

APPLICATION BRIEF

SMI no.1

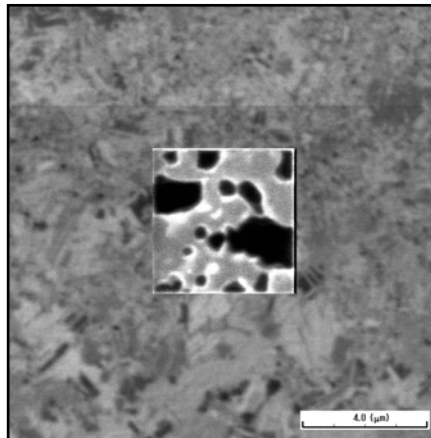
LSI Flattening Techniques Using E-Gas and Auto Bitmap software

2006.4

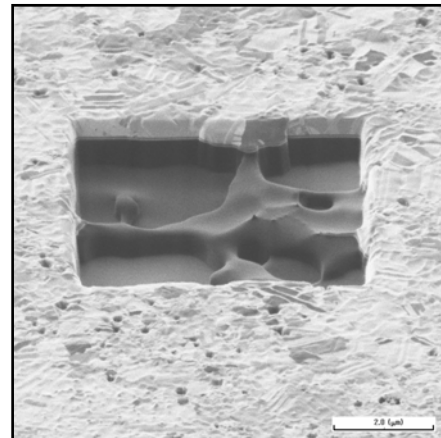
Gas assisted etching is chiefly used to speed the processing of organic material but it can also be used for flattening copper wiring. If Auto Bitmap software is also used during processing, even flatter surfaces can be created. Auto Bitmap software digitizes the brightness data of signals and automatically identifies the irradiation position

of the ion beam. Standard FIB processing of copper wiring results in uneven surfaces because of the etching rate differences of the copper grain. However, the combination of gas assisted etching and Auto Bitmap software remarkably improve the roughness of the bottom aspect of processing surfaces, as can be seen in the figures below.

Standard Results



Top View



Tilted View

Results using gas-assisted etching and Auto Bitmap software

