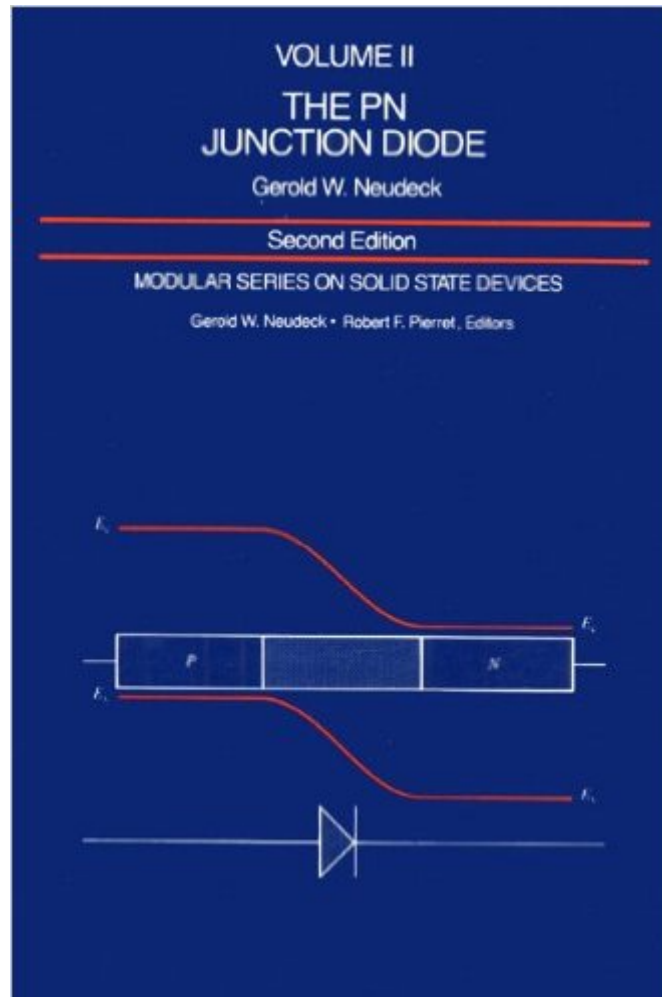


The book was found

# The PN Junction Diode: Volume II (2nd Edition) (Modular Series On Solid State Dev., Vol 2)



## Synopsis

This text builds a firm foundation in PN junction theory from a conceptual and mathematical viewpoint. The second edition adds a large number of end-of-chapter problems, solved exercises, and a new chapter on metal-semiconductor contacts.

## Book Information

Paperback: 180 pages

Publisher: Addison-Wesley; 2 edition (January 11, 1989)

Language: English

ISBN-10: 0201122960

ISBN-13: 978-0201122961

Product Dimensions: 6.1 x 0.4 x 8.9 inches

Shipping Weight: 8 ounces (View shipping rates and policies)

Average Customer Review: 3.0 out of 5 stars [See all reviews](#) (3 customer reviews)

Best Sellers Rank: #1,120,393 in Books (See Top 100 in Books) #193 in [Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Semiconductors](#) #3268 in [Books > Engineering & Transportation > Engineering > Telecommunications & Sensors](#) #220127 in [Books > Textbooks](#)

## Customer Reviews

The book is a decent read for getting a better understanding on the basics in this subject. The best thing about the book is the qualitative and quantitative arrangement and explanation of the material. However, the book may be somewhat confusing if this is your first time dealing with the subject. You should at least have some experience using the diode current equation and some familiarity with how this device works in an actual circuit. I also recommend that become comfortable with using Poisson's equation. Chapter 2 is based entirely on it's use. The book is ideal for someone wanting to review pn junction physics but not wanting the drawn out detail that you would find in Shur. If you decide to buy this book, buy Volume I, "Semiconductors Fundamentals." The authors will make reference to equations in Volume I that won't be found in this one. Yes, they want mo' money!!!

This book contains errors. The book attempts to simplify the physics of PN junction diodes, especially by using suggestive sketches in place of mathematical reasoning. As a result it sometimes attracts readers who are learning this material for the first time. Unfortunately the book contains errors which makes its use in this fashion unacceptable. It teaches students untruths which

if repeated in an exam would be marked incorrect. For example in the derivation of the ideal diode equation, the author claims that both drift and diffusion currents flow from one side of the junction to the other, which when no bias is applied balance for both electrons and holes. In fact no drift currents flow across an ideal PN junction, since no carriers exist where there is an electric field. It is true that within the depletion layer, large diffusion and drift currents flow, which balance in thermal equilibrium so that the Fermi level is flat through the junction. However under bias, quite separate currents flow from one side of the junction to the other, which have nothing to do with drift. For a full explanation refer to the book by Muller & Kamins, "Device Electronics for Integrated Circuits" (2nd ed.), Wiley, 1986, ISBN 0471887587. Such fundamental errors are inexcusable in a book purporting to teach fundamentals.

This book offers the clearest explanation of the physics of a diode that I've seen, i.e., what exactly those holes and electrons are doing! It isn't simple; that's the nature of the physics, but it is clearly explained and in the text and the drawings.

[Download to continue reading...](#)

The PN Junction Diode: Volume II (2nd Edition) (Modular Series on Solid State Dev., Vol 2)  
Semiconductor Fundamentals Volume Modular (Modular series on solid state devices) Advanced  
Mos Devices (Modular Series on Solid State Devices, Vol 7) Mosfet Modeling for VLSI Simulation:  
Theory And Practice (International Series on Advances in Solid State Electronics) (International  
Series on Advances in Solid State Electronics and Technology) The Physics And Modeling of  
Mosfets (International Series on Advances in Solid State Electronics) (International Series on  
Advances in Solid State Electronics and Technology (Unnumbered)) Guru Dev as Presented by  
Maharishi Mahesh Yogi: Life & Teachings of Swami Brahmananda Saraswati Shankaracharya of  
Jyotirmath (1941-1953) Vol. III The Blue Laser Diode: The Complete Story Central Colorado Ski  
Tours: Colorado Springs, Denver, Fairplay, Leadville, Salida, Gunnison, Crested Butte, Aspen,  
Glenwood Springs, Grand Junction Microsoft Windows 2000 Driver Development Kit (Dv-Mpe  
Software Dev. Kit) Fundamentals of Network Analysis and Synthesis (Prentice-Hall electrical  
engineering series. Solid state physical electronics series. Prentice-Hall networks series) Essentials  
of Medical Transcription: A Modular Approach, Revised 2nd Edition Manifolds and Modular Forms,  
Vol. E20 (Aspects of Mathematics) MASON JAR RECIPES BOOK SET 5 book in 1: Meals in Jars  
(vol.1); Salads in Jars (Vol. 2); Desserts in Jars (Vol. 3); Breakfasts in Jars (Vol. 4); Gifts in Jars  
(Vol. 5): Easy Mason Jar Recipe Cookbooks Optical Processes in Semiconductors (Prentice-Hall  
electrical engineering series. Solid state physical electronics series) Solid-State Electronic Circuits -

Volume 1 Solid-State Electronic Circuits - Volume 3 Basic Solid State Electronics: The Configuration and Management of Information Systems (5 Volume Set) Fatigue of Materials (Cambridge Solid State Science Series) Second Edition Magnetic Bubble Technology (Springer Series in Solid-State Sciences) Logic Non-Volatile Memory : The NVM Solutions from eMemory (International Series on Advances in Solid State Electronics)

[Dmca](#)