PROCESS FOR FABRICATING A CVD ALUMINUM LAYER IN A SEMICONDUCTOR DEVICE

Abstract of the Disclosure

A process for fabricating a CVD aluminum layer in a semiconductor device includes the formation of a chemical vapor deposited metal layer (38) overlying a composite nucleation layer (32). The composite nucleation layer (32) includes a sputter deposited titanium layer (34) underlying a sputter deposited aluminum layer (36). Both the composite nucleation layer and the chemical vapor deposited metal layer are processed in an inert atmosphere and their high vacuum condition such that exposure of metal surfaces to atmospheric oxygen is avoided during the multi-level metal process. The chemical vapor deposit metal layer (38) exhibits the high specularity and low surface roughness of the underlying sputter deposited composite nucleation layer (32).

Figure 3 accompanies this abstract.