



Microelectronic Circuits

Fifth Edition

ADEL S. SEDRA, *University of Waterloo, Canada* and K. C. SMITH, *University of Toronto, Canada*

Microelectronic Circuits provides a framework to develop the student's ability to analyze and design all kinds of electronic circuits. Each chapter begins with the essential concepts, before moving on to more specialized material.

A range of pedagogical features including summary sections, review exercises and end-of-chapter questions help to ensure that students develop a genuine understanding of the material covered. The book is also accompanied by a CD including a free student version of PSpice® and the files for all SPICE analysis and design examples featured in the text.

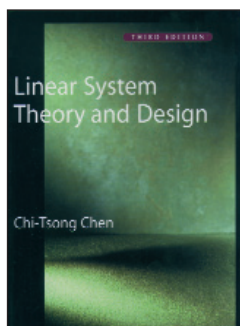
This book is accompanied by a website at: www.sedrasmith.org

Contents:

Preface; PART I: DEVICES AND BASIC CIRCUITS: Introduction to Electronics; Operational Amplifiers; Diodes; The MOS Field-Effect Transistor (MOSFET); The Bipolar Junction Transistor (BJT); PART II: ANALOG AND DIGITAL INTEGRATED CIRCUITS: Single-Stage Integrated-Circuit Amplifiers; Differential and Multistage Amplifiers; Feedback; Op-Amp and Data-Converter Circuits; CMOS Logic Circuits; PART III: SELECTED TOPICS: Memory and Advanced Digital Circuits; Signal Generators and Waveform Shaping Circuits; Filters and Tuned Amplifiers; Power Amplifiers and Voltage Regulators; Appendices

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Linear System Theory and Design

Third Edition

CHI-TSONG CHEN, *Department of Electrical Engineering, State University of New York, Stony Brook, USA*

Linear System Theory and Design adopts a user-friendly approach to linear systems, striking a balance between theory and applications. All examples are developed for numerical computation and are illustrated using MATLAB, and all design procedures in the text can be carried out using any software package that includes singular-value decomposition and the solution of linear algebraic equations and the Lyapunov equation.

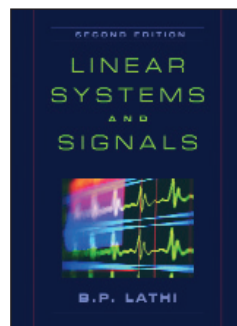
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Introduction; Mathematical Descriptions of Systems; Linear Algebra; State-Space Solutions And Realizations; Stability; Controllability And Observability; Minimal Realizations And Coprime Fractions; State Feedback And State Estimators; Pole Placement And Model Matching; References

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Linear Systems and Signals

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Linear Systems and Signals presents a clear, comprehensive introduction to the subject. The book emphasizes physical appreciation of concepts through heuristic reasoning, metaphors, analogies, and creative explanations. The author uses mathematics not so much to prove axiomatic theory as to support and enhance physical and intuitive understanding and, wherever possible, theoretical results enhanced by carefully chosen examples and analogies.

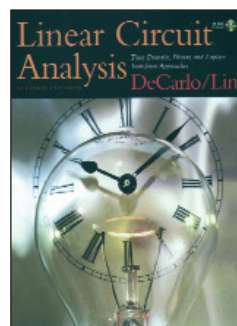
Contents:

Preface; Background; MATLAB Session B; Signals and Systems; MATLAB Session 1; Time-Domain Analysis of Continuous-Time Systems; MATLAB Session 2; Time-Domain Analysis of Discrete-Time Systems; MATLAB Session 3; Continuous-Time System Analysis Using the Laplace Transform; MATLAB Session 4; Discrete-Time System Analysis Using the z-Transform; MATLAB Session 5; Continuous-Time Signal Analysis: The Fourier Series; MATLAB Session 6; Continuous-Time Signal Analysis: The Fourier Transform; MATLAB Session 7; Sampling: The Bridge from Continuous to Discrete; MATLAB Session 8; Fourier Analysis of Discrete-Time Signals; MATLAB Session 9; State-Space Analysis; MATLAB Session 10; Index

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Linear Circuit Analysis

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RAYMOND A. DECARLO and PEN-MIN LIN, *both at Purdue University*

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Signal Processing and Linear Systems

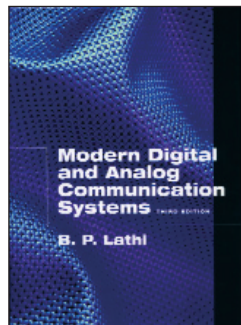
B. P. LATHI, *California State University at Sacramento, USA*

Signal Processing and Linear Systems presents a comprehensive treatment of the subject, suitable both for an introductory course in electrical engineering and for advanced undergraduate study. Based on B. P. Lathi's widely used book, *Linear Systems and Signals*, it features additional applications to communications, controls, and filtering as well as new chapters on analog and digital filters and digital signal processing.

