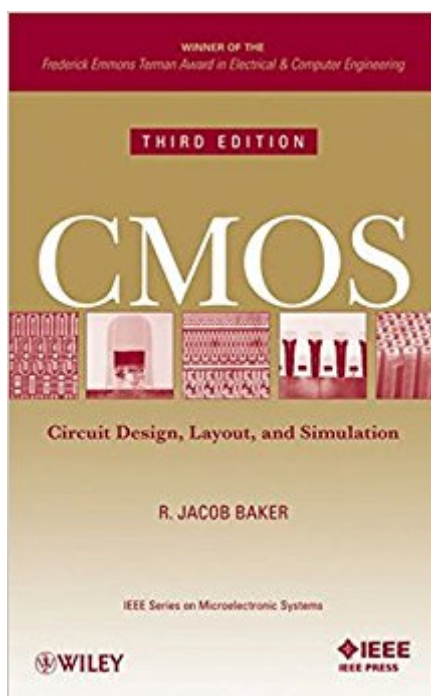The book was found

CMOS Circuit Design, Layout, And Simulation, 3rd Edition (IEEE Press Series On Microelectronic Systems)

Synopsis

The Third Edition of CMOS Circuit Design, Layout, and Simulation continues to cover the practical design of both analog and digital integrated circuits, offering a vital, contemporary view of a wide range of analog/digital circuit blocks including: phase-locked-loops, delta-sigma sensing circuits, voltage/current references, op-amps, the design of data converters, and much more. Regardless of one's integrated circuit (IC) design skill level, this book allows readers to experience both the theory behind, and the hands-on implementation of, complementary metal oxide semiconductor (CMOS) IC design via detailed derivations, discussions, and hundreds of design, layout, and simulation examples.

Book Information

Hardcover: 1208 pages

Publisher: Wiley-IEEE Press; 3 edition (September 7, 2010)

Language: English

ISBN-10: 0470881321

ISBN-13: 978-0470881323

Product Dimensions: 6.3 x 1.8 x 9.2 inches

Shipping Weight: 3.3 pounds (View shipping rates and policies)

Average Customer Review: 4.5 out of 5 stars   23 customer reviews

Best Sellers Rank: #95,068 in Books (See Top 100 in Books)   #24 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Semiconductors   #27 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Circuits > Design   #606 in Books > Computers & Technology > Computer Science

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Now updatedâ ”the classic guide to CMOS circuits, from design to implementation The Third Edition of CMOS Circuit Design, Layout, and Simulation continues to cover the practical design of both analog and digital integrated circuits, offering a vital, contemporary view of a wide range of analog/digital circuit blocks including: phase-locked-loops, delta-sigma sensing circuits, voltage/current references, op-amps, the design of data converters, and much more. Regardless of one's integrated circuit (IC) design skill level, this book allows readers to experience both the theory behind, and the hands-on implementation of, complementary metal oxide semiconductor (CMOS) IC design via detailed derivations, discussions, and hundreds of design, layout, and simulation examples. Inside, readers will continue to find the relevant and practical material that made the first

two editions bestsellers. The Third Edition has been updated and includes new chapters covering the implementation of data converters and the analysis/design of feedback amplifiers The additional material makes the book even more useful as an academic text and companion for the working design engineer. Featured in this Third Edition: In-depth coverage of both analog and digital transistor-level design techniques Integration of the book's material with online resources found at CMOSedu.com Detailed discussions on the design of phase- and delay-locked loops, mixed-signal circuits, data converters, and circuit noise Real-world process parameters, design rules, and layout examples Hundreds of practical design examples, discussions, and end-of-chapter problems Theory and discussions detailing the trade-offs and considerations when designing at the transistor level The book's accompanying Web site, CMOSedu.com, offers numerous examples for many computer-aided design (CAD) tools including Cadence, Electric, HSPICE, LASI, LTspice, Spectre, and WinSpice. Readers can recreate, modify, or simulate the design examples presented in the book. In addition, the solutions to the book's end-of-chapter problems, the book's figures, and additional homework problems without solutions are found at CMOSedu.com. This Third Edition of CMOS Circuit Design, Layout, and Simulation is the ideal companion for undergraduate and graduate students in electrical and computer engineering as well as both novice and senior engineers working on transistor-level integrated circuit design.

