ABSTRACT

A NOVEL DUAL METAL-OXIDE LAYER AS AIR BRIDGE

A method for introducing air into the gaps between neighboring conducting structures in a microelectronics fabrication in order to reduce the capacitative coupling between them. A patterned metal layer is deposited on a substrate. The layer is lined with a CVD-oxide. A disposable gap-filling material is deposited over the lined metal layer. A two layer "air-bridge" is formed over the gap-fill by depositing a layer of TiN over a layer of CVD-oxide. This structure is rendered porous by several chemical processes. An oxygen plasma is passed through the porous air-bridge to react with and dissolve the gap-fill beneath it. The reaction products escape through the porous air-bridge resulting in air-filled gaps.

(FIGURE 1 IS SUGGESTED FOR PUBLICATION)