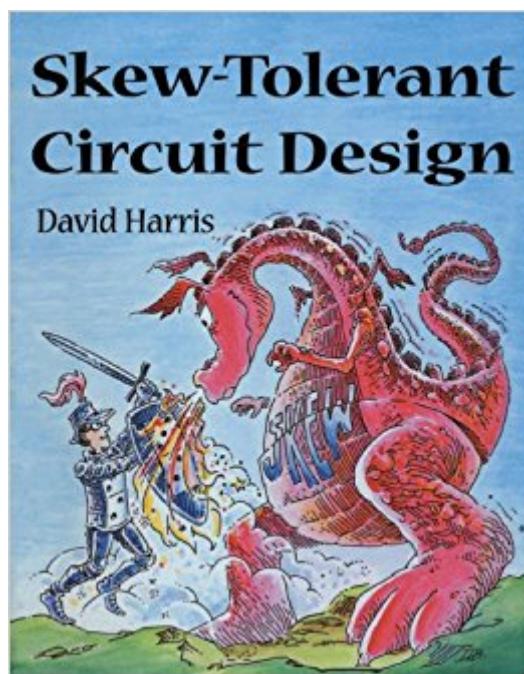


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Skew-Tolerant Circuit Design (The Morgan Kaufmann Series In Computer Architecture And Design)



Synopsis

As advances in technology and circuit design boost operating frequencies of microprocessors, DSPs and other fast chips, new design challenges continue to emerge. One of the major performance limitations in today's chip designs is clock skew, the uncertainty in arrival times between a pair of clocks. Increasing clock frequencies are forcing many engineers to rethink their timing budgets and to use skew-tolerant circuit techniques for both domino and static circuits. While senior designers have long developed their own techniques for reducing the sequencing overhead of domino circuits, this knowledge has routinely been protected as trade secret and has rarely been shared. Skew-Tolerant Circuit Design presents a systematic way of achieving the same goal and puts it in the hands of all designers. This book clearly presents skew-tolerant techniques and shows how they address the challenges of clocking, latching, and clock skew. It provides the practicing circuit designer with a clearly detailed tutorial and an insightful summary of the most recent literature on these critical clock skew issues. Synthesizes the most recent advances in skew-tolerant design in one cohesive tutorial. Provides incisive instruction and advice punctuated by humorous illustrations. Includes exercises to test understanding of key concepts and solutions to selected exercises.

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"Harris leads the way to more performance with a clear strategy for design. He shows how to combine logic and latching to do more logic in less time. In an era where less stuff means higher speed, everyone interested in high performance logic must understand these techniques or be left behind."-Ivan Sutherland, Vice President and Fellow, Sun Microsystems"The author thoroughly explains important circuit design techniques including various types of latch design styles, clocking strategies, and methods of accounting for clock skew. That all of this is captured in one place is one of the great strengths of this book."-Emily J. Shriver, Alpha Development Group, Compaq Computer Corporation

"Harris leads the way to more performance with a clear strategy for design. He shows how to combine logic and latching to do more logic in less time. In an era where less stuff means higher speed, everyone interested in high performance logic must understand these techniques or be left behind."- Ivan Sutherland Vice President and Fellow, Sun Microsystems"The author thoroughly explains important circuit design techniques including various types of latch design styles, clocking strategies, and methods of accounting for clock skew. That all of this is captured in one place is one of the great strengths of this book."- Emily J. Shriver Alpha Development Group, Compaq Computer CorporationAs advances in technology and circuit design boost operating frequencies of microprocessors, DSPs and other fast chips, new design challenges continue to emerge. One of the major performance limitations in today's chip designs is clock skew, the uncertainty in arrival times between a pair of clocks. Increasing clock frequencies are forcing many engineers to rethink their timing budgets and to use skew-tolerant circuit techniques for both domino and static circuits. While senior designers have long developed their own techniques for reducing the sequencing overhead of domino circuits, this knowledge has routinely been protected as trade secret and has rarely been shared. Skew-Tolerant Circuit Design presents a systematic way of achieving the same goal and puts it in the hands of all designers.This book clearly presents skew-tolerant techniques and shows how they address the challenges of clocking, latching, and clock skew. It provides the practicing circuit designer with a clearly detailed tutorial and an insightful summary of the most recent literature on these critical clock skew issues.Features:Synthesizes the most recent advances in skew-tolerant design in one cohesive tutorialProvides incisive instruction and advice punctuated by humorous illustrationsIncludes exercises to test understanding of key concepts and solutions to selected exercises

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some other books which are useful.

Excellent book on circuit design. The book is well constructed and explains things in easy to understand terms. Also, it gives real insight into circuit design from someone who has lots of experience. I highly, highly recommend!

I really liked this book. It is great for someone who is just beginning in circuit design like myself. I recommend it even if you are weak in the areas of device physics and VLSI.

It provides the practicing circuit designer with a clearly detailed tutorial and an insightful summary of the most recent literature on critical clock skew problems.

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