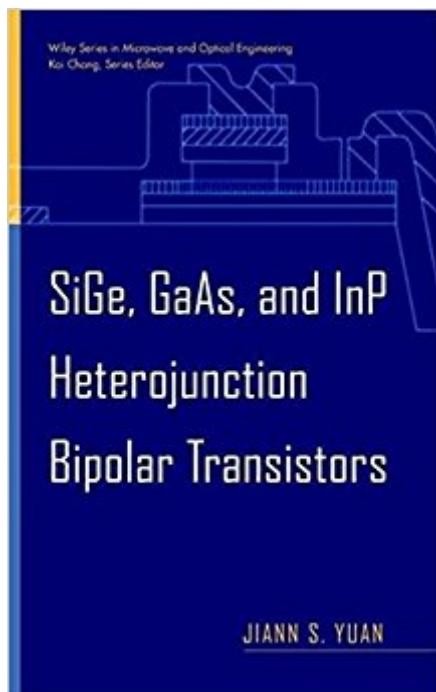


The book was found

# **SiGe, GaAs, And InP Heterojunction Bipolar Transistors (Wiley Series In Microwave And Optical Engineering)**



## Synopsis

An up-to-date, comprehensive guide to heterojunction bipolar transistor technology. Owing to their superior performance in microwave and millimeter-wave applications, heterojunction bipolar transistors (HBTs) have become a major force in mobile and wireless communications. This book offers an integrated treatment of SiGe, GaAs, and InP HBTs, presenting a much-needed overview of HBTs based on different materials systems-their fabrication, analysis, and testing procedures. Highly respected expert Jiann S. Yuan discusses in depth the dc and RF performance and modeling of HBT devices, including simulation, thermal instability, reliability, low-temperature and high-temperature performance, and HBT analog and digital circuits. He provides step-by-step presentations of HBT materials-including Si HBTs and III-V and IV-IV compound HBTs, which are rarely described in the literature. Also covered are device and circuit interaction as well as specific high-speed devices in mobile and wireless communications. This immensely useful guide to a rapidly expanding field includes more than 200 figures, tables of different material systems in terms of their physical parameters, and up-to-date experimental results culled from the latest research. An essential resource for circuit and device designers in the semiconductor industry, SiGe, GaAs, and InP Heterojunction Bipolar Transistors is also useful for graduate students in electrical engineering, applied physics, and materials science.

## Book Information

Series: Wiley Series in Microwave and Optical Engineering (Book 61)

Hardcover: 488 pages

Publisher: Wiley-Interscience; 1 edition (April 12, 1999)

Language: English

ISBN-10: 0471197467

ISBN-13: 978-0471197461

Product Dimensions: 6.3 x 1.1 x 9.5 inches

Shipping Weight: 1.7 pounds (View shipping rates and policies)

Average Customer Review: 3.2 out of 5 stars 4 customer reviews

Best Sellers Rank: #3,976,156 in Books (See Top 100 in Books) #99 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Solid State #123 in Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Transistors #1139 in Books > Health, Fitness & Dieting > Mental Health > Bipolar

## Customer Reviews

An up-to-date, comprehensive guide to heterojunction bipolar transistor technology. Owing to their superior performance in microwave and millimeter-wave applications, heterojunction bipolar transistors (HBTs) have become a major force in mobile and wireless communications. This book offers an integrated treatment of SiGe, GaAs, and InP HBTs, presenting a much-needed overview of HBTs based on different materials systems-their fabrication, analysis, and testing procedures. Highly respected expert Jiann S. Yuan discusses in depth the dc and RF performance and modeling of HBT devices, including simulation, thermal instability, reliability, low-temperature and high-temperature performance, and HBT analog and digital circuits. He provides step-by-step presentations of HBT materials-including Si HBTs and III-V and IV-IV compound HBTs, which are rarely described in the literature. Also covered are device and circuit interaction as well as specific high-speed devices in mobile and wireless communications. This immensely useful guide to a rapidly expanding field includes more than 200 figures, tables of different material systems in terms of their physical parameters, and up-to-date experimental results culled from the latest research. An essential resource for circuit and device designers in the semiconductor industry, SiGe, GaAs, and InP Heterojunction Bipolar Transistors is also useful for graduate students in electrical engineering, applied physics, and materials science.

