A STUDY OF AN ANALOG-TO-DIGITAL CONVERTER INTEGRATED CIRCUIT DESIGN

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ABSTRACT

THE ANALOG-TO-DIGITAL CONVERTER PROVIDES THE INTERFACE BETWEEN THE ANALOG SIGNAL AND THE BINARY DIGITAL COMPUTATIONAL PROCESS. AT PRESENT, THE FLASH-TYPE ADC IS ONE OF THE FASTEST CONVERTER IN THE MARKET. UNFORTUNATELY, THE WEAK POINT OF THIS TYPE ADC IS CONSISTED OF SO MUCH COMPARATORS. THEREFORE, IT WILL BE RESULTED IN INTOLERABLY LARGE CHIP AREA AND LARGE POWER CONSUMPTION. NEVERTHELESS, WE WILL ATTEMPT TO DESIGN A NOVEL STRUCTURE OF ADC, THAT IS TWO STEP PARALLEL AMPLIFY WITH A COMPARED CIRCUIT. IT CAN BE BENEFICIALLY REDUCED THE NUMBER OF COMPARATORS FOR A FLASH ADC. EVENTUALLY, WE WILL APPLY THE CMOS TECHNOLOGY TO DESIGN AN OPERATIONAL AMPLIFIER WHICH IS SUITABLE USED IN THE A/D CONVERTER.

Keywords:

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