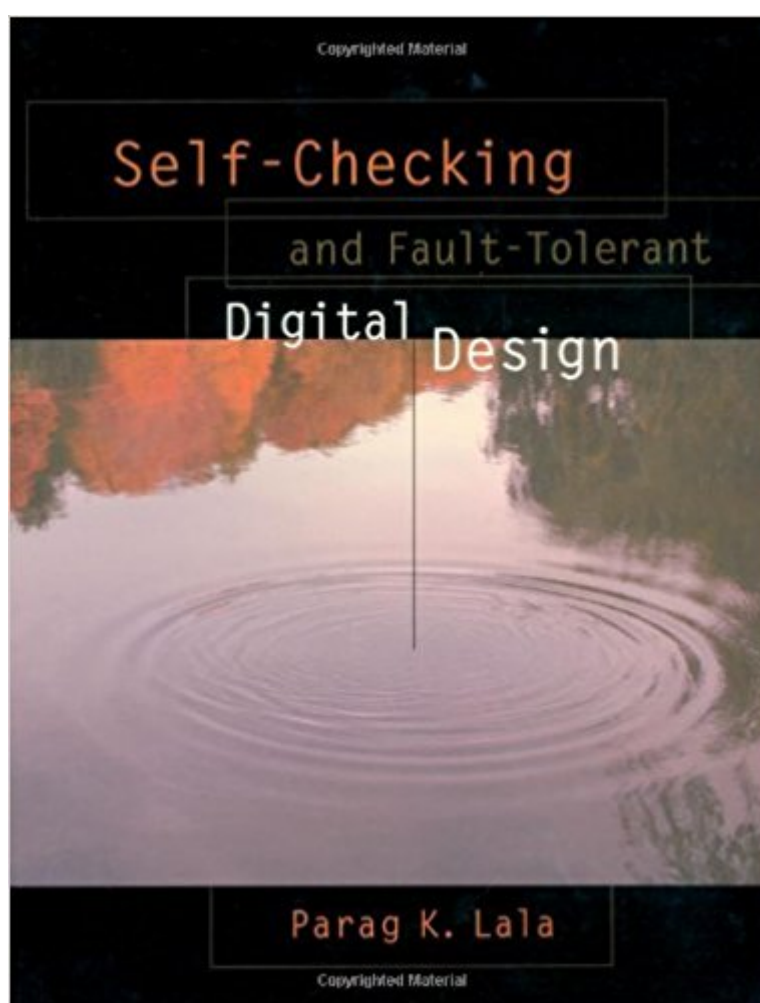


The book was found

Self-Checking And Fault-Tolerant Digital Design (The Morgan Kaufmann Series In Computer Architecture And Design)



Synopsis

With VLSI chip transistors getting smaller and smaller, today's digital systems are more complex than ever before. This increased complexity leads to more cross-talk, noise, and other sources of transient errors during normal operation. Traditional off-line testing strategies cannot guarantee detection of these transient faults. And with critical applications relying on faster, more powerful chips, fault-tolerant, self-checking mechanisms must be built in to assure reliable operation. Self-Checking and Fault-Tolerant Digital Design deals extensively with self-checking design techniques and is the only book that emphasizes major techniques for hardware fault tolerance. Graduate students in VLSI design courses as well as practicing designers will appreciate this balanced treatment of the concepts and theory underlying fault tolerance along with the practical techniques used to create fault-tolerant systems. * Introduces reliability theory and the importance of maintainability* Presents coding and the construction of several error detecting and correcting codes* Discusses in depth, the available techniques for fail-safe design of combinational circuits* Details checker design techniques for detecting erroneous bits and encoding output of self-checking circuits* Demonstrates how to design self-checking sequential circuits, including a technique for fail-safe state machine design

Book Information

Series: The Morgan Kaufmann Series in Computer Architecture and Design

Hardcover: 400 pages

Publisher: Morgan Kaufmann; 1 edition (July 10, 2000)

Language: English

ISBN-10: 0124343708

ISBN-13: 978-0124343702

Product Dimensions: 7 x 0.6 x 10 inches

Shipping Weight: 1.2 pounds (View shipping rates and policies)

