Abstract
A simple analytical model of a nanoscale fully depleted dual-material gate (DMG) SOI and SON MOSFETs has been developed and their performance comparison analysis is presented in this paper. An analytical model for the surface potential and threshold voltage has been developed both for these structures using a generalized 2D Poisson's equation solution. The DMG SON MOSFET technology is found to have more potential against various short channel effects (SCEs) thereby offering further device scalability with improved immunity.

References

- Saptarsi Ghosh, Khomdram Jolson Singh, Sanjoy Deb and Subir Kumar Sarkar, &quot;Two dimensional analytical modeling for SOI and SON MOSFET and their performance comparison&quot;, JNEP. 3(2011), No. 1, P. 569-57.

Index Terms

Computer Science
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Keywords

Soi/son Mosfet Threshold Voltage Short Channel Effect Dibl