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JASLYN MELODY

Electronic Designer's Handbook Springer
Science & Business Media
Modern, large-scale analog integrated
circuits (ICs) are essentially composed of
metal-oxide semiconductor (MOS)
transistors and their interconnections. As
technology scales down to deep sub-
micron dimensions and supply voltage
decreases to reduce power consumption,

these complex analog circuits are even
more dependent on the exact behavior
of each transistor. High-performance
analog circuit design requires a very
detailed model of the transistor,
describing accurately its static and
dynamic behaviors, its noise and
matching limitations and its temperature
variations. The charge-based EKV (Enz-
Krummenacher-Vittoz) MOS transistor
model for IC design has been developed
to provide a clear understanding of the
device properties, without the use of

complicated equations. All the static, dynamic, noise, non-quasi-static models are completely described in terms of the inversion charge at the source and at the drain taking advantage of the symmetry of the device. Thanks to its hierarchical structure, the model offers several coherent description levels, from basic hand calculation equations to complete computer simulation model. It is also compact, with a minimum number of process-dependant device parameters. Written by its developers, this book provides a comprehensive treatment of the EKV charge-based model of the MOS transistor for the design and simulation of low-power analog and RF ICs. Clearly split into three parts, the authors systematically examine: the basic long-channel intrinsic

charge-based model, including all the fundamental aspects of the EKV MOST model such as the basic large-signal static model, the noise model, and a discussion of temperature effects and matching properties; the extended charge-based model, presenting important information for understanding the operation of deep-submicron devices; the high-frequency model, setting out a complete MOS transistor model required for designing RF CMOS integrated circuits. Practising engineers and circuit designers in the semiconductor device and electronics systems industry will find this book a valuable guide to the modelling of MOS transistors for integrated circuits. It is also a useful reference for advanced students in electrical and computer

engineering.

Semiconductor Devices Springer

A DIY guide to designing and building transistor radios Create sophisticated transistor radios that are inexpensive yet highly efficient. Build Your Own Transistor Radios: A Hobbyist's Guide to High-Performance and Low-Powered Radio Circuits offers complete projects with detailed schematics and insights on how the radios were designed. Learn how to choose components, construct the different types of radios, and troubleshoot your work. Digging deeper, this practical resource shows you how to engineer innovative devices by experimenting with and radically improving existing designs. Build Your Own Transistor Radios covers: Calibration tools and test generators

TRF, regenerative, and reflex radios Basic and advanced superheterodyne radios Coil-less and software-defined radios Transistor and differential-pair oscillators Filter and amplifier design techniques Sampling theory and sampling mixers In-phase, quadrature, and AM broadcast signals Resonant, detector, and AVC circuits Image rejection and noise analysis methods This is the perfect guide for electronics hobbyists and students who want to delve deeper into the topic of radio. Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

Nanowire Field Effect Transistors: Principles and Applications McGraw-Hill

Companies

“Nanowire Field Effect Transistor: Basic Principles and Applications” places an emphasis on the application aspects of nanowire field effect transistors (NWFET). Device physics and electronics are discussed in a compact manner, together with the p-n junction diode and MOSFET, the former as an essential element in NWFET and the latter as a general background of the FET. During this discussion, the photo-diode, solar cell, LED, LD, DRAM, flash EEPROM and sensors are highlighted to pave the way for similar applications of NWFET. Modeling is discussed in close analogy and comparison with MOSFETs. Contributors focus on processing, electrostatic discharge (ESD) and application of NWFET. This includes

coverage of solar and memory cells, biological and chemical sensors, displays and atomic scale light emitting diodes. Appropriate for scientists and engineers interested in acquiring a working knowledge of NWFET as well as graduate students specializing in this subject.

Computer Engineering for Babies

Elsevier

Across 15 chapters, Semiconductor Devices covers the theory and application of discrete semiconductor devices including various types of diodes, bipolar junction transistors, JFETs, MOSFETs and IGBTs. Applications include rectifying, clipping, clamping, switching, small signal amplifiers and followers, and class A, B and D power amplifiers. Focusing on practical aspects of analysis and design, interpretations of

device data sheets are integrated throughout the chapters. Computer simulations of circuit responses are included as well. Each chapter features a set of learning objectives, numerous sample problems, and a variety of exercises designed to hone and test circuit design and analysis skills. A companion laboratory manual is available. This is the print version of the on-line OER.

