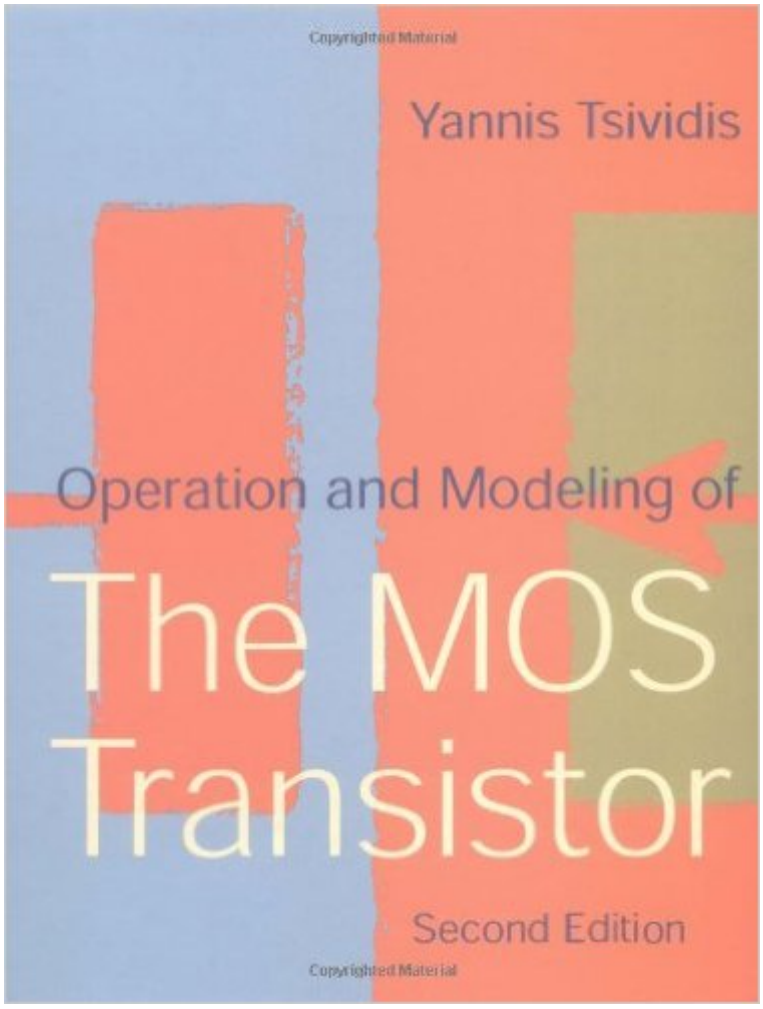
Operation And Modeling Of The MOS Transistor



Synopsis

Extensively revised and updated, this, the second edition of the highly praised text Operation and Modeling of The MOS Transistor, has become a standard in academia and industry. The book provides a thorough treatment of the MOS transistor-the key element of most modern microelectronic chips.KEY FEATURESÂ Unified, careful treatment. The book covers in depth the development of many important models, ranging from the simple to the sophisticated, with the connection between models clearly identified. Many aspects of modeling are covered, including: dc, ac, small-signal, large-signal transient, quasi-static, nonquasi-static, and noise.Â Expanded coverage. New material is included on a number of topics, including charge sheet models, small-dimension effects, noise, and modeling for RF applications.Â New chapter on modeling for CAD. A completely new chapter discusses the context, considerations, and pitfalls associated with the development of models for computer-aided design, and describes ways to evaluate them.Â Extensive Bibliography. A thoroughly updated, greatly expanded bibliography is provided.

Book Information

Hardcover: 640 pages

Publisher: Oxford University Press; 2 edition (June 26, 2003)

Language: English

ISBN-10: 0195170148

ISBN-13: 978-0195170146

Product Dimensions: 9.6 x 1.4 x 7.7 inches

Shipping Weight: 2.6 pounds

Average Customer Review: 4.9 out of 5 starsÂ Â See all reviewsÂ (8 customer reviews)

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Customer Reviews

I don’t usually write reviews unless the book is either very poor or very good. This is one of the best books on my shelf. If you want to know the MOS transistor this is the book. Well researched, excellent explanations, excellent appendices. Other authors of technical books should use this as an example of how to write a good technical book.

I am a graduate student with main area of interest in Mixed mode design,testing and device modelling.This book was suggested to me by my proffessor.It is the book for MOSFET.I have read many books on this topic like Tyagi,Foty,massobrio etc but this books stands apart.It is a very well written book.Its progress is very logical going from two terminal device to four terminal device with very good explanation of the physics.More importantly the emphasis on the approximations made makes things clearer.....For a person working with Mosfets it is a must.....

Just reading the Preface to this book, I fell in love with the author. I completely agree that sometimes the most rigorous and careful treatment of a subject actually makes it possible to study the material faster!! What always frustrated me and slowed me down in reading other books was the sloppiness and hand waving. It’s amazing that many Ph.Ds and even authors of famous books like Uyemura’s "Fundamentals of MOS ICs" don’t understand the simple body effect, and talk about complete nonsense showing a 2 terminal capacitor with Vb applied to the bulk, and saying that the Vt will now change by the sqrt(Vb) body effect. They don’t understand that the body effect is a 3 terminal effect and in 2 terminals if you apply Vb to bulk then your Vt will have to increase by Vb--NOT sqrt(Vb)!!! This book is a delight. Just the material on contact potentials was worth the money.If you are serious about really understanding MOSFETs, if you hate non-sense and hand waving, then this book is for you.

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