

Abstract

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A New Approach for Obtaining All Logic gates Using Chua's Circuit with Fixed Input/Output Levels

The paper presents a universal logic gate to perform all logic functions, namely, AND, OR, NAND, NOR, and XOR operations without changing the circuit topology. The basic advantage behind our scheme is that there is no need for level conversion between logic levels at the gate terminals (direct hard wiring). The circuit used for verifying the above functions is the Chua's circuit (continuous time circuit). VHDL-AMS verification is included.