

ABSTRACT

A manufacturing method for and a structure of a semiconductor structure are provided. The manufacturing method for a semiconductor structure includes the steps as follows. A substrate is provided. A first semiconductor layer and a second semiconductor layer that are sequentially stacked are formed on the substrate, a material of the first semiconductor layer being different from a material of the second semiconductor layer. The second semiconductor layer is etched to form active pillars arranged in an array in a first direction and a second direction, the active pillar including a first doped region, a channel region, and a second doped region sequentially arranged in a direction from the first semiconductor layer to the second semiconductor layer. Word line structures are formed, the word line structures surrounding the channel region, extending in the first direction, and being spaced apart in the second direction. Capacitor structures are formed, the capacitor structures being in contact with and connected to the second doped region. The substrate and the first semiconductor layer are removed to expose bottom surfaces of the active pillars. Bit line structures are formed, the bit line structures being in contact with and connected to the first doped region. The reliability of the semiconductor structure can be improved.

[Fig. 8]