

CIRCUIT OF UNIFORM TRANSISTORS ON SeOI WITH BURIED BACK
CONTROL GATE BENEATH THE INSULATING FILM

ABSTRACT

The invention relates, according to a first aspect, to a semiconductor device formed on a semiconductor-on-insulator substrate comprising a thin film of semiconductor material separated from a base substrate by an insulating film, the device comprising an array of patterns each formed from at least one field-effect transistor, each transistor having, in the thin film, a source region, a drain region and a channel region which is delimited by the source and drain regions, and furthermore comprising a front control gate region formed above the channel region, the patterns being arranged in the form of rows, the source and drain regions of any one row having the same dimensions and being spaced apart by front control gate regions of fixed dimensions, characterized in that at least one transistor of a pattern has a back control gate region formed in the base substrate beneath the channel region, the back gate region being capable of being biased in order to shift the threshold voltage of the transistor to simulate a modification in the channel width of the transistor or to force the transistor to remain off or on whatever the voltage applied on its front control gate.

FIGURE 8