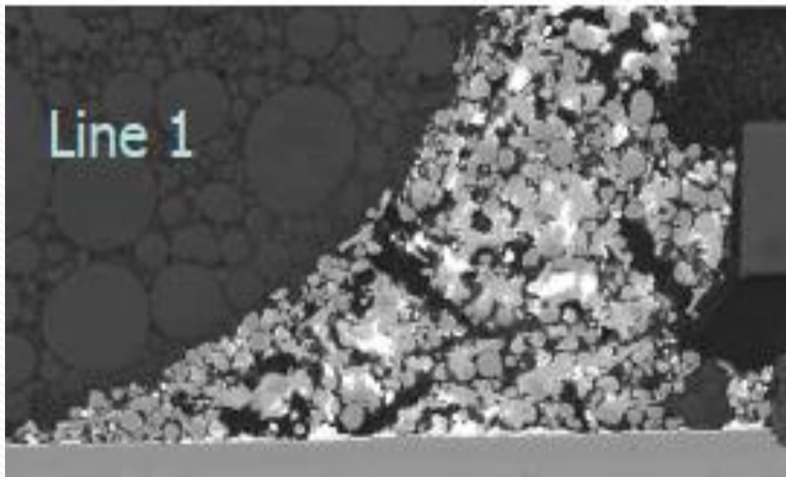


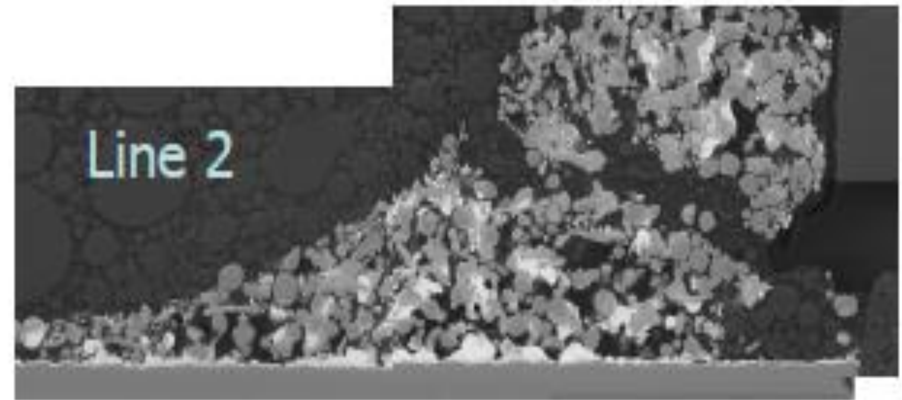


Adhesive cracking is due to too little amount of adhesive where stack meets PCB









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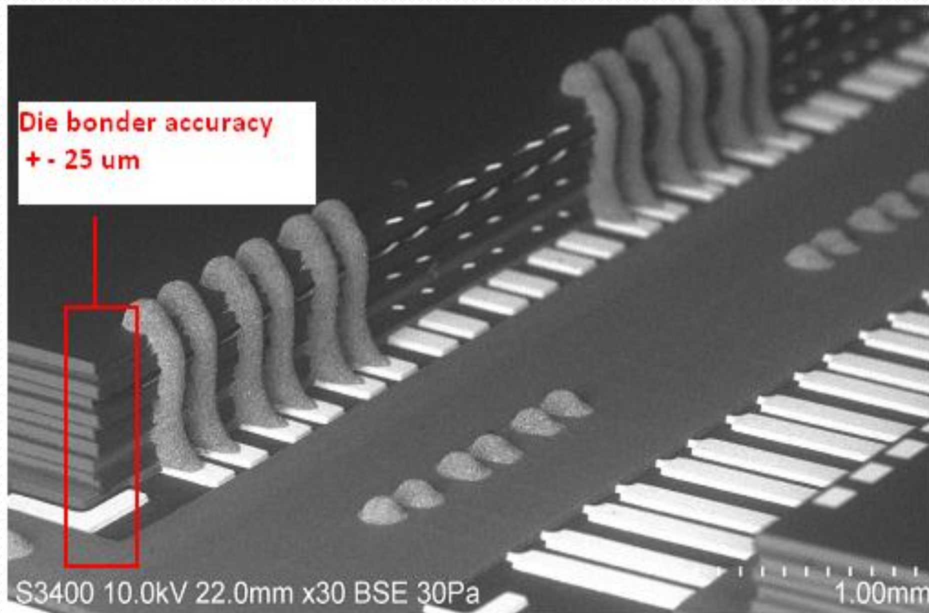
