ABSTRACT

A SIMPLIFIED DUAL DAMASCENE PROCESS

Only one photo mask defines the metal trench and via region. The mask blocks the UV light in the trench and via area forming Plasma Polymerized Methylsilane Oxide (PPMSO) in the exposed areas. Two step RIE plasma treatment using chlorine gas and oxygen gas removes the Plasma Polymerized Methylsilane (PPMS) in the trench and via regions. Conductive metal is deposited. A CMP process polishes back both excess metal along with the PPMSO, at a similar rate, to form: conducting metal lines, interconnects, and via contacts without metal dishing.

(FIGURE 4 IS SUGGESTED FOR PUBLICATION)