

ABSTRACT

A semiconductor memory device may be provided. The semiconductor memory device may include a bit line, a channel pattern on the bit line, the channel pattern including a horizontal channel portion, which is provided on the bit line, and a vertical channel portion, which is vertically extended from the horizontal channel portion, a word line provided on the channel pattern to cross the bit line, the word line including a horizontal portion, which is provided on the horizontal channel portion, and a vertical portion, which is vertically extended from the horizontal portion to face the vertical channel portion, and a gate insulating pattern provided between the channel pattern and the word line.

FIG. 4A