

COPPER INTERCONNECTION STRUCTURE INCORPORATING A METAL SEED LAYER

ABSTRACT

The present invention discloses an interconnection structure (50) for providing electrical communication with an electronic device (66) which includes a body (46,56,60) that is formed substantially of copper and a seed layer (76) of either a copper alloy or a metal that does not contain copper sandwiched between the copper conductor body (46,56,60) and the electronic device (66) for improving the electromigration resistance, the adhesion property and other surface properties of the interconnection structure (50). The present invention also discloses methods for forming an interconnection structure (50) for providing electrical connections to an electronic device (66) by first depositing a seed layer (76) of copper alloy or other metal that does not contain copper on an electronic device (66), and then forming a copper conductor body (46,56,60) on the seed layer (76) intimately bonding to the layer (76) such that electromigration resistance, adhesion and other surface properties of the interconnection structures (50) are improved.

Fig. 2



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