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Understanding Solid-State Electronics

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3rd Edition

Understanding Solid State Electronics

Roman Wölfel



Understanding Solid State Electronics:

Understanding solid-state electronics Texas Instruments Learning Center,1978 *Understanding Solid State Electronics* Don L. Cannon,1997-05 For devices courses found in electronics technology and electronics engineering technology departments Written in an engaging personable style this guide to solid state electronic devices explores the latest in semiconductor theory and applications showing how semiconductors fit within circuits how circuits and logic gates make decisions and how to properly adapt solid state devices into a circuit design Designed with the non technical student in mind it requires minimal mathematical knowledge and goes out of its way to explain new ideas and concepts step by step in a clear succinct and easily understandable manner **Understanding Solid-state Electronics** ,1972 *Understanding Solid State Electronics* William E. Hafford,Eugene W. McWhorter,Gene McWhorter,1984 *Understanding Solid-state Electronics* Texas Instruments Learning Center,1972 Understanding Solid-state Electronics Glenn A. Wonderly,1971 *Understanding Solid-state Electronics, Vol. II* Don L. Cannon,Gerald Luecke,1985 Fundamentals of Solid-state Electronics Chih-Tang Sah,1996 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 Understanding Solid-state Electronics Texas Instruments Incorporated. Learning Center,1978 **Solid State Electronic Devices** Ben G. Streetman,1980 **Understanding advanced solid state electronics** Don L. Cannon,1986 *Understanding Solid* , **Essentials of Solid State Electronics** Rodney B. Faber,1985 This up to date text in solid state electronic devices and circuits features concise treatment of discrete components and more detailed coverage of integrated circuits with emphasis on current linear ICs and real applications It concludes with a brief introduction to communications electronics The pedagogy includes chapter previews summaries numerous problems and examples and functional second colour **Introduction to Solid State Electronics** F.F.Y. Wang,2012-12-02 This textbook is specifically tailored for undergraduate engineering courses offered in the junior year providing a thorough understanding of solid state electronics without relying on the prerequisites of quantum mechanics In contrast to most solid state electronics texts currently available with their generalized treatments of the same topics this is the first text to focus exclusively and in meaningful detail on introductory material The original text has already been in use for 10 years In this new edition additional problems have been added at the end of most chapters These problems are meant not only to review the material covered in the chapter but also to introduce some aspects not covered in the text An amended Solutions Manual is in preparation Solid-State Electronic Devices Christo Papadopoulos,2013-11-19 A modern and concise treatment of the solid

state electronic devices that are fundamental to electronic systems and information technology is provided in this book. The main devices that comprise semiconductor integrated circuits are covered in a clear manner accessible to the wide range of scientific and engineering disciplines that are impacted by this technology. Catering to a wider audience is becoming increasingly important as the field of electronic materials and devices becomes more interdisciplinary with applications in biology, chemistry, and electro-mechanical devices to name a few becoming more prevalent. Updated and state-of-the-art advancements are included along with emerging trends in electronic devices and their applications. In addition, an appendix containing the relevant physical background will be included to assist readers from different disciplines and provide a review for those more familiar with the area. Readers of this book can expect to derive a solid foundation for understanding modern electronic devices and also be prepared for future developments and advancements in this far-reaching area of science and technology.

Understanding Solid State Electronics William E. Hafford, Eugene W. McWhorter, 1984

Introduction to Solid-state Electronics Ija P. Ipatova, Vladimir Vasil'evich Mitin, 1996-01

Introduction to Solid State Electronics combines a modern presentation of semiconductor physics with a description of the principles of semiconductor devices. It unites the authors' extensive teaching and research experience with the requirements of an introductory graduate course in Solid State Electronics for engineering students. Since a crystal is an object of high symmetry, some simple techniques which do not require knowledge of the mathematical groups at the professional level are used for the application of symmetry to the analysis of band structures. The textbook outlines the properties of low-dimensional structures in parallel with those of bulk materials. The authors have made the mathematical derivations both as self-contained and as simple as possible without using arguments of the type it can be easily shown that. This technique is just one of many that enables the book to provide a clear, comprehensive understanding of the main properties of semiconductors and their relations to device structures.

Solid State Electronic Devices, Global Edition Ben Streetman, Sanjay Banerjee, 2015-05-11

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:

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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 *Understand Solid State Electronics* Jimmy CLIFF,1991 **SOLID STATE DEVICES** NAIR, B. SOMANATHAN,DEEPA, S. R.,2018-11-01 Designed as a text for undergraduate students of engineering in Electrical Electronics and Computer Science and IT disciplines as well as undergraduate students B Sc of physics and electronics as also for postgraduate students of physics and electronics this compact and accessible text endeavours to simplify the theory of solid state devices so that even an average student will be able to understand the concepts with ease The authors Prof Somanathan Nair and Prof S R Deepa with their rich and long experience in teaching the subject provide a detailed discussion of such topics as crystal structures of semiconductor materials Miller indices energy band theory of solids energy level diagrams and mass action law Besides they give a masterly analysis of topics such as direct and indirect gap materials Fermi Dirac statistics electrons in semiconductors Hall effect PN junction diodes Zener and avalanche breakdowns Schottky barrier diodes bipolar junction transistors MOS field effect transistors Early effect Shockley diodes SCRs TRIAC and IGBTs In the Second Edition two new chapters on opto electronic devices and electro optic devices have been added The text has been thoroughly revised and updated A number of solved problems and objective type questions have been included to help students develop grasp of the contents This fully illustrated and well organized text should prove invaluable to students pursuing various courses in engineering and physics

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