

75 Word Abstract

A 0.5V Power-Supply Scheme for Low Power LSIs using Multi-Vt SOI CMOS Technology

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This paper describes a novel power-supply scheme suitable for 0.5V operating LSIs. The system contains the on-chip buck dc-dc converter with over-90% efficiency, the 0.5V operating logic, 100MHz operating F/Fs with holding data in the stand-by mode, and the dual-rail level converter for the I/O output. The dc-dc converter TEG, fabricated using 0.35 μ m multi-Vt SOI CMOS technology, realized stable recovery characteristics and the final stage efficiency of 92% with 0.5V/10mW output.