

METHOD FOR TEMPERATURE STABILIZATION OF THE RESONANCE FREQUENCY OF MICROMECHANICAL SEMICONDUCTOR RESONATORS



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Invention

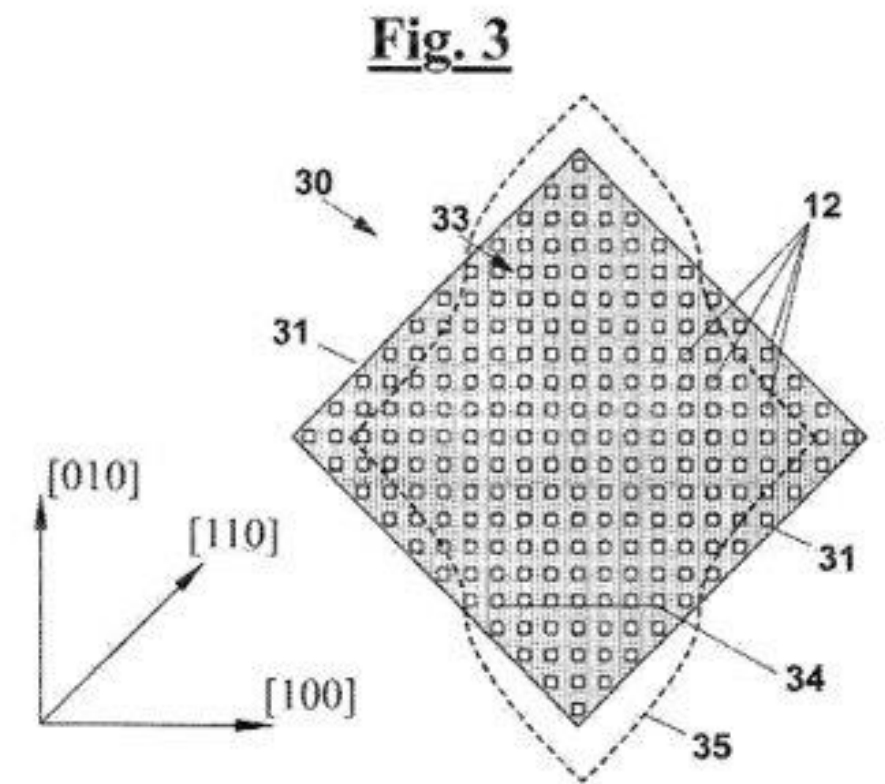
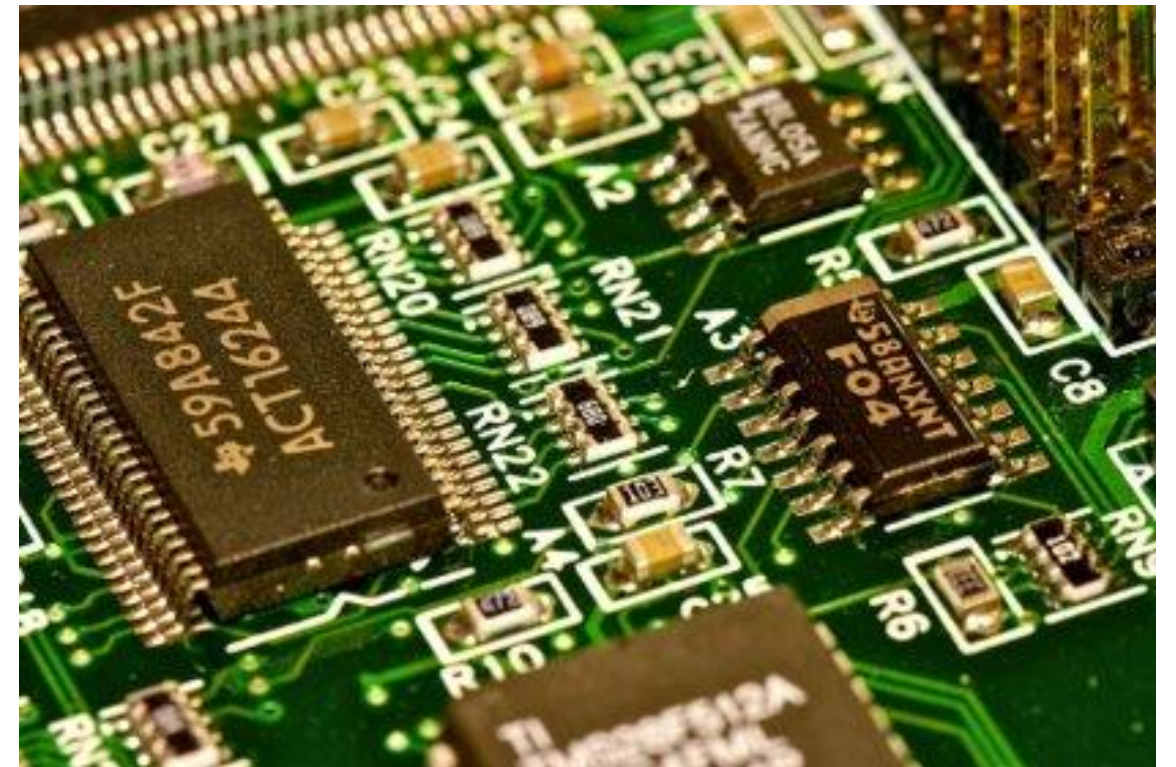
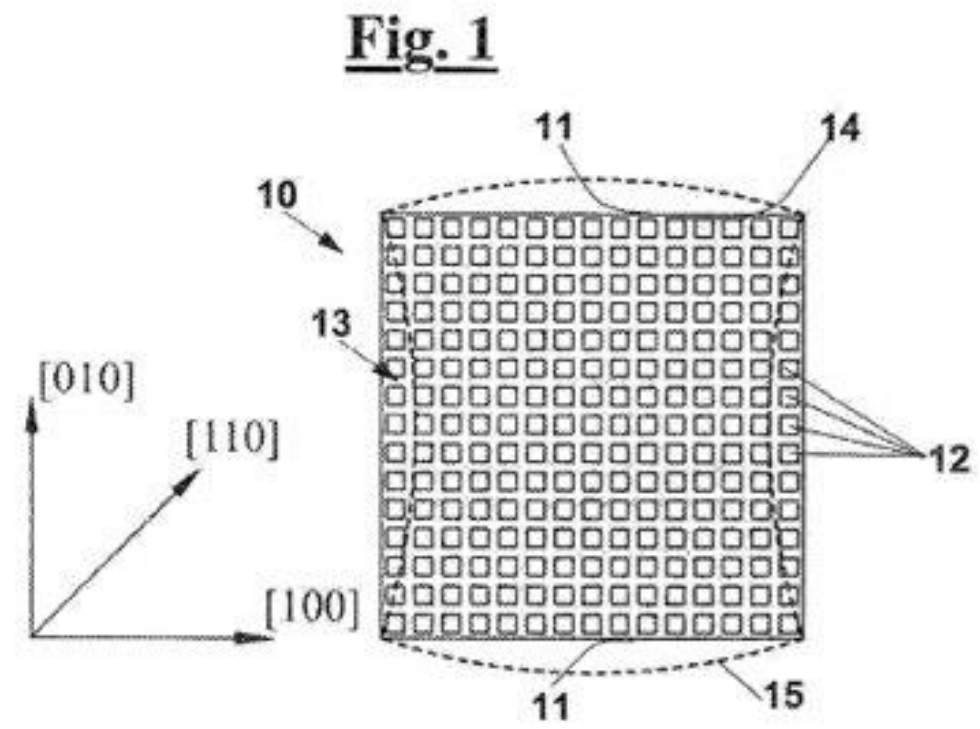


Mechanical resonators are often a necessary component in a large number of electronic devices, to provide synchronization signals, used as a frequency reference for example in the case of oscilloscopes. The resonators currently used are quartz, but this material makes them bulky and difficult to integrate with other electronic devices that use silicon as a base.

In order to avoid the use of quartz, MEMS (micro-electro-mechanical-systems) resonators have been used, but they have a poor temperature stability, and the doping of silicon is an expensive process from which it is not easy to obtain a suitable temperature stability.

The aim of the invention is therefore to provide a method for the fabrication of silicon micromechanical resonators that are temperature stable and therefore integrable with consumer electronic devices.

Drawings
& pictures



Industrial applications



The invention has vast potential in the field of electronics and telecommunications, its application to communication systems has enormous of advantages in terms of cost, footprint and power consumption.

The invention can be applied to existing resonators on the market to improve their thermal stability at almost no cost.

Possible developments



The research team is interested in working with industrial partners to increase the technological maturity of the invention and to consider licensing the patented technology.

For more information:



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