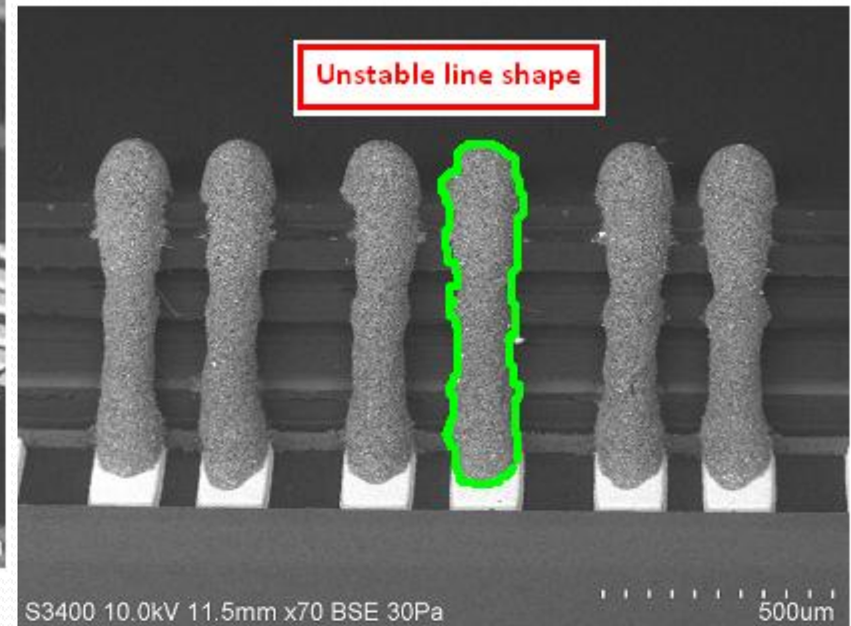
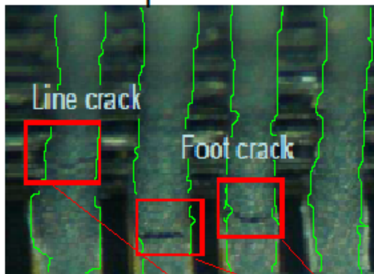
Jet Spray causes uneven line widths

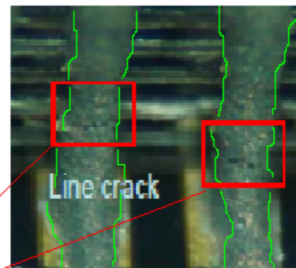




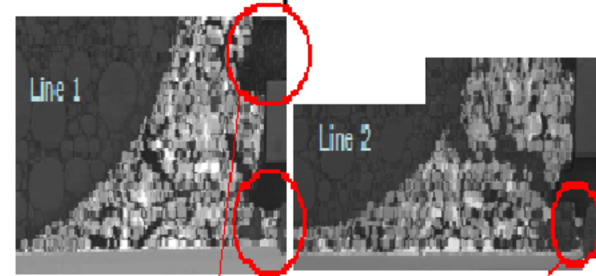
Jet Spray inability to produce homogenous line widths

