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(54) **THREE-DIMENSIONAL MEMORY DEVICES  
AND FABRICATING METHODS THEREOF**

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#### ABSTRACT

Three-dimensional (3D) memory devices and fabricating methods are disclose. A disclosed 3D memory device can comprises, a first semiconductor structure comprising an array of first type memory cells, a second semiconductor structure comprising an array of second type memory cells different from the first type memory cells, a third semiconductor structure comprising a first peripheral circuit, and a fourth semiconductor structure comprising a second peripheral circuit. The third semiconductor structure is sandwiched between the first semiconductor structure and the fourth semiconductor structure, and the fourth semiconductor is sandwiched between the second semiconductor structure and the third semiconductor structure.

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