Abstract

The present paper aims at providing a thorough and yet a collective evaluation of some commendable research works done over the past decade with the aim for reducing short-channel effects (SCE). The necessity for development of these technologies arose as short channel effects such as – Drain-Induced Barrier Lowering (DIBL) and hot carrier effects arises manifold as the channel length is scaled further into the deep-submicron region to accommodate changes in ULSI applications. The review highlights some recent techniques to circumvent these effects in fabricated MOS devices, and in addition a short evaluation of strengths and weakness in each research works is also presented.

References

- Jingon Jang, Younggul Song, Hyuntaek Oh, Daekyoung Yoo, Dongku Kim, Hyungwoo Lee, Seunghun Hong, Jin-Kyun Lee, and Takhee Lee. 2014. The application of orthogonal photolithography to micro-scale organic field effect transistors and complementary inverters on
Circumventing Short Channel Effects in FETs: Review


Index Terms

Computer Science  Communication

Keywords

Short-Channel effects (SCE)  Silicon on Insulator (SOI)  Drain Induced Barrier level (DIBL)  deep-submicron ULSI.