Introductory Semiconductor Device Physics for Chip Design and Manufacturing

Robert W. Keyes, Mary Y. Lanzerotti

Introductory Semiconductor Device Physics for Chip Design and Manufacturing

Robert W. Keyes, Mary Y. Lanzerotti

Introductory Semiconductor Device Physics for Chip Design and Manufacturing Robert W. Keyes, Mary Y. Lanzerotti

An introduction to the fundamentals of semiconductor physics and engineering

This book discusses fundamental semiconductor physics of devices and on-chip interconnections for physicists and links these concepts to engineering applications and case studies of computer chips. The book is organized in three parts. The first part deals with the representation of information and computation. The second part covers semiconductor device physics within the context of computation. The third part reviews chip design and semiconductor fabrication. The book includes relevant equations, with the aim of closing the gap in the existing literature with actual case studies and engineering applications. Examples are provided in each chapter to illustrate physical and electrical concepts through the use of high-performance silicon technologies.

"Introductory Semiconductor Device Physics for Chip Design and Manufacturing" Provides physical descriptions and illustrations with data visualizations to facilitate intuitive understanding of semiconductor physics, devices and on-chip interconnections Blends theoretical physics treatment with engineering applications and real case studies for manufactured chips Presents complementary-metal-oxide-semiconductor (CMOS) transistors in high-performance server microprocessors with static CMOS combinational digital circuit design examples Offers a rich array of student problem sets, mid-term exams, and final exams with a glossary at the end of the book M. Y. Lanzerotti, PhD, has over 15 years of engineering experience in designing integrated circuits for high-performance server chips and aerospace applications. Dr. Lanzerotti is Assistant Professor of Physics at Augsburg College and previously held positions as Associate Professor of Computer Engineering at Air Force Institute of Technology, Instructor at Harvard Summer School, Visiting Faculty Fellow at Pacific Lutheran University, Visiting Faculty Fellow at Sapienza University of Rome, and Research Staff Member at IBM Thomas J. Watson Research Center. This book is inspired from Dr. Lanzerotti's course, "Introductory Semiconductor Device Physics for Chip Design and Manufacturing," at Harvard Summer School. Dr. Lanzerotti holds physics degrees from Harvard College, the University of Cambridge, and Cornell University. Dr. Lanzerotti holds four U.S. patents, was awarded an IEEE Technical Innovation Award in 2007 and an IBM Outstanding Research Contribution Award in 1998, and was Editor-in-Chief of the "IEEE Solid-State Circuits Society Magazine."

Download and Read Free Online Introductory Semiconductor Device Physics for Chip Design and Manufacturing Robert W. Keyes, Mary Y. Lanzerotti

---

From reader reviews:

Alfred Cox:

Here thing why this particular Introductory Semiconductor Device Physics for Chip Design and Manufacturing are different and trustworthy to be yours. First of all studying a book is good nonetheless it depends in the content of the usb ports which is the content is as tasty as food or not. Introductory Semiconductor Device Physics for Chip Design and Manufacturing giving you information deeper and different ways, you can find any guide out there but there is no book that similar with Introductory Semiconductor Device Physics for Chip Design and Manufacturing. It gives you thrill examining journey, its open up your personal eyes about the thing this happened in the world which is maybe can be happened around you. You can easily bring everywhere like in recreation area, café, or even in your means home by train. For anyone who is having difficulties in bringing the published book maybe the form of Introductory Semiconductor Device Physics for Chip Design and Manufacturing in e-book can be your alternative.

Aurelio Ashley:

Your reading 6th sense will not betray a person, why because this Introductory Semiconductor Device Physics for Chip Design and Manufacturing e-book written by well-known writer who really knows well how to make book which can be understand by anyone who also read the book. Written in good manner for you, leaking every ideas and producing skill only for eliminate your hunger then you still hesitation Introductory Semiconductor Device Physics for Chip Design and Manufacturing as good book but not only by the cover but also from the content. This is one reserve that can break don't evaluate book by its protect, so do you still needing an additional sixth sense to pick this kind of!? Oh come on your reading through sixth sense already alerted you so why you have to listening to another sixth sense.

Tina Alley:

Is it you who having spare time after that spend it whole day through watching television programs or just laying on the bed? Do you need something new? This Introductory Semiconductor Device Physics for Chip Design and Manufacturing can be the response, oh how comes? A book you know. You are thus out of date, spending your time by reading in this brand-new era is common not a nerd activity. So what these ebooks have than the others?

Jeff Cunningham:

You can find this Introductory Semiconductor Device Physics for Chip Design and Manufacturing by check out the bookstore or Mall. Simply viewing or reviewing it might to be your solve challenge if you get difficulties for your knowledge. Kinds of this guide are various. Not only by simply written or printed but additionally can you enjoy this book by simply e-book. In the modern era including now, you just looking by your mobile phone and searching what your problem. Right now, choose your ways to get more information about your book. It is most important to arrange yourself to make your knowledge are still up-date. Let's try

to choose appropriate ways for you.

Read Introductory Semiconductor Device Physics for Chip Design and Manufacturing by Robert W. Keyes, Mary Y. Lanzerotti for online ebook

Introductory Semiconductor Device Physics for Chip Design and Manufacturing by Robert W. Keyes, Mary Y. Lanzerotti Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Introductory Semiconductor Device Physics for Chip Design and Manufacturing by Robert W. Keyes, Mary Y. Lanzerotti books to read online.

Online Introductory Semiconductor Device Physics for Chip Design and Manufacturing by Robert W. Keyes, Mary Y. Lanzerotti ebook PDF download

Introductory Semiconductor Device Physics for Chip Design and Manufacturing by Robert W. Keyes, Mary Y. Lanzerotti Doc

Introductory Semiconductor Device Physics for Chip Design and Manufacturing by Robert W. Keyes, Mary Y. Lanzerotti Mobipocket

Introductory Semiconductor Device Physics for Chip Design and Manufacturing by Robert W. Keyes, Mary Y. Lanzerotti EPub