LOW POWER BUS DRIVER CIRCUIT DESIGN

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ABSTRACT

LOW POWER DESIGN IS IMPORTANT DUE TO THE INCREASING DEMAND FOR PORTABLE PRODUCTS AND THE EXPENSIVE COST FOR HEAT DISSIPATION. IN THIS THESIS,ATTENTION HAS BEEN PAID TO REDUCE THE POWER CONSUMPTION OF A HIP WITH LARGE CLOCK /BUS LOAD.GENERALLY, A BUS SYSTEM CONSUMES A TREMENDOUSLY SIGNIFICANT PORTION OF POWER IN THE WHOLE CHIP. IN ORDER TO DECREASE THE DEGREE OF POWER CONSUMPTION,WE LAUNCH A LOW-SWING BUS DRIVER CIRCUIT AS WELL AS A LOW SWI -NG BUS DRIVER CIRCUIT WITH CHARGE RECYCLING TECHNIQUE.A SIGNIFICANT REDUCTION IN POWER DI -SSIPATION IS ACHIEVED, DUE TO THE REDUCED SWING VOLTAGE ON THE INTERCONNECTION LOADS.THE DRIVER CHIP WAS IMPLEMENTED WITH A TSMC 0.35μ M CMOS PROCESS TECHNOLOGY.

Keywords: BUS DRIVER, LOW-SWING, CHARGE RECYCLING, LOW POWER

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