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(54) **INTERCONNECT STRUCTURES IN A SEMICONDUCTOR DEVICE AND PROCESSES OF FORMATION**

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(57) **ABSTRACT**

Processes for fabricating a semiconductor device are described herein. In one aspect of the invention, an exemplary process includes forming an interface layer overlying the device substrate, forming a silver layer overlying the interface layer, annealing the substrate to form an intermetallic layer between the silver layer and the interface layer, the silver layer is in intimate contact with the intermetallic layer, and forming a protection layer overlying the silver layer. Other interconnect structures and processes are also described.

13 Claims, 10 Drawing Sheets

