METHOD AND SLURRY COMPOSITION FOR CHEMICAL-MECHANICAL POLISH (CMP) PLANARIZING OF COPPER CONTAINING CONDUCTOR LAYERS

ABSTRACT OF THE DISCLOSURE

A Chemical-Mechanical Polish (CMP) planarizing method and a Chemical-Mechanical Polish (CMP) slurry composition for Chemical-Mechanical Polish (CMP) planarizing of copper metal and copper metal alloy layers within integrated circuits. There is first provided a semiconductor substrate having formed upon its surface a patterned substrate layer. Formed within and upon the patterned substrate layer is a blanket copper metal layer or a blanket copper metal alloy layer. The blanket copper metal layer or blanket copper metal alloy layer is then planarized through a Chemical-Mechanical Polish (CMP) planarizing method employing a Chemical-Mechanical Polish (CMP) slurry composition. The Chemical-Mechanical Polish (CMP) slurry composition comprises a non-aqueous coordinating solvent and a halogen radical producing specie.

(FIGURE 1 IS SUGGESTED FOR PUBLICATION)