ABSTRACT

In a fabrication method of a semiconductor device including a plurality of silicon-based transistors or capacitors, there exist hydrogen at least in a part of a silicon surface in advance, and the hydrogen is removed by exposing the silicon surface to a first inert gas plasma. Thereafter, plasma is generated by a mixed gas of a second inert gas and one or more gaseous molecules, and a silicon compound layer containing at least a part of the elements constituting the gaseous molecules is formed on the surface of the silicon gas.



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