

Power Fets And Their Applications By Edwin S Oxner

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Power-Switching Converters - Simon Ang 1995-04-10

This work provides detailed, practical coverage of switching converters, from the fundamental principles to the next generation of programmable devices. It examines buck, boost, buck-boost, Cuk, quasi-resonant, loaded-resonant and isolated configurations. The book compares the advantages of switching converters over conventional converters.;University and college bookstores may order five or more copies at a special student price which is available upon request from Marcel Dekker Inc.

Adaptive IIR Filtering in Signal Processing and Control - Phillip Regalia 2018-04-27

Integrates rational approximation with adaptive filtering, providing viable, numerically reliable procedures for creating adaptive infinite impulse response (IIR) filters. The choice of filter structure to adapt, algorithm design and the approximation properties for each type of algorithm are also addressed. This work recasts the theory of adaptive IIR filters by concentrating on recursive lattice filters, freeing systems from the need for direct-form filters.;A solutions manual is available for instructors only. College or university bookstores may order five or more copies at a special student price which is available upon request.

High Reliability Magnetic Devices - Colonel Wm. T. McLyman 2002-07-17

Showcasing the most authoritative information, this book features step-by-step instructions on ordering raw materials, choosing construction techniques, conducting in-process inspection, performing end-item testing, and providing quality assurance recommendations to improve reliability and minimize cost. Providing 400 easy-to-follow illustrations,

Power Hybrid Circuit Design & Manufacture - Taraseiskey 2018-10-08

"Discusses the fundamental design principles, capabilities, and applications of power hybrid microcircuits and modules--detailing the operation of power semiconductor and passive components, the properties of materials, design guidelines, thermal management, and manufacturing technologies."

Gaseous Electronics - Gorur Govinda Raju 2005-11-10

The research on gaseous electronics reaches back more than 100 years. With the growing importance of gas lasers in so many research and industrial applications as well as power systems generating, transmitting, and distributing huge blocks of electrical power, the body of literature on cross sections, drift and diffusion, and ionization phenomena c

Transformer and Inductor Design Handbook, Third Edition - Colonel Wm. T. McLyman 2004-03-31

Extensively revised and expanded to present the state-of-the-art in the field of magnetic design, this third edition presents a practical approach to transformer and inductor design and covers extensively essential topics such as the area product, A_p , and core geometry, K_g . The book provides complete information on magnetic materials and core characteristics using step-by-step design examples and presents all the key components for the design of lightweight, high-frequency aerospace transformers or low-frequency commercial transformers. Written by a specialist with more than 47 years of experience in the field, this volume covers magnetic design theory with all of the relevant formulas.

Magnetic Core Selection for Transformers and Inductors - Colonel Wm. T. McLyman 2018-10-03

Written as a companion to Transformer and Inductor Design Handbook (second ed), this work compiles the specifications of over 12,000 industrially available cores and brings them in line with standard units of measurement, simplifying the selection of core configurations for the design of magnetic components.

Advanced DC/DC Converters - Fang Lin Luo 2003-09-29

DC/DC conversion techniques have undergone rapid development in recent decades. With the pioneering work of authors Fang Lin Luo and Hong Ye, DC/DC converters have now been sorted into their six generations, and by a rough count, over 500 different topologies currently exist, with more being developed each year. Advanced DC/DC Converters off

Advanced Digital Signal Processing - Glenn Zelniker 1993-10-28

Provides a detailed treatment of the concepts and applications of advanced digital signal processing.

Power Electronic Converters - Robert Bausiere 2013-06-29

This book is the third in a series of four devoted to POWER ELECTRONIC CONVERTERS: The first of these concerns AC to DC conversion. The second concerns AC to AC conversion. This volume examines DC to DC conversion. The fourth is devoted to DC to AC conversion. Converters which carry out the DC-DC conversion operate by chopping the input voltage or current: they are called choppers or switch-mode power converters. Their operating frequency is not imposed by either the input or the output, both of which are at zero frequency. A frequency which is much greater than that of the industrial network can be chosen, provided that suitable configurations and semiconductor devices are used. This is the first difference compared to the rectifiers and AC-AC converters, analyzed in the previous volumes and which often operate at the industrial network frequency. The second difference concerns the commutation mode. Choppers operate in forced commutation. The beginning of an operating phase does not automatically turn off the semiconductor devices which were conducting during the previous phase and which have to be brought to the blocking state. This turn-off must be carried out autonomously. These two differences - the higher frequency of commutations and, especially, the different mode of commutation - justify the first two chapters in this work: - Chapter 1 examines general notions concerning converters, supplies and loads, and more especially, how they can be characterized with regard to commutations.

