

Metrology in Submicron CMOS

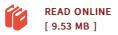
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On-Chip Time-Domain Metrology in Submicron CMOS

By Lin, Chin-Hsin

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | As the complexity and operational speed of today's Systems-on-Chip increase, measuring and characterizing SoC s building blocks are becoming more challenging. Embedded measuring techniques for system characterization, such as built-in self-test, are therefore becoming necessities. A Time-to-Digital Converter (TDC) is a device that has been widely used to measure the time intervals between two signal edges. The measurement resolution of a simple TDC architecture is limited by the minimum gate delay in the IC fabrication process. When the required time measurement resolution is smaller than the minimum gate delay, many TDC architectures include Time Difference Amplifiers (TDA) to pre-amplify the very short input time intervals. However, the gain of the TDA is usually sensitive to process, voltage, and temperature variations. This work researches techniques on improving measurement characteristic of TDCs and demonstrates a single-stage Vernier TDC with a constant gain TDA. The final designed TDC architecture achieves a linear measurement with a 2.5ps time resolution. | Format: Paperback | Language/Sprache: english | 96 pp.



Reviews

Excellent e-book and useful one. It is writter in straightforward phrases rather than confusing. I am just very happy to explain how here is the finest publication i have got read through in my very own lifestyle and might be he greatest book for possibly. -- Viva Schuster

Very beneficial for all class of folks. Indeed, it can be perform, nevertheless an interesting and amazing literature. I discovered this ebook from my i and dad suggested this pdf to find out. -- Leatha Luettgen Sr.

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