Abstract

In this paper, the design of an N-bit reversible Arithmetic Logic Unit (ALU) is presented. In modern Era of circuit designing, complexity of circuit increases day by day. Hence power dissipation plays important role in designing of any digital circuit. There are two types of power losses, leakage power and dynamic. Reversible logic design can also be used for same objective reversible gates are used which have equal number of inputs and outputs. This research has focused on reducing dynamic power dissipation by reversible logic design which provides substantial reduction in dynamic power dissipation (~50% reduction is observed). The later design is found advantageous over the former irreversible designs in terms of power
dissipation.

References


Index Terms

Computer Science

Circuits And Systems
Keywords
Reversible Logic  Ancilla Input  Garbage Output  dynamic Power