

ABSTRACT

A method for manufacturing a semiconductor device, may include: forming a plurality of stacked structures over a substrate, the substrate including one or more peripheral circuit regions and one or more cell regions, the stacked structures including first conductive lines and initial memory cells respectively disposed over the first conductive lines, each of the stacked structures extending in a first direction; forming a first insulating layer between the stacked structures; forming second conductive lines over the stacked structures and the first insulating layer, each of the second conductive lines extending in a second direction; forming memory cells by etching the initial memory cells exposed by the second conductive lines; forming a second insulating layer between the second conductive lines and between the memory cells; and removing the first conductive lines, the memory cells, and the second conductive lines in the peripheral circuit regions.

FIG. 5A