ABSTRACT

A memory device may include word line patterns stacked on a substrate and spaced from each other in a vertical direction, a channel structure extending in the vertical direction, and first contact plugs and second contact plugs extending in the vertical direction. The substrate may include a cell area, a cell wiring area, and a through-hole wiring area. The word line patterns may be on the cell area and the cell wiring area and may extend to the cell wiring area in a direction parallel to an upper surface of the substrate. The first contact plugs may be on the cell wiring area and each may be electrically connected with a corresponding one of the word line patterns and insulated from remaining word line patterns other than the corresponding one of the word line patterns. The second contact plugs may be on the through-hole wiring area.

FIG. 6B