ABSTRACT

POST-SILICIDE SPACER REMOVAL

A method forms a gate conductor over a substrate, spacers on sidewalls of the gate conductor and impurity regions in regions of the substrate not protected by the gate conductor and spacers. The impurity regions are silicided. A conformal protective layer followed by a non-conformal sacrificial layer (e.g., that can be selectively removed with respect to the protective layer) are formed over the silicided regions, spacers and gate conductor. An etching process removes the relatively thinner regions of the sacrificial layer overlying the spacers while retaining the relatively thicker regions of the sacrificial layer overlying the substrate. This allows the removal of the protective layer portions that cover the spacers while retaining the portions that cover the silicide. With the spacers now exposed and the silicide protected by the protective and sacrificial layers, it becomes possible to safely remove the spacers without affecting the silicide.

Fig. 3