

عنوان مقاله:

Design and Analysis of an Ultra High Speed and Resolution Comparator in 0.18 μ m CMOS

محل انتشار:

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خلاصه مقاله:

Comparators may be the most underrated and underutilized monolithic linear component. This is unfortunate because comparators are one of the most flexible and universally applicable components available. In large measure the lack of recognition is due to the IC op amp, whose versatility allows it to dominate the analog design world. The present work proposes an ultra high-speed comparator. Firstly, a fully differential op-amp, switch and latch designs are designed and simulated respectively and the simulation results with layout of high performance comparator after combining three mentioned designs, are shown. The comparator is based on 0.18 μ m CMOS process with 1.8v power supply. The simulation results show that, this structure has 10 bit resolution and 400 MHz speed. The BER of the .design is zero and the DC current consumption is 2.715 mA

کلمات کلیدی:

Comparator, Fully differential opamp, Switch, Latch, Layout

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