JIANN S. YUAN, PhD, is Associate Professor of Electrical Engineering at the University of Central Florida. Widely published in the area of HBT technology, Dr. Yuan is also the author of *Semiconductor Device Physics, Simulation, and Analysis*.

I have not bothered to write a review, until now. I want to warn other people not to waste their money on this book (an expensive one) as I did. The book is nothing but a compilation of large number of (important or unimportant) experimental data from research papers. There is no central flow of thought, no insight of the author to the topics, no theoretical development. The author just quotes experimental data over and over again from papers that measure a variety of variations of the same type of devices. Of course there are some equations in the book, but the author just quote those equations from papers (again) with no derivation, just like the way he quotes all the experimental data. As a contrast, I want to mention S. M. Sze's famous "Physics of Semiconductor Devices". This book also quotes results from a large number of research papers. But Sze organizes the content in a very systematic manner. He provides good insight and brief theoretical derivation to the topics treated, and use the quoted papers as a means to support the theories. The selection of topics and papers in the book also reflects Sze's outstanding expertise and personal taste in the

field. So the quality difference between Sze's and Yuan's is miles long. Note that Sze's is notorious as a textbook for students but is invaluable as a reference for professionals in the field. If you really want to learn the subject, go for William Liu's "Fundamentals of III-V Devices: HBTs, MESFETs, and HFETs/HEMTs", a five star book.

my best friend need it , Absolutely beautiful, elegant product that works wonderfully. My favorite kitchen utensil by far! very patient and helpful. Nice and valuable. delivery so quickly.

I used this book as a text for a Heterojunction device class. Although , the book does contain a great deal of useful information , most of it is in the form of statements and data from research publications - devoid of any explanation. Also, we found many serious errors in the text. Wouldnt recommend as in introductory text to HBTs

This is an excellent book about the up-to-date HBT technology. The best thing is that you can find anything, from material properties, fabrication, analysis, to device modeling in this book. Highly recommended as a textbook.

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

SiGe, GaAs, and InP Heterojunction Bipolar Transistors (Wiley Series in Microwave and Optical Engineering) Principles and Analysis of Aigaas/GAAS Heterojunction Bipolar Transistors (Solid State Technology & Devices Library) Handbook of III-V Heterojunction Bipolar Transistors Wiley Practitioner's Guide to GAAS 2017: Covering all SASs, SSAEs, SSARs, and Interpretations (Wiley Regulatory Reporting) Optical Thin Films: User's Handbook (Macmillan Series in Optical and Electro-Optical Engineering) Passive Macromodeling: Theory and Applications (Wiley Series in Microwave and Optical Engineering) Fiber-Optic Communication Systems (Wiley Series in Microwave and Optical Engineering) Easy Livin' Microwave Cooking: A microwave instructor shares tips, secrets, & 200 easiest recipes for fast and delicious microwave meals Mug Cakes Cookbook: My Top Mug Cake Recipes for Microwave Cakes (microwave mug recipes, microwave cake, mug cakes, simple cake recipes) Handbook of Optical and Laser Scanning, Second Edition (Optical Science and Engineering) Electro-Optical Displays (Optical Science and Engineering) Resolution Enhancement Techniques in Optical Lithography (SPIE Tutorial Texts in Optical Engineering Vol. TT47) Optical Design for Visual Systems (SPIE Tutorial Texts in Optical Engineering Vol. TT45) Not Just Up and Down: Understanding Mood in Bipolar Disorder (The Bipolar Expert Series Book 1) Microwave Mug Recipes: 65 Top Microwave Recipes That Are Tasty And Easy To Make Microwave

Cooking: Rice Paper Rolls with Chikuwa, Cucumber and Carrot (Microwave Cooking - Fishes & Shellfishes Book 6) Microwave Meals Like a Chef: 50 Quick and Tasty Recipes That you Didn't Know You Could Make In Your Microwave Mug Meals Cookbook: 95 Delicious Quick And Easy Microwave Meals In A Mug, Microwave Recipes Microwave Dessert Cookbook: 34 Easy Microwave Recipes for Desserts Learn How to Cook Some Delightful Dishes in Your Microwave: Microwave Recipes You Can Enjoy As a Bachelor, As a Couple or As a Family

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)