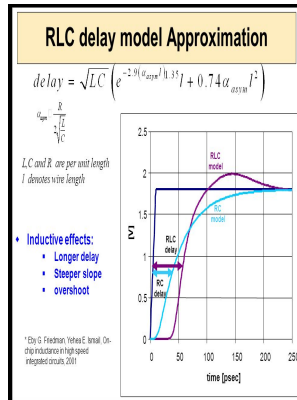


On-chip inductance in high speed integrated circuits

Kluwer Academic Publishers - Investigation of Inductance effects reduction in IR drop analysis using diagonal power routing in Power grid circuits in VLSI



Description: -

Professions -- United States

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Inductance.

Very high speed integrated circuits. On-chip inductance in high speed integrated circuits

-On-chip inductance in high speed integrated circuits

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High

The current is controlled by the exciter to provide the desired voltage across the armature windings. A transmitter and receiver circuit along with the on-chip inductors form a communication link, as depicted in Fig. These resistors represent the resistance of interconnect from the pads to the cells or transistors.

6.2 Inductance and Resistance of On

The chapter is organized as follows. The transmitter, usually an H-bridge circuit, drives the inductor supplying a transmission current I_T , while the receiver senses, amplifies, and rectifies the induced voltage V_R into a digital pulse.

On

In addition, the switching noise due to inductive voltage drops is an issue for power distribution network in VLSI circuits.

Exploiting On

The current that is sourced onto the ground network combined with a finite resistance of the ground network leads to localized increases in the ground voltages around the chip. The design x2 has the 137. A circuit simulation is executed, based on a suite of simulation vectors, which simulates the transistors or gates dynamically switching and the effect of this switching on the power grid.

Chapter 10: Variation of Grid Inductance with Frequency

It is still divided into a dynamic part and a static output equation which reflects the linearized FP-coefficients b_T and a . If this is the case, increasing the metal width to reduce the current density is a typical solution. Layer switching is another option; typically, upper metal layers in the technology have higher current driving capability due to greater thickness.

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