SEM inspection





Cross-section inspection



relative narrow neck area

4% Shrinkage

Unstable shape

Too thin area

VOID

VOID

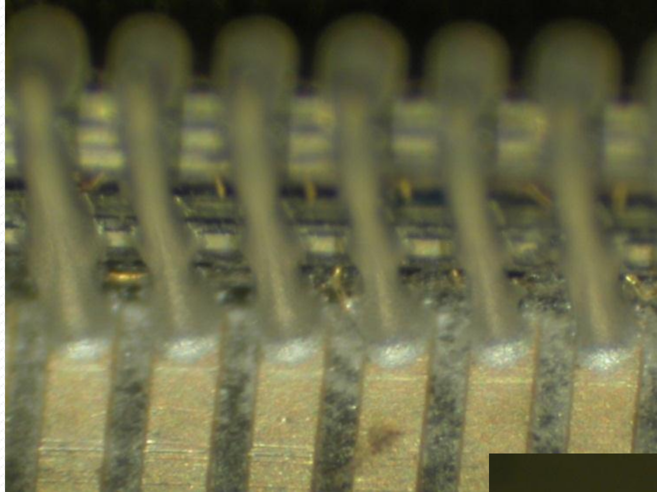
Too big Void problem caused by die bonder's accuracy + - 25 um and jet valve narrow process window.

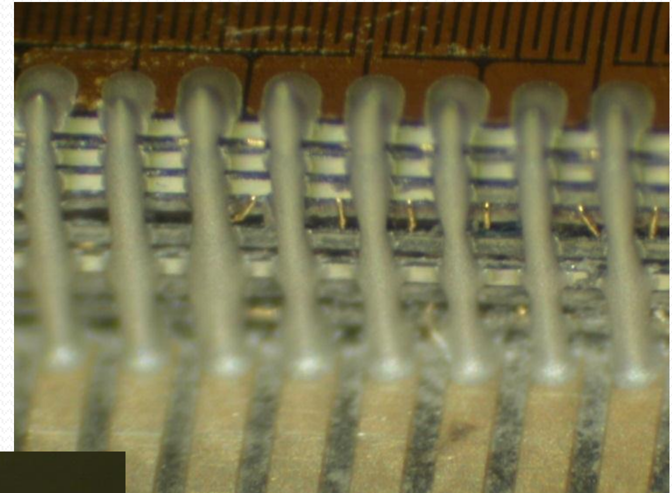
Crack problem description

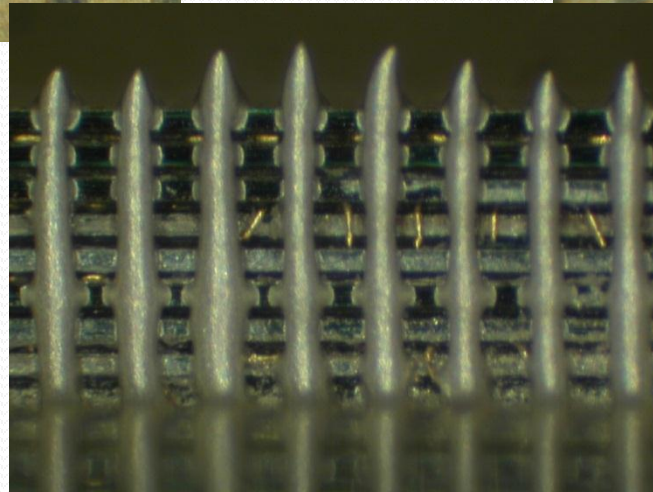
1. Unstable dispensing of Jet valve
   - a. Thickness : too thin area
   - b. Shape : relative narrow neck area
   - c. narrow process window
2. Conductive paste:
   - a. Big "void". This conductive paste cannot flow into a crevice. No "down to the hole" feature
   - b. 4% Shrinkage makes these area even thinner Not solvent free,
   - c. No flexibility feature. The thin paste area becomes too brittle by TC test and it cracks. CTE problem
   - d. Low power problem, the less conductive material area at base of stack die, it will give higher contact resistance.

SD0802 Dispense on SDRAM

Very Successful!!







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