Two-Dimensional Digital Filters - Wu-Sheng Lu 2020-08-11

Presents basic theories, techniques, and procedures used to analyze, design, and implement two-dimensional filters; and surveys a number of applications in image and seismic data processing that demonstrate their use in real-world signal processing. For graduate students in electrical and computer e

SPICE for Power Electronics and Electric Power - Muhammad H. Rashid 2005-11-02
To be accredited, a power electronics course should cover a significant amount of design content and include extensive use of computer-aided analysis with simulation tools such as SPICE. Based upon the authors' experience in designing such courses, SPICE for Power Electronics and Electric Power, Second Edition integrates a SPICE simulator with a po

Power FETs and Their Applications - Edwin S. Oxner 1982-01-01

Symmetrical Components for Power Systems Engineering - J. Lewis Blackburn 2017-12-19

Emphasizing a practical conception of system unbalances, basic circuits, and calculations, this essential reference/text presents the foundations of symmetrical components with a review of per unit (percent), phasors, and polarity--keeping the mathematics as simple as possible throughout. According to IEEE Electrical Insulation Magazine, this book "...provides students and practicing engineers with a fundamental understanding of the method of symmetrical components and its applications in three-phase electrical systems. . .A useful feature of this book. . .is the incorporation of numerous examples in the text and 30

pages of problems."

Energy-Efficient Electric Motors, Third Edition, Revised and Expanded - John C. Andreas 1992-02-24
Revised and updated throughout, the second edition of Energy-Efficient Electric Motors provides guidelines for picking and using electric motors on an energy conservation and life-cycle cost basis - emphasizing both single- and three-phase motors in the 1- to 200-hp range that offer maximum opportunities for energy savings.;Maintaining the features of the first edition, this concise resource: explains current improvements in electric motor capabilities and recently adopted NEMA energy-efficient motor standards; contains a new section about the power factor with nonlinear loads; covers the performance of polyphase induction motors supplied by adjustable frequency power supplies for several types of loads, presents information on numerous kinds of power semiconductors used in variable-frequency power supply systems; provides expanded coverage comparing various types of adjustable speed drives when applied to constant torque and variable torque loads; and contains a new summary checklist criteria for selecting induction motors for adjustable frequency drive systems.;Generously illustrated with nearly 200 figures and tables, the second edition of Energy-Efficient Electric Motors is timely reading for electrical, electronics, mechanical, consulting, specifying, and plant engineers; plant and purchasing managers; original equipment, heating, ventilating, and air-conditioning manufacturers; and continuing-education courses in these disciplines.

The Technology Teacher - 1982

Power Distribution Engineering - James J. Burke 2017-12-19

"Covering virtually all areas of distribution engineering, this complete reference work examines the unique behavior of utilities and provides the practical knowledge necessary to solve real-world distribution problems."

High-Voltage Engineering - Mazen Abdel-Salam 2018-10-03

"Bridges the gap between laboratory research and practical applications in industry and power utilities- clearly organized into three distinct sections that cover basic theories and concepts, execution of principles, and innovative new techniques. Includes new chapters detailing industrial uses and issues of hazard and safety, and review exercises to accompany each chapter."

Books in Print Supplement - 1988

Fet Technology and Application - E. S. Oxner 2020-11-26

This book provides the reader with some insights into the many styles of field effect transistors (FETs) being used. It offers a rudimentary understanding of their operation and performance. The book explains the complex terminology that defines the various FET parameters.

Energy-Efficient Electric Motors, Revised and Expanded - Ali Emadi 2018-10-03

This detailed reference provides guidelines for the selection and utilization of electric motors for improved reliability, performance, energy-efficiency, and life-cycle cost. Completely revised and expanded, the book reflects the recent state of the field, as well as recent developments in control electronics, the economics of energy-efficient motors and systems, and advanced power electronic drivers. It includes five new chapters covering key topics such as the fundamentals of power electronics applicable to electric motor drives, adjustable speed drives and their applications, advanced switched reluctance motor drives, and permanent magnet and brushless DC motor drives.

International Journal of Electrical Engineering Education - 1983

Handbook of Electric Motors - Hamid A. Toliyat 2018-10-03

Presenting current issues in electric motor design, installation, application, and performance, this second edition serves as the most authoritative and reliable guide to electric motor utilization and assessment in the commercial and industrial sectors. Covering topics ranging from motor energy and efficiency to computer-aided design and equipment selection, this reference assists professionals in all aspects of electric motor maintenance, repair, and optimization. It has been expanded by more than 40 percent to explore the most influential technologies in the field including electronic controls, superconducting generators, recent analytical tools, new computing capabilities, and special purpose motors.

