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### (54) SEMICONDUCTOR DEVICE AND METHOD OF FABRICATING THE SAME

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#### (57)ABSTRACT

A semiconductor device including a substrate, a first transistor and a second transistor is provided. The first transistor includes a first gate structure over the first semiconductor fin. The first gate structure includes a first high-k layer and a first work function layer sequentially disposed on the substrate, a material of the first work function layer may include metal carbide and aluminum, and a content of aluminum in the first work function layer is less than 10% atm. The second transistor includes a second gate structure. The second gate structure includes a second high-k layer and a second work function layer sequentially disposed on the substrate. A work function of the first work function layer is greater than a work function of the second work function layer.

