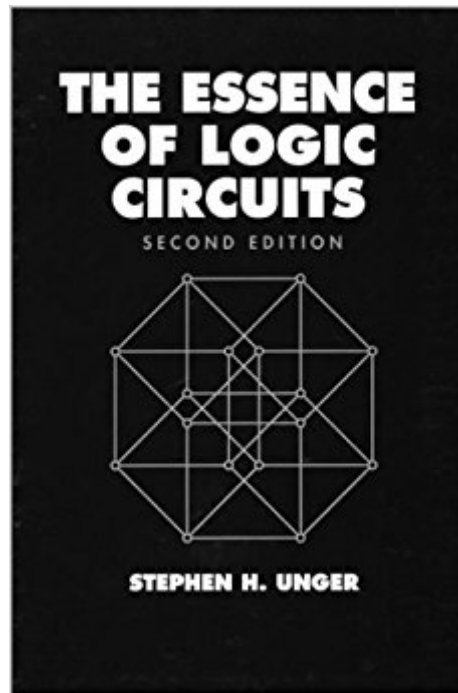The book was found

The Essence Of Logic Circuits

Synopsis

Today, designing a state-of-the-art circuit means knowing how to pack more and more logic on a chip. Featuring an extensive introductory material, this complete, carefully-organized guide brings you valuable information on designing modern logic circuits from gates, switches, and other basic elements to meet the rising demands on modern circuit technology. THE ESSENCE OF LOGIC CIRCUITS allows computer scientists and students to start from scratch and gain a comprehensive understanding of most important topics in the field.

Book Information

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Customer Reviews

Electrical Engineering/Computer Engineering The Essence of Logic Circuits Second Edition Today, designing state-of-the-art circuits means packing more and more logic on a chip while avoiding timing faults. Featuring extensive introductory material, this complete, carefully organized guide brings you valuable information on designing logic circuits to meet the rising demands on modern circuit technology. The Essence of Logic Circuits allows computer engineers, computer scientists, and students to start from scratch and gain a comprehensive understanding of the most important topics in the field: Boolean algebra and Karnaugh maps Fault detection Hazards and metastability CMOS circuits Computer-aided design Symmetric and iterative functions Arbiters and synchronizers Self-timed circuits and handshaking methods Latches and C-elements And more! Complete with examples throughout, this book is ideal for engineers and students who want to achieve

competence in modern logic circuit technology and a greater knowledge of the implementation of digital computers.

Biographical Sketch Dr. Stephen H. Unger has made important contributions to logic circuit design theory over a period of many years. This has included significant work on hazards, flow table reduction, iterative circuits, clocking schemes, and self-timed systems. His book Asynchronous Sequential Switching Circuits is a basic reference in that field. Dr. Unger's graduate work was at MIT, and he subsequently was a member of the technical staff of Bell Telephone Laboratories for almost 5 years. His industrial experience also includes work at RCA Laboratories and IBM. He is a professor of both Computer Science and Electrical Engineering at Columbia University, where he recently was instrumental in organizing a degree program in computer engineering. He is a Fellow of the IEEE and of the AAAS. Mostly through the IEEE (as a member of the Board of Directors and former president of the IEEE Society on Social Implications of Technology), Dr. Unger has also been active in the areas of engineering ethics and technology policy.

I was fortunate enough to use this text in an introductory course with Unger himself. I thought the book was easy to understand and presented a difficult subject clearly. However, I will admit that having the author of the book in the classroom may have made it easier for me to understand what was going on.

This books extensively makes use of state machines. The author describes advanced digital circuits such as look ahead adders. It also describes emerging digital techniques such as Scan-chaining and boundary scans. Numerous illustrative examples make the concept clear (e.g. a coin operated candy vending machine). An excellent book for would be logic designers.

I used this text for a course with the author. The text is full of typos, incomplete explanations, and has an incomprehensible writing style.

The Essence of Logic Circuits Introduction to Logic Circuits & Logic Design with VHDL Introduction to Logic Circuits & Logic Design with Verilog CMOS Digital Integrated Circuits: A First Course (Materials, Circuits and Devices) Selected Topics in RF, Analog and Mixed Signal Circuits and Systems (Tutorials in Circuits and Systems) CMOS and Beyond: Logic Switches for Terascale Integrated Circuits Ones and Zeros: Understanding Boolean Algebra, Digital Circuits, and the Logic

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