Operational Amplifiers and Linear Integrated Circuits

Bushra Arshad
The Book Molecular Biology Notes PDF Download (Biology Textbook 2023-24): Lecture Notes with Revision Guide (Molecular Biology Textbook PDF: Notes, Definitions & Explanations) covers revision notes from class notes & textbooks. Molecular Biology Lecture

Notes PDF covers chapters' short notes with concepts, definitions and explanations for science exams. Molecular Biology Notes Book PDF provides a general course review for subjective exam, job's interview, and test preparation. The eBook Molecular Biology Lecture Notes PDF to download with abbreviations, terminology, and explanations is a revision guide for students' learning. Molecular Biology definitions PDF download with free e-Book's sample covers exam course material terms for distance learning and certification. Molecular Biology Textbook Notes PDF with explanations covers subjective course terms for college and high school exam's prep. Molecular biology notes book PDF book with glossary terms assists students in

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Abortive Initiation, Accommodation, Acid
Dissociation Constant (K.), Acridine,
Activation Energy (~G), Activation,
Activator, Active Site, ADAR, Adenine,
Adenylylation Step, Adult Stem Cells,
Affinity Chromatography, Alkylation,
Allele, Allopatric Speciation, Allosteric
Enzyme, Allosteric Modulator, Allosteric
Protein, Alternative Splicing, Ames Test,
Amino Acids, Amino Terminus (N-
terminus), Aminoacyl-tRNA Synthetisis,
Aminoacyl-tRNA, Amphipathic Helix,

Amphipathic o, Analyte, Annealing,
Anticodon, Antiparallel, AP
Endonucleases, Apo Protein, Apoenzyme,
Aqueous Solution, Archaea, ATP-
Coupling Stoichiometry, AU-Rich
Elements (ARE), Auto Inhibition,
Autoradiography, Autosome, and
Auxotrophic Mutant (Auxotroph).
Molecular Biology Complete Notes PDF
covers terms, definitions, and
explanations: B-DNA (B-form DNA),
Bacteria, Bacterial Transduction, Barr
Body, Base Pair, Base Pairing, Base
Stacking, Basic Helix-Loop-Helix Motif,
Basic Leucine Zipper Motif, Binding
Energy (~G8), Binding Site, Biochemical
Standard Free-Energy Change (~G-0),
Biological Information, Blunt Ends, Bond
Angle, Branch Migration, Branch Point,
BRCA.1, BRCA.2, Bromodomain, Buffer

Solution, and Buffering Capacity. Molecular Biology Notes PDF covers terms, definitions, and explanations: cAMP Receptor Protein (CRP), Cap-Binding Complex (CBC), Carboxyl Terminus (C-terminus), Carcinogen, Catalysis, Catalyst, Catenane, cDNA Library, Cell Cycle, Cell Theory, Cell, Cellular Function, Centromere, Centrosome, Chain Topology Diagram, Chaperone, Chaperonins, Chemical Bond, Chemical Reaction, and Chemical Shift. Molecular Biology Notes Book PDF covers terms, definitions, and explanations: DNA (deoxyribonucleic acid), DNA cloning, DNA genotyping, DNA glycosylase, DNA library, DNA ligase, DNA looping, DNA microarray, DNA nuclease, DNA over winding, DNA photolyase, DNA polymerase a (pol a),

DNA polymerase e (pol e), DNA polymerase, DNA polymerase iv, DNA polymerase s (pol o), DNA replication, DNA strand invasion, DNA supercoiling, DNA topology, DNA under winding, DNA-binding transcription activator, b-DNA (b-form DNA), and cDNA library. Molecular Biology Notes Book PDF covers terms, definitions, and explanations: Holoenzyme, Homeodomain Motif, Homeotic Gene, Homing Endonucleases, Homologous Chromosomes, Homologous Recombination, Homologs, Homooligomer, Homotropic, Homozygous, Hoogsteen Pairing, Hoogsteen Position, Horizontal Gene Transfer, Hormone Response Element, Housekeeping Gene, Hox Gene, Hybrid Duplex, Hybrid, Hydrogen Bond, Hydrolysis, Hydrophobic, Hyperchromic

Effect, Hypersensitive Site, and Hypothesis. And many more definitions and explanations!