Computer-Aided Analysis and Design of Switch-Mode Power Supplies - Lee 2017-10-19

This comprehensive reference/text explains the development and principles of operation, modelling, and analysis of switch-mode power supplies (SMPS)-highlighting conversion efficiency, size, and steady state/transient regulation characteristics.;Covering the practical design techniques of SMPS,this book - reveals how to develop specific models of circuits and components for simulation and design purposes; explains both the computer simulation of the switching behaviours of dc-to-dc converters and the modelling of linear and nonlinear circuit components; deals with the modelling and simulation of the low-frequency behaviours of converters (including current-controlled converters and converters with multiple outputs) and regulators; describes computer-aided design (CAD) techniques as applied to converters and regulators; introduces the principles and design of quasi-resonant and resonant converters; provides details on SPICE, a circuit simulator package used to calculate electrical circuit behaviour.;Containing over 1000 helpful drawings, equations, and tables, this is a valuable reference for circuit design, electrical, and electronics engineers, and serves as an excellent text for upper-level undergraduate and graduate students in these disciplines.

Industrial Power Distribution and Illuminating Systems - Kao Chen 2020-09-24

This book covers all important elements of industrial power distribution-system planning, selection of distribution voltages and systems, and methods of fault current calculations. It also covers the illuminating engineering and design principles based on the latest concepts and approaches.

Essential DC/DC Converters - Fang Lin Luo 2018-10-08

There are several families of DC/DC converters comprising hundreds of different topologies. Sorting through the various properties and characteristics is obviously a daunting task. Culled from the pages of the groundbreaking *Advanced DC/DC Converters*, this book provides a focused, concise overview of more than 80 topologies, developed by the authors, of essential DC/DC converters. The authors begin with an introduction to the basics of DC/DC conversion technology, then present an in-depth analysis of voltage-lift and super-lift converters. This book also includes a brand new chapter on the revolutionary ultra-lift Luo-converter. Several experimental and simulation results clearly illustrate the concepts.

Modern Digital Control Systems - Raymond G. Jacquot 2019-01-22

This work presents traditional methods and current techniques of incorporating the computer into closed-loop dynamic systems control, combining conventional transfer function design and state variable concepts. *Digital Control Designer* - an award-winning software program which permits the solution of highly complex problems - is available on the CR

Designing with Field-effect Transistors - Siliconix Incorporated 1990

projetos eletronicos utilizando transistor de efeito de campo (fet).

Embedded Systems Design with 8051 Microcontrollers - Zdravko Karakehayov 2018-10-08

A presentation of developments in microcontroller technology, providing lucid instructions on its many and varied applications. It focuses on the popular eight-bit microcontroller, the 8051, and the 83C552. The text outlines a systematic methodology for small-scale, control-dominated embedded systems, and is accompanied by a disk of all the example problems included in the book.

Power Electronics Handbook - F. F. Mazda 2016-06-06

Power Electronics Handbook: Components, Circuits and Applications is a compilation of materials that provides the theoretical information of component, circuits, and applications. The title is comprised of 14 chapters that are organized into three parts. The text first covers topics relevant to electronic components, such as thermal design, electromagnetic compatibility, and power semiconductor protection. Next, the book deals with circuitries, which include static switches, line control, and converters. The last part talks about power semiconductor circuit applications. The book will be of great use for students and practitioners of electronics related discipline, such as electronics engineering.

Pilot Protective Relaying - Elmore 2018-04-27

This text concentrates on the fundamentals of protective relaying and aims to provide lasting information in intelligible language. It covers the relative qualities of modern transmission line systems, communications channels, three-terminal applications and program design for microprocessors, and also supplies an encyclopaedic bibliography listing professional papers useful to the relay engineer.

Power-Switching Converters, Second Edition - Simon Ang 2005-03-17

After nearly a decade of success owing to its thorough coverage, abundance of problems and examples, and practical use of simulation and design, Power-Switching Converters enters its second edition with new and updated material, entirely new design case studies, and expanded figures, equations, and homework problems. This textbook is ideal for senior undergraduate or graduate courses in power electronic converters, requiring only systems analysis and basic electronics courses. The only text of such detail to also include the use of PSpice and step-by-step designs and simulations, Power-Switching Converters, Second Edition covers basic topologies, basic control techniques, and closed-loop control and stability. It also includes two new chapters on interleaved converters and switched capacitor converters, and the authors have added discrete-time modeling to the dynamic analysis of switching converters. The final two chapters are dedicated to simulation and complete design examples, respectively. PSpice examples and MATLAB scripts are available for download from the CRC Web site. These are useful for the simulation of students' designs. Class slides are also available on the Internet. Instructors will appreciate the breadth and depth of the material, more than enough to adapt into a customized syllabus. Students will similarly benefit from the more than 440 figures and over 1000 equations, ample homework problems, and case studies presented in this book.

