ABSTRACT

DEFINITION OF ANTI-FUSE CELL FOR PROGRAMMABLE GATE ARRAY APPLICATION

A method for fabricating an anti-fuse cell using an undoped polysilicon film as a mask in defining the anti-fuse window is described. A layer of silicon oxide is provided over the surface of a semiconductor substrate. A first undoped polysilicon layer is deposited overlying the silicon oxide layer. The first undoped polysilicon layer is covered with a photoresist layer patterned to form a mask. The first undoped polysilicon layer and a portion of the silicon oxide layer are etched away where they are not covered by the mask to form a cell opening. The mask and the remaining silicon oxide within the cell opening are removed. An insulating layer is deposited over the surface of the first undoped polysilicon layer and within the cell opening. A second polysilicon layer is deposited overlying the insulating layer and doped. The second polysilicon layer is patterned to form an anti-fuse cell. Gate electrodes and source and drain regions are formed completing the fabrication of the integrated circuit device.

(FIGURE 2 IS SUGGESTED FOR PUBLICATION)