ABSTRACT

A METHOD TO IMPROVE ETCHING OF ORGANIC-BASED, LOW DIELECTRIC CONSTANT MATERIALS

A method etching an organic-based, low dielectric constant material in the manufacture of an integrated circuit device has been achieved. Organic materials without silicon and organic materials without fluorine can be etched by using, for example, hydrazine or ammonia gas. Organic materials with silicon can also be etched with the addition of a fluorine-containing or chlorine-containing gas. A semiconductor substrate is provided. A low dielectric constant organic-based material is deposited overlying the semiconductor substrate. The low dielectric constant organic-based material is etched to form desirable features using a plasma containing a gas comprising a nitrogen and hydrogen containing molecule, and the integrated circuit device is completed.

(FIGURE 4 IS SUGGESTED FOR PUBLICATION)