Average Customer Review: 3.0 out of 5 stars 1 customer review

Best Sellers Rank: #1,919,536 in Books (See Top 100 in Books) #72 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Circuits > VLSI & ULSI #240 in Books > Computers & Technology > Hardware & DIY > Microprocessors & System Design > Computer Design #522 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Digital Design

Customer Reviews

With VLSI chip transistors getting smaller and smaller, today's digital systems are more complex than ever before. This increased complexity leads to more cross-talk, noise, and other sources of transient errors during normal operation. Traditional off-line testing strategies cannot guarantee detection of these transient faults. And with critical applications relying on faster, more powerful chips, fault-tolerant, self-checking mechanisms must be built in to assure reliable operation. Self-Checking and Fault-Tolerant Digital Design deals extensively with self-checking design techniques and is the only book that emphasizes major techniques for hardware fault tolerance. Graduate students in VLSI design courses as well as practicing designers will appreciate this balanced treatment of the concepts and theory underlying fault tolerance along with the practical techniques used to create fault-tolerant systems. Features: Introduces reliability theory and the importance of maintainability Presents coding and the construction of several error detecting and correcting codes Discusses in depth, the available techniques for fail-safe design of combinational circuits Details checker design techniques for detecting erroneous bits and encoding output of self-checking circuits Demonstrates how to design self-checking sequential circuits, including a technique for fail-safe state machine design

The author is currently a Professor in the Department of Electrical Engineering at North Carolina A&T State University. He is the author of more than 75 papers, and three books published by Prentice Hall. His research interests include design for testability, self-checking logic design, automatic logic synthesis of low power logic circuits, and CPLD/FPGA based system design. He received a M.S. from King's College, London, and a Ph.D. from the City University of London.

I liked this book as a way to understand the need and use of fault-tolerant logic design. What it lacked is how one would do it using an HDL. Knowing 'what' is generally most useful when how is presented as well. I didn't want to design to the gate level to gain the benefit of these principals. So, after I read it I was left hungry for a solution.

[Download to continue reading...](#)

Self-Checking and Fault-Tolerant Digital Design (The Morgan Kaufmann Series in Computer Architecture and Design) Skew-Tolerant Circuit Design (The Morgan Kaufmann Series in Computer Architecture and Design) Computer Organization and Design MIPS Edition, Fifth Edition: The Hardware/Software Interface (The Morgan Kaufmann Series in Computer Architecture and Design) Computer Organization and Design, Fourth Edition: The Hardware/Software Interface (The Morgan Kaufmann Series in Computer Architecture and Design) Foundations of Analog and Digital

Electronic Circuits (The Morgan Kaufmann Series in Computer Architecture and Design) Logical Effort: Designing Fast CMOS Circuits (The Morgan Kaufmann Series in Computer Architecture and Design) See MIPS Run, Second Edition (The Morgan Kaufmann Series in Computer Architecture and Design) Learning Processing, Second Edition: A Beginner's Guide to Programming Images, Animation, and Interaction (The Morgan Kaufmann Series in Computer Graphics) Computer Networks, Fifth Edition: A Systems Approach (The Morgan Kaufmann Series in Networking) Computer Networks: A Systems Approach (The Morgan Kaufmann Series in Networking) VLSI Test Principles and Architectures: Design for Testability (The Morgan Kaufmann Series in Systems on Silicon) Game Feel: A Game Designer's Guide to Virtual Sensation (Morgan Kaufmann Game Design Books) Digital Logic Design and Computer Organization with Computer Architecture for Security Self Help: How To Live In The Present Moment (Self help, Self help books, Self help books for women, Anxiety self help, Self help relationships, Present Moment, Be Happy Book 1) Data Mining: Practical Machine Learning Tools and Techniques (Morgan Kaufmann Series in Data Management Systems) Data Mining: Concepts and Techniques, Third Edition (The Morgan Kaufmann Series in Data Management Systems) Data Mining, Fourth Edition: Practical Machine Learning Tools and Techniques (Morgan Kaufmann Series in Data Management Systems) Data Mining: Practical Machine Learning Tools and Techniques, Third Edition (Morgan Kaufmann Series in Data Management Systems) Data Mining: Practical Machine Learning Tools and Techniques, Second Edition (Morgan Kaufmann Series in Data Management Systems) Blondie24: Playing at the Edge of AI (The Morgan Kaufmann Series in Artificial Intelligence)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)