

169. DESIGN OF LOW POWER SEQUENTIAL CIRCUITS USING C-ELEMENT

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Power reduction has become a vital goal for many applications. Dynamic power dissipation is the dominant source of power consumption, which is due to switching of inputs, can be effectively reduced by using C-elements. C-elements are now used in sequential circuits instead of flip-flops. They are the fundamental primitive in asynchronous logic and provides asynchronous communication. C-elements are also used in the control of delivery of clock signal to flip-flops and for generating local clock signals, thereby C-elements eliminate unnecessary data transitions and avoid loading of global clock signal. An approach of using C-element in the place of RS flip-flop in ring counter is presented in this project to increase the performance. Design and simulations are done through Tanner V.15 EDA tool using 250 nm technology for power analysis and the results are synthesized and evaluated.

Index Terms - dynamic power dissipation, C-element, sequential circuits, power reduction.

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