Abstract

The proposed work based on the simulation studies for the effect of different width size of transistor on output voltage drop and internal resistance in CMOS rectifier. This paper presents the CMOS rectifier by using two PMOS and NMOS configuration and gives information about miniaturization technology. Hence, increase the width size from 4µm to 1100µm of PMOS and NMOS transistors. The results for 1100µm are 1.20V is better than 750µm width size, and also minimize the internal resistance from 6.17Ω to 4.580Ω in CMOS rectifier. The model was designed and simulated using Microwind software and operated at a frequency of 50Hz with an AC voltage source. A circuit was fabricated with 0.35µm CMOS technology.

References


11. AUTHORS PROFILE

Himshikha Sharma has received her B.Tech degree in Electronics and Communication Engineering from Alpine Institute of Technology, Ujjain (M.P.). At present she is pursuing M.Tech in VLSI Design and Embedded System. Her area of interest includes low power VLSI design, Embedded systems.

Braj Bihari Soni is working as Assistant Professor in NRI Institute of Information Science and Technology, Bhopal (M.P.). He has received his Bachelor of Technology from Nagaji Institute of Technology and Management, Gwalior, (M.P) and M.Tech degree from NRI Institute of Information Science and Technology, Bhopal, (M.P).

Index Terms

Computer Science

Circuits and Systems

Keywords

AC to DC converter, CMOS rectifier, width size of transistor, MOSFET internal resistance, low
frequency. Voltage source.