R. JACOB (JAKE) BAKER, PhD, is an engineer, educator, and inventor. He has more than twenty years of engineering experience and holds more than 200 granted or pending patents in integrated circuit design. Jake is the author of several circuit design books for Wiley-IEEE Press. In 2007, he received the Hewlett-Packard Frederick Emmons Terman Award, which is presented annually to an outstanding young electrical engineering educator by the Electrical and Computer Engineering Division of the American Society for Engineering Education.

I took a class this Spring which was taught by Dr.Jake's P.hD student. I was taking the course remotely. I had access to the full fledged Cadence tools. And with the CMOS book at hand, solving the home work problems and running the examples provided on the CMOS.edu website, provided me enough grounding on the wonderful, yet arcane subject of CMOS Analog Circuit Design. If you are beginner like me with some board level/block level understanding of the basic circuit building blocks, then this books is for you. The explanation is no-nonsense and very lucid enough to grasp the ideas. In the course that I attended, we covered the chapters 21-24, bulk of which is on Single stage Op-Amps and Two stage Op-Amps and frequency compensation. The topic on RHP Zero

compensation and Feed forward compensation take the cake.The narration is very engaging for leisurely paced,self study. The book examples are available in the "Free as in beer" Lt-spice simulator format too, if you are broke like me and cant afford the Cadence Spectre tool-set.With this book and Razzavi(another tome) one has sufficient fire power in their arsenal to go building their next Silicon sandbox!. Overall based on my personal experience- 5 Stars. He even has posted his lectures online archived as on-demand videos on the cmos.edu website and his style of Pedagogy is very unique. Check it out!.

I own, and have read, most of the analog books. If I want to understand a concept, Razavi is the one I go to. If I want to actually build the thing, I go to this book.In my company, this book is the most recently referenced book by the analog designers.I bought this book during my masters, when I was having trouble getting an intuitive understanding of analog transistors. He approaches the subjects in a different direction that other books. At first, it seems kind of random - but it isn't. I found this book is the one that finally gave me the "ah hah" moment. Without this book, I might still be struggling in my masters. I strongly recommend it.

After dealing withÂ Analysis and Design of Analog Integrated CircuitsÂ in one of my graduate courses, I found reading this book a pleasure. The author develops your intuition in a way that make your grasp the concepts instantly. First he presents the theory in a simple and clear way and then he analyses the different circuit topologies in a pure rigorous way (you need to do some algebra after all) but with clear explanations about the procedure. After that, he presents the same solution to the problem from a different point of view, leaving the algebra aside and making you understand what is going on using an intuitive approach. Finally, and this plays an important role in the book, he persuades you to verify the results using SPICE. But hey, don't think that you need to write the netlist of every example, the author has done that for you! The companion website [...] is an authentic gold mine for students, seriously, he has put a lot of effort into making all the examples available for serveral SPICE simulators like hspice, LTspice, spectre, silvaco, electric... There are even videos and tutorials on how to use these tools. Even more? Yes! If you feel like learning on your own, you can watch all the lectures of the different courses that he taught at Boise University! This website is pricesless! I wish my teachers were 1/10th as good as he is.The key concepts are repeated over and over through the chapter so you will never feel lost in the middle of a bunch of equations like it has happened to me when reading "Gray & Meyer". If you are looking for a real text book, this is it! You won't regret! If you are looking for another reference to complement this piece of

art, don't go for "Grey & Meyer" because it is boring to death ("pain is good!" (sic)), go for Analog Integrated Circuit Design. instead and that is all you need.I would like to thank the author for all the effort he put in creating the most brilliant book that I've read in CMOS IC design so far. Thank you Jake Baker!

When you need to batten down and actually fabricate a CMOS chip, then you need to batten down and pay for this book. It contains a lot of great material for how you should design critical components of your circuit. These include the biasing network, amplifiers, comparators, and tons of other stuff. I would recommend this guy for sure.

Not much has changed with this revision. If you have the last one, you will only get one more chapter. Some of the typos have been corrected and some of the chapters were moved to on-line. If you were like me and wanted to see what else Jacob Baker was going to add, don't waste your money.

Having taken two courses that Dr. Baker teaches himself from this book, it is essential to understand the subject matter. The book is well written and proves to be a useful tool for any student looking towards this field.

This book is super thorough. I'm glad I bought it because it takes a lot for me to understand these concepts.

One of The BEST electronics book you will every buy for an electrical/computer engineer. Great author and professor. Make sure to go to the website and check out the thousands of examples. http://cmosedu.com/

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