
Solid State Electronic Devices Streetman 4th Edition

Fundamentals of Solid-State Electronics
Control Systems Engineering
INTRODUCTION TO SEMICONDUCTOR MATERIALS
AND DEVICES
Solid State Electronic Devices
The Semiconductor Business
A Quantum Physics Approach
Solid State Electronic Devices: Global Edition
Modern Semiconductor Devices for Integrated
Circuits
Theory and Practice
Physics and Technology
Semiconductor Materials
Solid State Devices
Semiconductor Physical Electronics
Solid State Electronic Devices; 2nd Ed
Microelectronic Circuits
For Solid State Electronics and Optics
Devices for Integrated Circuits
Solid State Electronic Devices
Semiconductor Devices & Circuits
Solid State Electronic Devices, Anniversary

Edition
Solid state electronic devices
Avalanche Transit-time Devices
Solid State and Semiconductor Physics
Solid State Electronic Devices
Solutions Manual
Semiconductor Physics And Devices
Semiconductor Device Fundamentals
RF Power Amplifiers
For Computing and Telecommunications
Applications
Solid-State Physics for Electronics
Mosfet Modeling for VLSI Simulation
SEMICONDUCTOR DEVICES: PHYSICS AND
TECHNOLOGY, 2ND ED
Semiconductor Devices: Physics and Technology,
3rd Edition
High-Speed Semiconductor Devices
Pearson New International Edition
The Economics of Rapid Growth and Decline
Introduction to Semiconductor Devices
Fundamentals of Quantum Mechanics
Instructor's Manual, Solid State Electronic
Devices, Fifth Edition
Solid State Electronic Devices

SANTOS ALIJAH

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Fundamentals of Solid-
State Electronics OUP

India

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devicesSolid State
Electronic Devices
**Control Systems
Engineering** Springer
Science & Business
Media

The second edition of
Solid State Electronic
Devices serves as a
textbook for an
introductory course on
solid state electronic
devices.

*INTRODUCTION TO
SEMICONDUCTOR
MATERIALS AND
DEVICES* CRC Press

The awaited revision of
Semiconductor
Devices: Physics and
Technology offers more
than 50% new or
revised material that
reflects a multitude of
important discoveries
and advances in device
physics and integrated
circuit processing.

Offering a basic
introduction to physical
principles of modern
semiconductor devices

and their advanced
fabrication technology,
the third edition
presents students with
theoretical and
practical aspects of
every step in device
characterizations and
fabrication, with an
emphasis on
integrated circuits.

Divided into three
parts, this text covers
the basic properties of
semiconductor
materials, emphasizing
silicon and gallium
arsenide; the physics
and characteristics of
semiconductor devices
bipolar, unipolar
special microwave and
photonic devices; and
the latest processing
technologies, from
crystal growth to
lithographic pattern
transfer.

Solid State Electronic
Devices Pearson
Higher Ed
Semiconductor

Materials presents physico-chemical, electronic, electrical, elastic, mechanical, magnetic, optical, and other properties of a vast group of elemental, binary, and ternary inorganic semiconductors and their solid solutions. It also discusses the properties of organic semiconductors. Descriptions are given of the most commonly used semiconductor devices-charge-coupled devices, field-effect transistors, unijunction transistors, thyristors, Zener and avalanche diodes, and photodiodes and lasers. The current trend of transitioning from silicon technology to gallium arsenide technology in field-effect-based electronic devices is a special feature that is also

covered. More than 300 figures and 100 tables highlight discussions in the text, and more than 2,000 references guide you to further sources on specific topics.

Semiconductor Materials is a relatively compact book containing vast information on semiconductor material properties. Readers can compare results of the property measurements that have been reported by different authors and critically compare the data using the reference information contained in the book. Engineers who design and improve semiconductor devices, researchers in physics and chemistry, and students of materials science and electronics will find this a valuable

guide.

