ABSTRACT OF THE DISCLOSURE

ISOLATION TRENCH FABRICATION PROCESS

Two steps of planarizing are performed during isolation trench fabrication resulting in a more uniform planarization of an integrated circuit substrate (10). A protective layer (44) deposition and a planarizing step are performed prior to a final planarizing step. Applying protective material (45) fills in a portion of recesses (36, 38) in a dielectric layer (34) overlying isolation trench areas. A first global planarization process eliminates narrower recesses and shallows out deeper recesses without causing dishing in the dielectric material. Much of the protective material (45) is removed by the first global planarization process. The remaining protective material is stripped. A final global planarization process then is performed which removes dielectric material outside of the trench areas. A well-defined border of the trenches results.

(Figure 5)