

ABSTRACT OF THE DISCLOSURE

AQUEOUS SURFACTANT SOLUTION METHOD FOR STRIPPING METAL PLASMA ETCH DEPOSITED OXIDIZED METAL IMPREGNATED POLYMER RESIDUE LAYERS FROM PATTERNED METAL LAYERS

A method for forming a patterned metal layer within a microelectronics fabrication.

There is first provided a substrate employed within a microelectronics fabrication. There is then formed over the substrate a blanket metal layer. There is then formed over the blanket metal layer a patterned photoresist layer. There is then etched through use of a plasma etch method while employing the patterned photoresist layer as a photoresist etch mask layer the blanket metal layer to form a patterned metal layer. The patterned metal layer so formed has a metal impregnated carbonaceous polymer residue layer formed upon a sidewall of the patterned metal layer. There is then stripped from the patterned metal layer the patterned photoresist layer through use of an oxygen containing plasma while simultaneously oxidizing the metal impregnated carbonaceous polymer residue layer to form an oxidized metal impregnated polymer residue layer upon the sidewall of the patterned metal layer. There is then stripped from the sidewall of the patterned metal layer the oxidized metal impregnated polymer residue layer while employing an aqueous alkyl ammonium hydroxide based solution. The aqueous alkyl ammonium hydroxide based solution has incorporated therein a surfactant capable of forming a monolayer adsorbed upon the sidewall of the patterned metal layer.

(FIGURE 4 IS SUGGESTED FOR PUBLICATION)