The Semiconductor Business Prentice Hall
From semiconductor fundamentals to semiconductor devices used in the telecommunications and computing industries, this 2005 book provides a solid grounding in the most important devices used in the hottest areas of electronic engineering. The book includes coverage of future approaches to computing hardware and RF power amplifiers, and explains how emerging trends and system demands of computing and telecommunications systems influence the choice, design and operation of semiconductors. Next, the field effect devices are described,

including MODFETs and MOSFETs. Short channel effects and the challenges faced by continuing miniaturisation are then addressed. The rest of the book discusses the structure, behaviour, and operating requirements of semiconductor devices used in lightwave and wireless telecommunications systems. This is both an excellent senior/graduate text, and a valuable reference for engineers and researchers in the field.

A Quantum Physics Approach Cambridge University Press
Introduces the physical principles and operational characteristics of high speed semiconductor devices. Intended for

use by advanced students as well as professional engineers and scientists involved in semiconductor device research, it includes the most advanced and important topics in high speed semiconductor devices. Initial chapters cover material properties, advanced technologies and novel device building blocks, and serve as the basis for understanding and analyzing devices in subsequent chapters. The following chapters cover a group of closely related devices that includes MOSFETs, MESFETs, heterojunction FETs and permeable-base transistors, hot electron transistors, microwave diodes and photonic devices, among others. Each

chapter is self-contained and features a summary section, a discussion of future device trend, and an instructional problem set.

Solid State Electronic Devices: Global Edition
Univ of Wisconsin Press

Describing the fundamental physical properties of materials used in electronics, the thorough coverage of this book will facilitate an understanding of the technological processes used in the fabrication of electronic and photonic devices. The book opens with an introduction to the basic applied physics of simple electronic states and energy levels. Silicon and copper, the building blocks for many electronic devices, are used as examples.

Next, more advanced theories are developed to better account for the electronic and optical behavior of ordered materials, such as diamond, and disordered materials, such as amorphous silicon. Finally, the principal quasi-particles (phonons, polarons, excitons, plasmons, and polaritons) that are fundamental to explaining phenomena such as component aging (phonons) and optical performance in terms of yield (excitons) or communication speed (polarons) are discussed.

Modern Semiconductor Devices for Integrated Circuits Oxford University Press, USA
Control Systems Engineering, 7th Edition has become the

top selling text for this course. It takes a practical approach, presenting clear and complete explanations. Real world examples demonstrate the analysis and design process, while helpful skill assessment exercises, numerous in-chapter examples, review questions and problems reinforce key concepts. A new progressive problem, a solar energy parabolic trough collector, is featured at the end of each chapter. This edition also includes Hardware Interface Laboratory experiments for use on the MyDAQ platform from National Instruments. A tutorial for MyDAQ is included as Appendix D.

Theory and Practice
John Wiley & Sons
This Solution Manual, a

companion volume of the book, *Fundamentals of Solid-State Electronics*, provides the solutions to selected problems listed in the book. Most of the solutions are for the selected problems that had been assigned to the engineering undergraduate students who were taking an introductory device core course using this book. This Solution Manual also contains an extensive appendix which illustrates the application of the fundamentals to solutions of state-of-the-art transistor reliability problems which have been taught to advanced undergraduate and graduate students. This book is also available as a set with *Fundamentals of Solid-*

State Electronics and Fundamentals of Solid-State Electronics — Study Guide.

Physics and

Technology Wiley

Global Education

Modern Semiconductor Devices for Integrated Circuits, First Edition

introduces readers to the world of modern semiconductor devices with an emphasis on integrated circuit applications. KEY

TOPICS: Electrons and Holes in

Semiconductors;

Motion and

Recombination of Electrons and Holes;

Device Fabrication

Technology; PN and

Metal-Semiconductor Junctions; MOS

Capacitor; MOS

Transistor; MOSFETs in ICs—Scaling, Leakage, and Other Topics;

Bipolar Transistor.

MARKET: Written by an

experienced teacher, researcher, and expert in industry practices, this succinct and forward-looking text is appropriate for anyone interested in semiconductor devices for integrated circuits, and serves as a suitable reference text for practicing engineers.

