

**METHOD FOR FORMING A METAL SILICIDE USING A SOLUTION
CONTAINING GOLD IONS AND FLUORINE IONS**

ABSTRACT

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A subject matter of the invention is a process for the formation of nickel silicide or of cobalt silicide, comprising the stages consisting in:

- exposing the surface of the silicon-comprising substrate with an aqueous solution comprising from 0.1 mM to 10 mM of gold ions and from 0.6 M to 3.0 M of fluorine ions for a duration of between 5 seconds and 5 minutes,
- depositing by an electroless route, on the activated substrate, a layer essentially composed of nickel or of cobalt,
- applying a rapid thermal annealing at a temperature of between 300°C and 750°C, so as to form the nickel silicide or the cobalt silicide.

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The aqueous solution comprises a surface-active agent chosen from the compounds comprising at least one anionic or nonionic polar group and an alkyl chain comprising from 10 to 16 carbon atoms.

This process essentially has applications in the manufacture of NAND memories and photovoltaic cells.

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No Suitable Figure