

75 word Abstract

Title :

A study of analog characteristics of CMOS with heavily nitrided NO oxynitrides

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Abstract :

We study any analog characteristics of CMOS with heavily nitrided NO oxynitrides. A $1/f$ noise and f_t in surface channel PMOS degrade due to higher donor-like trap density and lower hole mobility, respectively. Thus, the interface state density at oxynitride/Si substrate should be cared in order to satisfy 1999 ITRS road map requirements for each technology generation. And these degradations of PMOS can be suppressed and analog characteristics of NMOS can be improved by changing from a surface to a buried channel type MOSFET.