Semiconductor

Materials Tata McGraw-Hill Education

A reprint of the classic text, this book popularized compact modeling of electronic and semiconductor devices and components for college and graduate-school classrooms, and manufacturing engineering, over a decade ago. The first comprehensive book on MOS transistor compact modeling, it was the most cited

among similar books in the area and remains the most frequently cited today. The coverage is device-physics based and continues to be relevant to the latest advances in MOS transistor modeling. This is also the only book that discusses in detail how to measure device model parameters required for circuit simulations. The book deals with the MOS Field Effect Transistor (MOSFET) models that are derived from basic semiconductor theory. Various models are developed, ranging from simple to more sophisticated models that take into account new physical effects observed in submicron transistors used in today's (1993) MOS VLSI technology. The

assumptions used to arrive at the models are emphasized so that the accuracy of the models in describing the device characteristics are clearly understood. Due to the importance of designing reliable circuits, device reliability models are also covered. Understanding these models is essential when designing circuits for state-of-the-art MOS ICs.

Solid State Devices

Pearson Education
India

A detailed, modern introduction to semiconductors made in silicon and III-V compounds. This book develops the device physics of pn junctions, bipolar transistors, Schottky barriers, MOS capacitors, and MOS field-effect transistors

(MOSFETs). Basic concepts from quantum and statistical mechanics are used to describe electrons and holes in semiconductors. Figures and examples based on realistic device parameters are used to illustrate important concepts. The book uses spice tools to analyze complex devices. Design specifications are stressed in building or modeling complicated semiconductor devices.

Semiconductor

Physical Electronics

Cambridge University
Press

This book presents the latest developments in semiconducting materials and devices, providing up-to-date information on the science, processes, and applications in the

field. A wide range of topics are covered, including optoelectronic devices, metal–semiconductor junctions, heterojunctions, MISFETs, LEDs, semiconductor lasers, photodiodes, switching diodes, tunnel diodes, Gunn diodes, solar cells, varactor diodes, IMPATT diodes, and advanced semiconductors. Detailed attention is paid to advanced and futuristic materials. In addition, clear explanations are provided of, for example, electron theories, high-field effects, the Hall effect, transit-time effects, drift and diffusion, breakdown mechanisms, equilibrium and transient conditions, switching, and biasing.

The book is designed to meet the needs of undergraduate engineering students and will also be very useful for postgraduate students; it will assist in preparation for examinations at colleges and universities and for other examinations in engineering. Practice questions are therefore presented in both essay and multiple choice format, and many solved examples and unsolved problems are included.

Solid State Electronic Devices; 2nd Ed

Prentice Hall

This junior level electronics text provides a foundation for analyzing and designing analog and digital electronics throughout the book. Extensive pedagogical features including

numerous design examples, problem solving technique sections, Test Your Understanding questions, and chapter checkpoints lend to this classic text. The author, Don Neamen, has many years experience as an Engineering Educator. His experience shines through each chapter of the book, rich with realistic examples and practical rules of thumb. The Third Edition continues to offer the same hallmark features that made the previous editions such a success. Extensive Pedagogy: A short introduction at the beginning of each chapter links the new chapter to the material presented in previous chapters. The objectives of the

chapter are then presented in the Preview section and then are listed in bullet form for easy reference. Test Your Understanding Exercise Problems with provided answers have all been updated. Design Applications are included at the end of chapters. A specific electronic design related to that chapter is presented. The various stages in the design of an electronic thermometer are explained throughout the text. Specific Design Problems and Examples are highlighted throughout as well. Microelectronic Circuits
John Wiley & Sons
For undergraduate electrical engineering students or for practicing engineers and scientists,

interested in updating their understanding of modern electronics. One of the most widely used introductory books on semiconductor materials, physics, devices and technology, this text aims to: 1) develop basic semiconductor physics concepts, so students can better understand current and future devices; and 2) provide a sound understanding of current semiconductor devices and technology, so that their applications to electronic and optoelectronic circuits and systems can be appreciated. Students are brought to a level of understanding that will enable them to read much of the current literature on new devices and

applications.

