

SEMICONDUCTOR STRUCTURE AND MANUFACTURING METHOD THEREOF

ABSTRACT

The present invention provides a semiconductor structure and a manufacturing method thereof. The manufacturing method comprises the following steps: providing a semiconductor substrate, the semiconductor substrate comprises an array region and a peripheral circuit region, in the array region, a plurality of capacitive contact holes being formed on the semiconductor substrate, a first conductive layer is deposited at the bottoms of the capacitor contact holes, and in the peripheral circuit region, a device layer being provided on the semiconductor substrate; treating the first conductive layer to increase the roughness of the first conductive layer; forming a wire contact hole in the peripheral circuit region, the wire contact hole exposing the semiconductor substrate; forming transition layers, the transition layers covering at least the surface of the first conductive layer and the surface of the semiconductor substrate exposed by the wire contact hole; and forming a second conductive layer, the second conductive layer covering the transition layers and achieving filling of the capacitor contact holes and the wire contact hole. According to the present invention, the transition layers having different thicknesses can be formed in the array region and the peripheral circuit region, thereby greatly improving the performance of the semiconductor structure.

[Fig. 1]