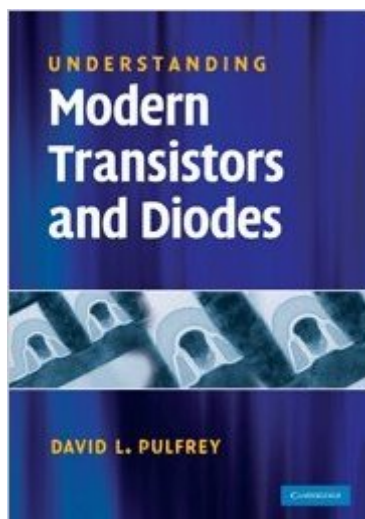


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# Understanding Modern Transistors And Diodes



## Synopsis

Written in a concise, easy-to-read style, this text for senior undergraduate and graduate courses covers all key topics thoroughly. It is also a useful self-study guide for practising engineers who need a complete, up-to-date review of the subject. Key features:

- Rigorous theoretical treatment combined with practical detail
- A theoretical framework built up systematically from the Schrödinger Wave Equation and the Boltzmann Transport Equation
- Covers MOSFETS, HBTs and HJFETS
- Uses the PSP model for MOSFETS
- Rigorous treatment of device capacitance
- Describes the operation of modern, high-performance transistors and diodes
- Evaluates the suitability of various transistor types and diodes for specific modern applications
- Covers solar cells and LEDs and their potential impact on energy generation and reduction
- Includes a chapter on nanotransistors to prepare students and professionals for the future
- Provides results of detailed numerical simulations to compare with analytical solutions
- End-of-chapter exercises
- Online lecture slides for undergraduate and graduate courses

2009 IEEE Electron Devices Society Education Award "For contributions to the teaching of semiconductor devices at both the undergraduate and graduate levels"

2009 Teaching Award for Excellence in Engineering and Geoscience Education "From the Association of Professional Engineers and Geoscientists of British Columbia."

## Book Information

Hardcover: 354 pages

Publisher: Cambridge University Press; 1 edition (March 31, 2010)

Language: English

ISBN-10: 0521514606

ISBN-13: 978-0521514606

Product Dimensions: 6.8 x 0.8 x 9.7 inches

Shipping Weight: 2 pounds (View shipping rates and policies)

Average Customer Review: 1.0 out of 5 stars [See all reviews](#) (2 customer reviews)

Best Sellers Rank: #3,329,462 in Books (See Top 100 in Books) #95 in [Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Transistors](#) #240 in [Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Optoelectronics](#) #634 in [Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Semiconductors](#)

## Customer Reviews

Hard to believe anyone sober could make a serious effort and produce such a mess of garbage. The author never explains anything, just pontificates and throws in graphs and equations. The graphs are either unrelated to the concepts being discussed, or lack labeled axis, or an axis is labeled with an obscure, not explained formula. Endless equations are present but the variables are never defined. If we understood all the variables, we would not read the book. And don't waste time with the problems because they are so filled with errors and typos that solving is not possible. In sad need of a proof reader, editor or an author who can communicate. The author does not really understand the material and is trying to just get by. Any book on this subject is better than this garbage. Anyone stuck using this vanity press crap for a class has my sympathy. Buy the Schumans guides and tough it out.

I fully agree with e.shaffer, do not buy this book! I know three books now in this field and this book is far from being helpful. You start reading and after several lines you realize that you did not follow. It's written in a weird way and it is difficult for the reader to follow and get the important points. It starts with a whole bunch of complex quantum mechanics which might be important for depth but surely not to get started (as it is proven by Hu or Pierret). I talked with many colleagues and all of them agreed: Put this book to trash and get the Pierret. He writes much clearer it is easier to follow and understand and capture the essential elements. Also the book from Hu is better and easier to follow.

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