ABSTRACT

METHOD OF MAKING METALLIZATION AND CONTACT STRUCTURES IN AN INTEGRATED CIRCUIT COMPRISING AN ETCH STOP LAYER

The invention concerns a method for simultaneously forming a metallization and contact structure in an integrated circuit. The method involves the steps of etching a trench dielectric layer of a composite structure having a semiconductor substrate with an active region, a gate structure thereon, at least one dielectric spacer adjacent to the gate structure, a contact dielectric layer over the semiconductor substrate, the gate structure and the dielectric spacer, an etch stop layer over the contact dielectric layer, and a trench dielectric layer over the etch stop layer, to form a trench in the trench dielectric under etch conditions which do not substantially etch the etch stop layer; thereafter, forming an opening in the etch stop layer and the contact dielectric layer by etching under conditions which do not damage the gate structure to expose the active region; and depositing a conductive material into the opening and the trench.

FIGURE : NONE