Fundamentals of Bias Temperature Instability in MOS Transistors

Springer Science & Business Media
Introduction to Thin Film Transistors reviews the operation, application and technology of the main classes of thin film transistor (TFT) of current interest for large area electronics. The TFT materials covered include hydrogenated amorphous silicon (a-Si:H), poly-crystalline silicon (poly-Si), transparent amorphous oxide semiconductors (AOS), and organic semiconductors. The large scale manufacturing of a-Si:H TFTs forms the basis of the active matrix flat panel display industry. Poly-Si TFTs facilitate the integration of electronic circuits into

portable active matrix liquid crystal displays, and are increasingly used in active matrix organic light emitting diode (AMOLED) displays for smart phones. The recently developed AOS TFTs are seen as an alternative option to poly-Si and a-Si:H for AMOLED TV and large AMLCD TV applications, respectively. The organic TFTs are regarded as a cost effective route into flexible electronics. As well as treating the highly divergent preparation and properties of these materials, the physics of the devices fabricated from them is also covered, with emphasis on performance features such as carrier mobility limitations, leakage currents and instability mechanisms. The thin film transistors implemented with these materials are the conventional, insulated

gate field effect transistors, and a further chapter describes a new thin film transistor structure: the source gated transistor, SGT. The driving force behind much of the development of TFTs has been their application to AMLCDs, and there is a chapter dealing with the operation of these displays, as well as of AMOLED and electrophoretic displays. A discussion of TFT and pixel layout issues is also included. For students and newcomers to the field, introductory chapters deal with basic semiconductor surface physics, and with classical MOSFET operation. These topics are handled analytically, so that the underlying device physics is clearly revealed. These treatments are then used as a reference point, from which the impact of additional band-gap states

on TFT behaviour can be readily appreciated. This reference book, covering all the major TFT technologies, will be of interest to a wide range of scientists and engineers in the large area electronics industry. It will also be a broad introduction for research students and other scientists entering the field, as well as providing an accessible and comprehensive overview for undergraduate and postgraduate teaching programmes.

Making Transistor Radios Cambridge University Press

The editors and authors present a wealth of knowledge regarding the most relevant aspects in the field of MOS transistor modeling. The variety of subjects and the high quality of content of this volume make it a reference

document for researchers and users of MOSFET devices and models. The book can be recommended to everyone who is involved in compact model developments, numerical TCAD modeling, parameter extraction, space-level simulation or model standardization. The book will appeal equally to PhD students who want to understand the ins and outs of MOSFETs as well as to modeling designers working in the analog and high-frequency areas.

Electronic Devices and Circuits

McGraw Hill Professional

A comprehensive and "state-of-the-art" coverage of the design and fabrication of IGBT. All-in-one resource Explains the fundamentals of MOS and bipolar physics. Covers IGBT operation, device and process design, power modules, and

new IGBT structures.

Two Transistor Electronic Projects

Virtualbookworm Publishing

The operational amplifier ("op amp") is the most versatile and widely used type of analog IC, used in audio and voltage amplifiers, signal conditioners, signal converters, oscillators, and analog computing systems. Almost every electronic device uses at least one op amp. This book is Texas Instruments' complete professional-level tutorial and reference to operational amplifier theory and applications. Among the topics covered are basic op amp physics (including reviews of current and voltage division, Thevenin's theorem, and transistor models), idealized op amp operation and configuration, feedback theory and methods, single and dual

supply operation, understanding op amp parameters, minimizing noise in op amp circuits, and practical applications such as instrumentation amplifiers, signal conditioning, oscillators, active filters, load and level conversions, and analog computing. There is also extensive coverage of circuit construction techniques, including circuit board design, grounding, input and output isolation, using decoupling capacitors, and frequency characteristics of passive components. The material in this book is applicable to all op amp ICs from all manufacturers, not just TI. Unlike textbook treatments of op amp theory that tend to focus on idealized op amp models and configuration, this title uses idealized models only when necessary to explain op amp theory. The bulk of this

book is on real-world op amps and their applications; considerations such as thermal effects, circuit noise, circuit buffering, selection of appropriate op amps for a given application, and unexpected effects in passive components are all discussed in detail. *Published in conjunction with Texas Instruments *A single volume, professional-level guide to op amp theory and applications *Covers circuit board layout techniques for manufacturing op amp circuits. *Electronic Circuit Design MCQ PDF: Questions and Answers Download | Electronics Engineering MCQs Book* John Wiley & Sons
The Book *Electronic Circuit Design Multiple Choice Questions (MCQ Quiz) with Answers PDF Download* (Circuit

