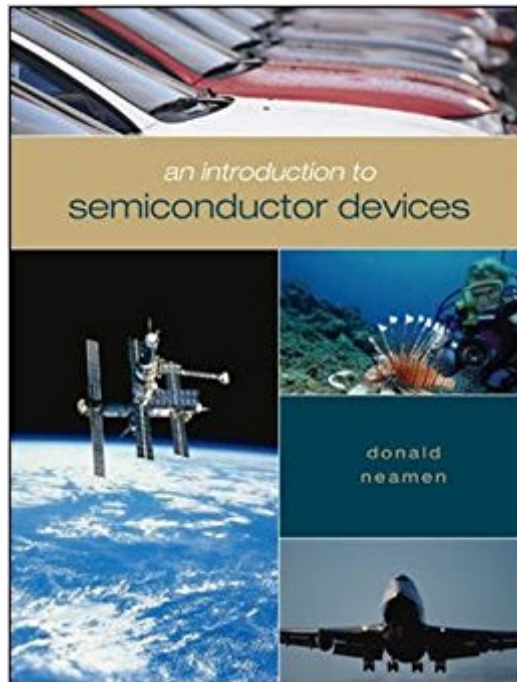


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# An Introduction To Semiconductor Devices



## Synopsis

An Introduction to Semiconductor Devices by Donald Neamen provides an understanding of the characteristics, operations and limitations of semiconductor devices. In order to provide this understanding, the book brings together the fundamental physics of the semiconductor material and the semiconductor device physics. This new text provides an accessible and modern presentation of material. Quantum mechanic material is minimal, and the most advanced material is designated with an icon. This modern approach means that coverage of the MOS transistor precedes the material on the bipolar transistor, which reflects the dominance of MOS technology in today's world. Excellent pedagogy is present throughout the book in the form of interesting chapter openers, worked examples, a variety of exercises, key terms, and end of chapter problems.

## Book Information

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## Customer Reviews

Pretty good book, but it seemed to lack some detail/understanding that I really wanted as a senior/1st year graduate class in electrical engineering. I felt like I would search for answers to specific questions, just to have to go elsewhere to find it. However, I have been told, multiple times, that it is one of the best out there, so keep that in mind.

Great book for my course on semiconductors.

The book is very helpful for any material related to Electron devices or semiconductor devices

One of the best books on the elementary knowledge on semiconductor physics. Every basic thing is covered. Worth paying for it. Everything is awesome!

Some parts of the book were easy to understand but some where sloppy. I found myself using Google to help with homework

This book is as droll as they come. Not a good read and apparently useless for Sandip Das' Semiconductor Devices class at SPSU.

I purposely spent more money to have a new book and this book is not new at all. Corners are worn, pages are folded, and the covers are faded and scratched. The only reason im being anal about this is because I spent the extra to have it new. Do not trust this seller's claimed conditions.

I saw the terrible reviews but bought the book regardless. I should've taken heed of the warnings. The very first homework assignment sheds light on the issues. Specifically, problem 2.3 at the end of chapter 2. They give you an equation, the average energy of an electron in an electron gas =  $3kT/2$ . Then they give you  $T = 300\text{ K}$ . And then they ask what the average energy is. Easy right? You have  $3k(300)/2$ , but what is  $k$  you ask?"A constant, surely!" So you flip back through chapter two to find any constants  $k$ . Nothing. No where. No tables or any information. Logically, I hop on the Google and search "physics constant  $k$ " and it returns Coulomb's constant  $k$ . "Awesome! I remembered that from the previous two physics courses and a circuits analysis course!" Turns out, that didn't return the right answer. Further searching, I discovered it something more obscure, Boltzmann constant  $k$  (Yeah! They share the same  $k$ !!!!) Which is the difference between two other CONSTANTS. In the books defense, perhaps you were supposed to be taught Boltzmann's constant in place of Coulomb's constant. A wikipedia page on the Boltzmann constant saved me. Final Word: BEWARE!!! This book may assume you have previous knowledge of various constants taught in previous courses, which may not be true for you. Otherwise, the book doesn't mention any tables of various possible constants.

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