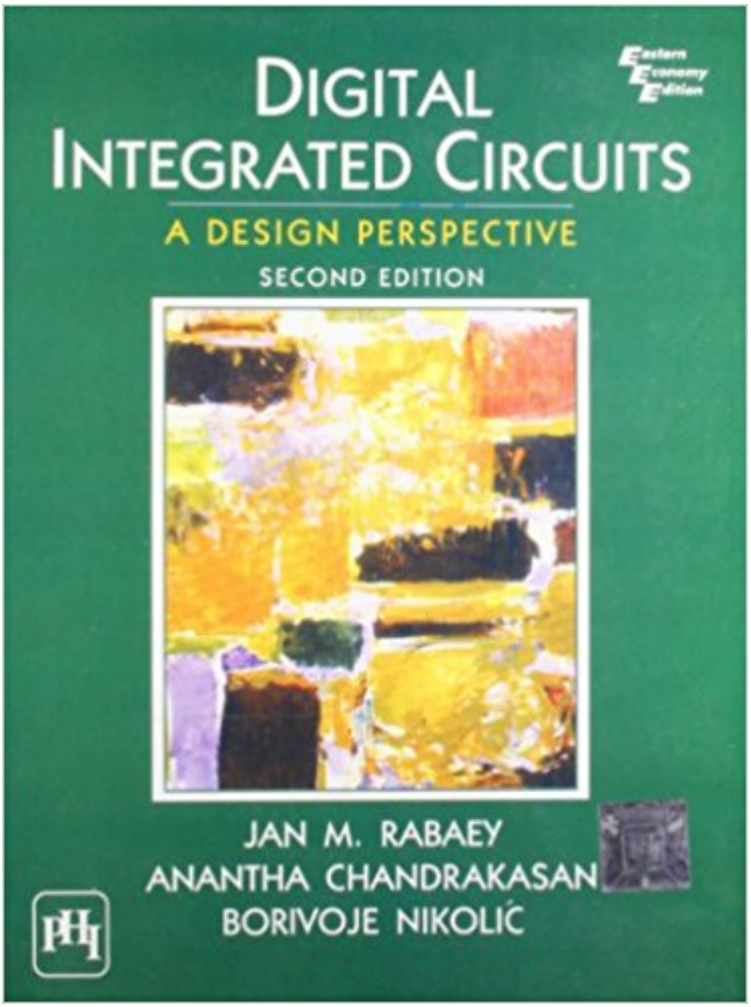
Digital Integrated Circuits: A Design Perspective



Synopsis

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Customer Reviews

I haven't seen the first edition of this book, but judging from reviews (all of which are dated before the 2nd Edition came out, which was December 2002), the 2nd Edition has added a lot of new material that addresses some of the criticisms of the first edition. I used a pre-publication draft of this book in a class with Professor Chandrakasan last fall, and it covered topics such as transistor sizing, crosstalk and transmission line effects, threshold voltage level effects, logic synthesis (though this book does not go into HDL design), and many other more advanced topics.It's also been made more up-to-date, removing a lot of the dated material some reviews on this page have been complaining about.Since I am just learning this material, I cannot comment on how relevant or complete this new edition really is, but I would urge anyone who was disappointed with the first edition to check out the 2nd edition. Actually, I'd urge everyone who used the first edition to check it out. From what I've seen, it's like a completely different book.

This book is a must have for everyone planning to or currently designing vlsi high performance circuits. Covers initials/reviews of mos transistors from mid-to-deep physics to simple components and then to further more complicated circuits. Interesting to mention that the authors compile a set of related articles published on highly respected journals. Cons are that many times those coverage are superficial, condensed to one page and leads you to deeper research on the original references. Pros are that you have, in only one place, a whole compilation of good articles in the area. I think

this is the most interesting aspect of the book, because once you study the concepts covered, you have good knowledge to understand those articles. Overall, the book outperforms many other books, both in coverage and in the level of detail on each topic.

I had this book for both my Undergraduate and graduate level VLSI Design classes. I cant think of other book that would make a perfect course textbook to learn 'Digital' Integrated Circuit (DIC) design. The book starts with device concepts to give you a good understanding the physics behind CMOS technology. Then it introduces the basics of CMOS circuits (inverter analysis) and covers the aspects of digital integrated design such as parastic analysis, logic families, memories, timing and complex architectures etc... The real world design, challenges and technologies are also given in the book through articles, discussions, problems and examples. It gives a good background and teaches the concepts so a designer would be able to choose a correct design paramaters, logic/arch. family and targets such as power/performance/noise/area.The book does not go deep in to each subject since its intention is intro/intermediate. Also this book is not for serious circuit designers but its a start book to make one. Its the book to learn and broaden your knowledge on designing custom and high performace circuits.. The cons of this book would be that its not a user friendly at the beginning for a fresh starter but it will welcome and get you going pretty quick once you get the style of the author. I would recommend the Uyemura's book (CMOS Logic Design) for uncovered and extra examples to complete this book. And if you are looking more to designing complex high performance circuits, Chandrakasan's book (Design of High-Performance Microprocessor Circuits) would be the one.

A so-so book. Sort of sloppy, doesnt' quite stand on its own without a course to guide you through it. There is some good information in this book; the chapter on transmission lines is quite good. There are also some more practical design examples in the latter half of the book. I'd recommend the Weste book instead.

For some reason, the international edition of this book has color pages in certain sections but the US edition of this book is completely black and white. This is a bit of a problem since these color pages are about circuit design rule in programs. Each color represent a different material. The black and white version looks like it's every material is the same.

For a nearly $200 dollar book, you would think the publisher would print a copy that was in color. A

lot of examples portraying the design aspect of CMOS are lost as it is very difficult to tell the difference in materials used or the complexity of the design itself when everything is just a shade of black. Overall the myriad of information is phenomenal and wonderfully taught at a very introductory level. However, have to rate one star for the publishers cheap antics.

This is an excellent textbook for students and a good reference guide for circuit designer. It’s hard to find a book that covers all the important materials about digital IC’s in such a complete and systematic approach. The diagrams and examples in the book help readers to understand the subject. I have several other VLSI books but this one is the easiest to understand and yet it doesn’t lose the depth it needs to cover for digital circuit design. A must have book if you are a student and trying to master the digital stuff. Great book!