Design PDF Book): MCQ Questions Chapter 1-11 & Practice Tests with Answer Key (Electronic Circuit Design Textbook MCQs, Notes & Question Bank) includes revision guide for problem solving with hundreds of solved MCQs. Electronic Circuit Design MCQ with Answers PDF book covers basic concepts, analytical and practical assessment tests. "Electronic Circuit Design MCQ" Book PDF helps to practice test questions from exam prep notes. The eBook Electronic Circuit Design MCQs with Answers PDF includes revision guide with verbal, quantitative, and analytical past papers, solved MCQs. Electronic Circuit Design Multiple Choice Questions and Answers (MCQs) PDF Download, an eBook covers solved quiz questions and answers on chapters:

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competitive exam. Electronic Circuit Design Practice Tests Chapter 1-11 eBook covers problem solving exam tests from electronics engineering textbook and practical eBook chapter wise as: Chapter 1: Amplifier Frequency Response MCQ Chapter 2: Bipolar Junction transistors MCQ Chapter 3: BJT Amplifiers MCQ Chapter 4: Diodes and Applications MCQ Chapter 5: FET Amplifiers MCQ Chapter 6: Field Effect Transistors MCQ Chapter 7: Introduction to Electronics MCQ Chapter 8: Power Amplifiers MCQ Chapter 9: Semiconductors Basics MCQ Chapter 10: Special Purpose Diodes MCQ Chapter 11: Transistor Bias Circuits MCQ The e-Book Amplifier Frequency Response MCQs PDF, chapter 1 practice test to solve MCQ questions: Basic concepts, decibel,

and low frequency amplifier response. The e-Book Bipolar Junction Transistors MCQs PDF, chapter 2 practice test to solve MCQ questions: Basic transistor operation, transistor as switch, transistor characteristics and parameters, and transistor structure. The e-Book BJT Amplifiers MCQs PDF, chapter 3 practice test to solve MCQ questions: BJT amplifier operation, common base amplifier, common-collector amplifier, common-emitter amplifier, differential amplifier, multistage amplifiers, transistor AC equivalent circuits, and transistor AC models. The e-Book Diode Applications MCQs PDF, chapter 4 practice test to solve MCQ questions: Diode limiters and clampers, diode models, diode operation, diode limiting and clamping circuits, integrated circuit

voltage regulators, power supply filters, and capacitor filter, atom, current in semiconductors, full wave and half wave rectifiers, materials used in electronics, peak inverse voltage, PN junction, power supply filters, regulators, transformer coupling, voltage current characteristics, and voltage multipliers. The e-Book FET Amplifiers MCQs PDF, chapter 5 practice test to solve MCQ questions: FET amplifiers applications, common-drain amplifiers, common-gate amplifiers, and common-source amplifiers. The e-Book Field Effect Transistors MCQs PDF, chapter 6 practice test to solve MCQ questions: IGBT, JFET biasing, JFET characteristics, JFET transistor, MOSFET biasing, MOSFET characteristics, and Ohmic region. The e-Book Introduction to Electronics MCQs PDF, chapter 7 practice

test to solve MCQ questions: Atom, current in semiconductors, materials used in electronics, n-type and p-type semiconductors, and PN junction. The e-Book Power Amplifiers MCQs PDF, chapter 8 practice test to solve MCQ questions: Class A, B and C power amplifiers, class amplifiers, class B and AB push pull amplifiers. The e-Book Semiconductors Basics MCQs PDF, chapter 9 practice test to solve MCQ questions: n-type and p-type semiconductors, conduction in semiconductors, atomic structure, biasing diode, classification of matter on basis of semiconductor theory, covalent bonds, diode models, testing diode, and voltage-current characteristics of diode. The e-Book Special Purpose Diodes MCQs PDF, chapter 10 practice test to

solve MCQ questions: Optical diode, types of diode, varactor diode, Zener diode, and applications. The e-Book Transistor Bias Circuits MCQs PDF, chapter 11 practice test to solve MCQ questions: DC operating point, bias methods, and voltage-divider bias.

Transistor Switching and Sequential Circuits Springer Science & Business Media

An introduction to computer engineering for babies. Learn basic logic gates with hands on examples of buttons and an output LED.

