

SEMICONDUCTOR STRUCTURE AND MANUFACTURING METHOD THEREFOR

ABSTRACT

The present disclosure provides a semiconductor structure and a manufacturing method thereof. The manufacturing method includes: providing a base; forming bit lines on the base, and forming semiconductor channels on surfaces of the bit lines away from the base, the semiconductor channel including a first doped region, a channel region and a second doped region arranged sequentially; forming a first dielectric layer, the first dielectric layer surrounding sidewalls of the semiconductor channels, and a first gap being provided between parts of the first dielectric layer located on sidewalls of adjacent semiconductor channels on a same bit line; forming a second dielectric layer, the second dielectric layer filling up the first gaps, and a material of the second dielectric layer being different from a material of the first dielectric layer; removing a part of the first dielectric layer to expose sidewalls of the channel regions; forming an insulating layer, covering at least sidewall surfaces of the channel regions, and second gaps being provided between the insulating layer and the second dielectric layer; and forming word lines, the word lines filling up the second gaps.

[Fig. 23]