

FORMATION OF METAL SILICIDE LAYER OVER COPPER INTERCONNECT FOR RELIABILITY ENHANCEMENT

Abstract

A method of fabrication of a sputtered metal silicide layer over a copper interconnect. We form a dielectric layer over a conductive layer. We form an interconnect opening in the dielectric layer. We form a copper layer at least filling the interconnect opening. We planarize the copper layer to form a copper interconnect in the interconnect opening. The copper interconnect is over polished to form a depression. We form metal silicide layer over the copper interconnect using a low temperature sputtering process. We can form a cap layer over the metal silicide layer.

Figure 5