Transistor Circuit Design Elsevier

The goal of this book is to encourage the reader to become proficient in the analysis and design of circuits utilizing modern linear integrated circuits. It progresses from the fundamental circuit

building blocks through to analog and digital conversion systems. A methodical step-by-step presentation introduces the basic idealized operational amplifiers and eventually examines practical limitations in great detail. Each chapter has a problem set and contains extended topic to present extra discussion and details about the subject. *Transistor Circuit Approximations* John Wiley & Sons

A comprehensive introduction to CMOS and bipolar analog IC design. The book presumes no prior knowledge of linear design, making it comprehensible to engineers with a non-analog background. The emphasis is on practical design, covering the entire field with hundreds of examples to explain the choices. Concepts are presented

following the history of their discovery.
Content: 1. Devices Semiconductors, The Bipolar Transistor, The Integrated Circuit, Integrated NPN Transistors, The Case of the Lateral PNP Transistor, CMOS Transistors, The Substrate PNP Transistor, Diodes, Zener Diodes, Resistors, Capacitors, CMOS vs. Bipolar; 2. Simulation, DC Analysis, AC Analysis, Transient Analysis, Variations, Models, Diode Model, Bipolar Transistor Model, Model for the Lateral PNP Transistor, MOS Transistor Models, Resistor Models, Models for Capacitors; 3. Current Mirrors; 4. Differential Pairs; 5. Current Sources; 6. Time Out: Analog Measures, dB, RMS, Noise, Fourier Analysis, Distortion, Frequency Compensation; 7. Bandgap References; 8. Op Amps; 9. Comparators; 10. Transimpedance

Amplifiers; 11. Timers and Oscillators; 12. Phase-Locked Loops; 13. Filters; 14. Power, Linear Regulators, Low Drop-Out Regulators, Switching Regulators, Linear Power Amplifiers, Switching Power Amplifiers; 15. A to D and D to A, The Delta-Sigma Converter; 16. Odds and Ends, Gilbert Cell, Multipliers, Peak Detectors, Rectifiers and Averaging Circuits, Thermometers, Zero-Crossing Detectors; 17. Layout.

Compact Modeling Bushra Arshad
projetos eletronicos utilizando transistor de efeito de campo (fet).
Build Your Own Transistor Radios
Springer Science & Business Media
THE BOOK THAT MAKES ELECTRONICS MAKE SENSE This intuitive, applications-driven guide to electronics for hobbyists, engineers, and students doesn't

overload readers with technical detail. Instead, it tells you-and shows you-what basic and advanced electronics parts and components do, and how they work. Chock-full of illustrations, Practical Electronics for Inventors offers over 750 hand-drawn images that provide clear, detailed instructions that can help turn theoretical ideas into real-life inventions and gadgets. CRYSTAL CLEAR AND COMPREHENSIVE Covering the entire field of electronics, from basics through analog and digital, AC and DC, integrated circuits (ICs), semiconductors, stepper motors and servos, LCD displays, and various input/output devices, this guide even includes a full chapter on the latest microcontrollers. A favorite memory-jogger for working electronics engineers, Practical

Electronics for Inventors is also the ideal manual for those just getting started in circuit design. If you want to succeed in turning your ideas into workable electronic gadgets and inventions, is THE book. Starting with a light review of electronics history, physics, and math, the book provides an easy-to-understand overview of all major electronic elements, including: Basic passive components o Resistors, capacitors, inductors, transformers o Discrete passive circuits o Current-limiting networks, voltage dividers, filter circuits, attenuators o Discrete active devices o Diodes, transistors, thyristors o Microcontrollers o Rectifiers, amplifiers, modulators, mixers, voltage regulators ENTHUSIASTIC READERS HELPED US MAKE THIS BOOK EVEN BETTER This

revised, improved, and completely updated second edition reflects suggestions offered by the loyal hobbyists and inventors who made the first edition a bestseller. Reader-suggested improvements in this guide include: Thoroughly expanded and improved theory chapter New sections covering test equipment, optoelectronics, microcontroller circuits, and more New and revised drawings Answered problems throughout the book Practical Electronics for Inventors takes you through reading schematics, building and testing prototypes, purchasing electronic components, and safe work practices. You'll find all this in a guide that's destined to get your creative-and inventive-juices flowing.