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Modern Digital and Analog Communication Systems

Third Edition

B. P. LATHI, *California State University at Sacramento, USA*

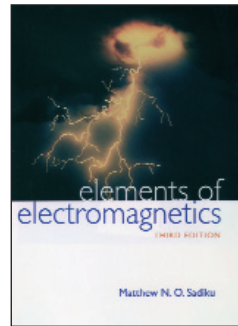
This user-friendly and highly readable book presents the basic and intermediate level treatment of modern digital and analog communication systems. *Modern Digital and Analog Communication Systems* explains difficult concepts clearly, using prose as well as mathematics. The clear explanations, the well-chosen examples and excellent illustrations all help to clarify the abstract mathematical results, making this text highly informative and easily accessible to students.

Contents:

Introduction; Introduction to Signals; Analysis and Transmission of Signals; Amplitude (Linear) Modulation; Angle (Exponential) Modulation; Sampling and the Pulse Code Modulation; Principles of Digital Data Transmission; Emerging Digital Communication Technologies; Some Recent Developments and Miscellaneous Topics; Introduction to Theory of Probability; Random Processes; Behavior of Analog Systems in the Presence of Noise; Behavior of Digital Communication Systems in the Presence of Noise; Optimum Signal Detection; An Introduction to Information Theory; Error Correcting Codes; Appendices; Index

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Elements of Electromagnetics

Third Edition

MATTHEW N. O. SADIKU, *Temple University, Philadelphia, USA*

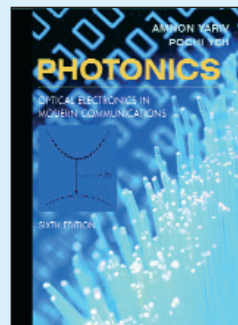
Elements of Electromagnetics covers the fundamental concepts and applications in electromagnetics beginning with vector analysis - which is then applied throughout the text. Mathematical theorems are treated separately from physical concepts. Students, therefore, do not need to review any more mathematics than their level of proficiency requires. Sadiku is well-known for his excellent pedagogy, and many problems are included throughout the text.

Contents:

Preface; A Note to the Student; PART I: VECTOR ANALYSIS: Vector Algebra; Coordinate Systems and Transformations; Vector Calculus; PART II: ELECTROSTATICS: Electrostatic Fields; Electric Fields in Material Space; Electrostatic Boundary-Value Problems; PART III: MAGNETOSTATICS: Magnetostatic Fields; Magnetic Forces, Materials, and Devices; PART IV: WAVES AND APPLICATIONS: Maxwell's Equations; Electromagnetic Wave Propagation; Transmission Lines; Waveguides; Antennas; Modern Topics; Numerical Methods; Appendix; Mathematical Formulas; Material Constants; Answers to Odd-Numbered Problems

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Photonics

Optical Electronics in Modern Communication

Sixth Edition

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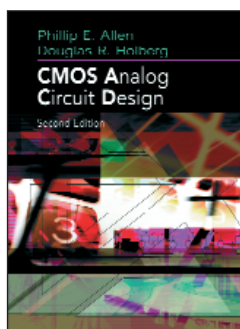
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CMOS Analog Circuit Design

Second Edition

PHILLIP E. ALLEN, *Georgia Institute of Technology*, and DOUGLAS R. HOLBERG, *Crystal Semiconductor, Inc.*

CMOS Analog Circuit Design provides beginning engineers with an overview of the principles and techniques for designing analog circuits to be implemented in CMOS technology. It combines the academic and practical viewpoints in an accessible and comprehensive text, suitable for upper level undergraduates and graduate students taking courses in analog electronics and analog design.

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(Instructor's solutions CD and PowerPoint overheads available)

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Electric Machinery and Transformers

Third Edition

BHAG S. GURU and HUSEYIN R. HIZIROGLU, *both in the Department of Electrical and Computer Engineering, Kettering University, Michigan, USA*

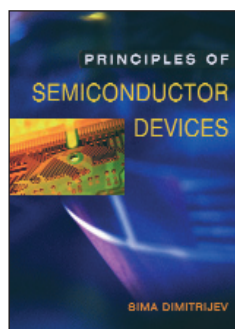
Electric Machinery and Transformers discusses the principles behind building the primary infrastructure for the generation of electricity that supplies the energy needs of people throughout the world. The book also covers the basics of various types of electric motors, from large electric train motors, to those in hair dryers and smaller devices. The text features numerous examples, exercises, review questions and chapter summaries to aid students' understanding.

Contents:

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Principles of Semiconductor Devices

SIMA DIMITRIJEVIC, *Griffith University, Australia*

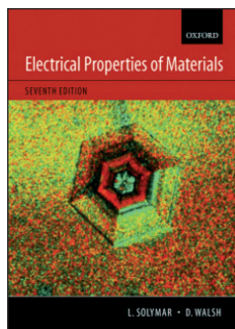
Designed for upper-level undergraduate and graduate courses, *Principles of Semiconductor Devices* covers the dominant practical applications of semiconductor device theory. The text presents quantum mechanics through examples related to the energy-band model, providing students with a deeper understanding of the energy-band diagrams used to explain semiconductor device operation. The semiconductor theory is directly linked to the electronic layout and design of integrated circuits.

Contents:

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Seventh Edition

LASZLO SOLYMAR and DONALD WALSH, *both at the University of Oxford*

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