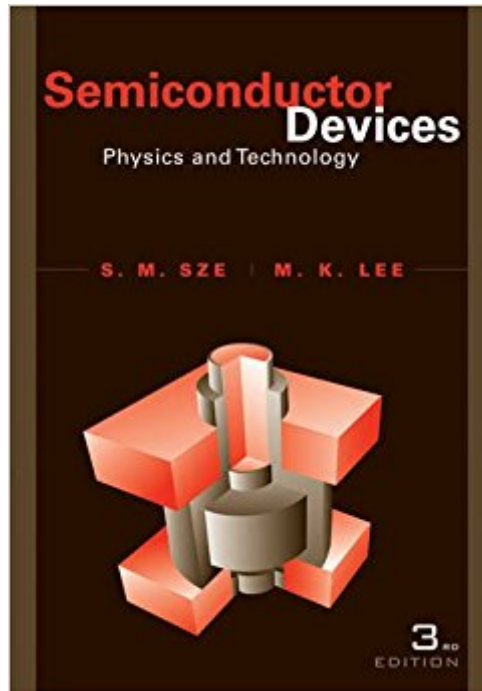




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Semiconductor Devices: Physics And Technology



Synopsis

Semiconductor Devices: Physics and Technology, Third Edition is an introduction to the physical principles of modern semiconductor devices and their advanced fabrication technology. It begins with a brief historical review of major devices and key technologies and is then divided into three sections: semiconductor material properties, physics of semiconductor devices and processing technology to fabricate these semiconductor devices.

Book Information

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Customer Reviews

Solutions Manual and Student's Solutions Manual available. -- The publisher, John Wiley & Sons
--This text refers to an out of print or unavailable edition of this title.

A basic introduction to the physical properties of semiconductor devices and fabrication technology, this work presents the theoretical and practical aspects of every step in device fabrication, with an emphasis on integrated circuits. Divided into three parts, it covers the basic properties of semiconductors and processes, emphasizing silicon and gallium arsenide; the physics and characteristics of semiconductor devices, bipolar and unipolar devices, and special microwave and photonic devices; and the latest processing technologies, from crystal growth to lithographic pattern transfer. --This text refers to an out of print or unavailable edition of this title.

This text book is not readable. It just doesn't have a good layout to it. For instance, the pages don't

contain the chapter number you are in. You have to figure it out based on examples. One of the chapters(I think chapter 12) was labeled as chapter 11 in the problems, which led to massive amounts of confusion when we did that HW.All of the constants that the book expects you to use are buried insides large paragraphs, therefore it usually wasn't easy to scan a section to find what you were looking for.In addition, several constants, despite being crucial components of the concepts about the atomic level operation of semiconductors, were mentioned nonchalantly and rarely had any explanation as to their importance. It usually meant spending half an hour on the internet seeking understanding where this book should have provided.It contains some errors as well. The only reason we know that is because some of the equations were incorrect compared with internet resources and the professor's knowledge himself.All in all this is a terrible book that was written by professors, for professors. It isn't good for students because it is so disorganized and does not do a good job of introducing difficult concepts of semiconductor physics.

I'm currently studying electrical engineering, and was interested in learning about semiconductors, so I signed up for a class. This was the book my professor selected, and so far this experience has been a nightmare. The book only has one or two examples per section, and many of them just skip important details in the derivations. Repeatedly terms are used before they are defined pages later, and the graphs often referenced when solving problems make it almost impossible to get an accurate reading. This book is a giant headache - I'm having to look at renting another textbook to reference to get through this class, which as you know, isn't cheap. I would never recommend this book to anyone.

I bought this book to prepare for my graduate school quals - we're supposed to know something about semiconductor technology. This book is not great - the author doesn't always derive even basic formulas, and the organization leaves something to be desired. If you are looking for an intro to semiconductors, I'd recommend Robert Pierret's book - it's much better.

The answers in the back of the book do not match up with the questions. (the answers match up with the US edition questions, but the international edition has different questions).Overall I felt like the text was hard to follow. Too many equations with too little explanation/theory in between.

This class at least in my opinion is one of the more difficult classes and the book goes into more than enough explanation and detail for my class that I felt I understood the subject and it showed

because I got an A in the class.

As a reference text, this is often a useful book. However, it seems as if a lot of information is left out for many of the problems at the end of chapters.

I feel like this book leaves out necessary explanations on solid state physics to appreciate or fully understand semiconductor devices. Knowing that S.M. Sze's other book "Physics of Semiconductor Devices" is used as the "bible" of semiconductors, I would have preferred that our teacher had used that book instead.

Great Book!!!

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