Insulated Gate Bipolar Transistor IGBT

Theory and Design Bushra Arshad Most of the recent texts on compact modeling are limited to a particular class of semiconductor devices and do not provide comprehensive coverage of the field. Having a single comprehensive reference for the compact models of most commonly used semiconductor devices (both active and passive) represents a significant advantage for the reader. Indeed, several kinds of semiconductor devices are routinely encountered in a single IC design or in a single modeling support group. Compact Modeling includes mostly the material that after several years of IC design applications has been found both theoretically sound and practically significant. Assigning the individual chapters to the groups responsible for

the definitive work on the subject assures the highest possible degree of expertise on each of the covered models.

Designing Analog Chips McGraw-Hill Companies

The transistor is the key enabler of modern electronics. Progress in transistor scaling has pushed channel lengths to the nanometer regime where traditional approaches to device physics are less and less suitable. These lectures describe a way of understanding MOSFETs and other transistors that is much more suitable than traditional approaches when the critical dimensions are measured in nanometers. It uses a novel, "bottom-up approach" that agrees with traditional methods when devices are large, but that also works for nano-

devices. Surprisingly, the final result looks much like the traditional, textbook, transistor models, but the parameters in the equations have simple, clear interpretations at the nanoscale. The objective is to provide readers with an understanding of the essential physics of nanoscale transistors as well as some of the practical technological considerations and fundamental limits. This book is written in a way that is broadly accessible to students with only a very basic knowledge of semiconductor physics and electronic circuits.

Japanese transistor substitution manual McGraw Hill Professional

An up-to-date, practical guide on upgrading from silicon to GaN, and how to use GaN transistors in power

conversion systems design This updated, third edition of a popular book on GaN transistors for efficient power conversion has been substantially expanded to keep students and practicing power conversion engineers ahead of the learning curve in GaN technology advancements. Acknowledging that GaN transistors are not one-to-one replacements for the current MOSFET technology, this book serves as a practical guide for understanding basic GaN transistor construction, characteristics, and applications. Included are discussions on the fundamental physics of these power semiconductors, layout, and other circuit design considerations, as well as specific application examples demonstrating design techniques when employing GaN

devices. GaN Transistors for Efficient Power Conversion, 3rd Edition brings key updates to the chapters of Driving GaN Transistors; Modeling, Simulation, and Measurement of GaN Transistors; DC-DC Power Conversion; Envelope Tracking; and Highly Resonant Wireless Energy Transfer. It also offers new chapters on Thermal Management, Multilevel Converters, and Lidar, and revises many others throughout. Written by leaders in the power semiconductor field and industry pioneers in GaN power transistor technology and applications Updated with 35% new material, including three new chapters on Thermal Management, Multilevel Converters, Wireless Power, and Lidar Features practical guidance on formulating specific circuit designs when

constructing power conversion systems using GaN transistors A valuable resource for professional engineers, systems designers, and electrical engineering students who need to fully understand the state-of-the-art GaN Transistors for Efficient Power Conversion, 3rd Edition is an essential learning tool and reference guide that enables power conversion engineers to design energy-efficient, smaller, and more cost-effective products using GaN transistors.

Principles of Transistor Circuits John Wiley & Sons

Transistor Switching and Sequential Circuits presents the basic ideas involved in the construction of computers, instrumentation, pulse communication systems, and

automation. This book discusses the design procedure for sequential circuits. Organized into two parts encompassing eight chapters, this book begins with an overview of the ways on how to generate the types of waveforms needed in digital circuits, principally ramps, square waves, and delays. This text then considers the behavior of some simple circuits, including the inverter, the emitter follower, and the long-tailed pair. Other chapters examine the significant methods of producing non-sinusoidal waveforms, such as saw-tooth waves or square waves. This book discusses as well the procedures in organizing a circuit, which can be used in more complex applications than in the design of counters. The final chapter deals with the principle of machine multiplication.

This book is a valuable resource for students engaged in the design and construction of digital or switching circuits.

III-Nitride Electronic Devices John Wiley & Sons

This book explains the physics and properties of multi-gate field-effect transistors (MuGFETs), how they are

made and how circuit designers can use them to improve the performances of integrated circuits. It covers the emergence of quantum effects due to the reduced size of the devices and describes the evolution of the MOS transistor from classical structures to SOI (silicon-on-insulator) and then to MuGFETs.

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