For Solid State Electronics and Optics

Solid state electronic devices
Solid State Electronic Devices
This is the fifth edition of the most widely used introductory book on semiconductor materials, physics, devices and technology. The book was written with two basic goals in mind: 1) develop the basic semiconductor physics concepts to understand current and future devices; 2) provide a sound understanding of current semiconductor devices and technology so that their applications to electronic and optoelectronic circuits and systems can be appreciated."--BOOK JACKET.
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 Solid State Electronic Devices: Global Edition
 Market_Desc: Graduate and Advanced Undergraduate Students of Electrical Engineering
 About The Book: This comprehensive introduction to the elementary theory and properties of semiconductors describes the basic physics of semiconductor materials and technologies for fabrication of semiconductor devices. Addresses approaches to modeling and provides details of measurement techniques. It also includes numerous illustrative examples and graded problems.

Devices for Integrated Circuits Vikas Publishing House
 This book provides a complete overview of the field of carbon nanotube electronics. It covers materials and physical properties, synthesis and fabrication processes, devices and circuits, modeling, and finally novel applications of nanotube-based electronics. The book introduces fundamental device physics and circuit concepts of 1-D electronics. At the same time it provides specific examples of the state-of-the-art nanotube devices.
Solid State Electronic Devices John Wiley & Sons Incorporated
 Introduction to Semiconductor Device Physics is a popular and established text

that offers a thorough introduction to the underlying physics of semiconductor devices. It begins with a review of basic solid state physics, then goes on to describe the properties of semiconductors including energy bands, the concept of effective mass, carrier concentration, and conduction in more detail. Thereafter the book is concerned with the principles of operation of specific devices, beginning with the Gunn Diode and the p-n junction. The remaining chapters cover the on specific devices, including the LED, the bipolar transistor, the field-effect transistor, and the semiconductor laser. The book concludes with a chapter providing a

brief introduction to quantum theory. Not overly mathematical, Introduction to Semiconductor Device Physics introduces only those physical concepts required for an understanding of the semiconductor devices being considered. The author's intuitive style, coupled with an extensive set of worked problems, make this the ideal introductory text for those concerned with understanding electrical and electronic engineering, applied physics, and related subjects.

Semiconductor Devices & Circuits John Wiley & Sons

For undergraduate electrical engineering students or for practicing engineers and scientists

interested in updating their understanding of modern electronics. One of the most widely used introductory books on semiconductor materials, physics, devices and technology, *Solid State Electronic Devices* aims to: 1) develop basic semiconductor physics concepts, so students can better understand current and future devices; and 2) provide a sound understanding of current semiconductor devices and technology, so that their applications to electronic and optoelectronic circuits and systems can be appreciated. Students are brought to a level of understanding that will enable them to read much of the current literature on

new devices and applications. Teaching and Learning Experience This program will provide a better teaching and learning experience—for you and your students. It will help: Provide a Sound Understanding of Current Semiconductor Devices: With this background, students will be able to see how their applications to electronic and optoelectronic circuits and systems are meaningful. Incorporate the Basics of Semiconductor Materials and Conduction Processes in Solids: Most of the commonly used semiconductor terms and concepts are introduced and related to a broad range of devices. Develop Basic Semiconductor Physics

Concepts: With this background, students will be better able to understand current and future devices. Solid State Electronic Devices, Anniversary Edition Wiley-Interscience
"This is the fifth edition of the most widely used introductory book on semiconductor materials, physics, devices and technology. The book was written with two basic goals in mind: 1)

develop the basic semiconductor physics concepts to understand current and future devices; 2) provide a sound understanding of current semiconductor devices and technology so that their applications to electronic and optoelectronic circuits and systems can be appreciated."--BOOK JACKET.Title Summary field provided by Blackwell North America, Inc. All Rights Reserved

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