Handbook of Electrical Engineering Calculations - Arun G. Phadke 2018-10-03

Written by experienced teachers and recognized experts in electrical engineering, Handbook of Electrical Engineering Calculations identifies and solves the seminal problems with numerical techniques for the principal branches of the field -- electric power, electromagnetic fields, signal analysis, communication systems, control systems, and computer engineering. It covers electric power engineering, electromagnetics, algorithms used in signal analysis, communication systems, algorithms used in control systems, and computer engineering. Illustrated with detailed equations, helpful drawings, and easy-to-understand tables, the book serves as a practical, on-the-job reference.

Electrical Contacts - Paul G. Slade 1999-03-31

Covering the choice, attachment, and testing of contact materials, Electrical Contacts introduces a thorough discussion on making electric contact and contact interface conduction, presents a general outline of, and measurement techniques for, important corrosion mechanisms, discusses the results of contact wear when plug-in connections are made and broken, investigates the effect of thin noble metal plating on electronic connections, relates crucial considerations for making high- and low-power contact joints, details arcing effects on contacts including contact erosion, welding, and contamination, and contains nearly 2800 references, tables, equations, drawings, and photographs.

Battery Technology Handbook - H.A. Kiehne 2003-08-29

This practical reference remains the most comprehensive guide to the fundamental theories, techniques, and strategies used for battery operation and design. It includes new and revised chapters focusing on the safety, performance, quality, and enhancement of various batteries and battery systems. From automotive, electrochemical, and high-energy applications to system implementation, selection, and standardization, the Second Edition presents expert discussions on electrochemical energy storage, the advantages of battery-powered traction, the disposal and recycling of used batteries, hazard prevention, and the chemistry and physics of lithium primary batteries.

Electrical Contacts - Milenko Braunovic 2017-12-19

Various factors affect the performance of electrical contacts, including tribological, mechanical, electrical, and materials aspects. Although these behaviors have been studied for many years, they are not widely used or understood in practice. Combining approaches used across the globe, Electrical Contacts: Fundamentals, Applications, and Technology integrates advances in research and development in the tribological, material, and analytical aspects of electrical contacts with new data on electrical current transfer at the micro- and nanoscales. Taking an application-oriented approach, the authors illustrate how material characteristics, tribological behavior, and loading impact the degradation of contacts, formation of intermetallics, and overall reliability and performance. Coverage is divided broadly into three sections, with the first focused on

mechanics, tribology, materials, current and heat transfer, and basic reliability issues of electrical contacts. The next section explores applications, such as power connections, electronic connections, and sliding contacts, while the final section presents the diagnostic and monitoring techniques used to investigate and measure phenomena occurring at electrical contact interfaces. Numerous references to current literature reflect the fact that this book is the most comprehensive survey in the field. Explore an impressive collection of data, theory, and practical applications in Electrical Contacts: Fundamentals, Applications, and Technology, a critical tool for anyone investigating or designing electrical equipment with improved performance and reliability in mind.

Materials for Rigid and Flexible Printed Wiring Boards - Martin W. Jawitz 2018-10-03

Complex electronic circuits and devices are flooding applications in nearly every facet of commercial and industrial activity, from automated equipment to all types of consumer products. Proper selection of materials is crucial to meet the end-use requirements of flexible and rigid printed wiring boards. While there are many useful books and articles on the fabrication of printed circuit boards, Materials for Rigid and Flexible Printed Wiring Boards is the first book to detail the properties of the materials used and how they are made. The authors present important manufacturing information and material properties for reinforcement materials, resins, flexible films, copper foils, rigid laminates, high-speed/high-frequency laminates, and metal core and constraining core materials. They offer practical guidance to help designers, engineers, and fabricators choose suitable materials to successfully meet strength, weight, thickness, performance, cost, and other requirements. In most cases, the material data comes directly from manufacturers' data sheets, representing typical values. The book illustrates the comparative strengths and limitations of the materials, highlights their basic properties, and details the manufacturing processes used to make them. Offering practical guidance based on years of experience, Materials for Rigid and Flexible Printed Wiring Boards is a one-stop source of crucial information for anyone designing or building printed circuit boards for any application.

Handbook of Automotive Power Electronics and Motor Drives - Ali Emadi 2017-12-19

Initially, the only electric loads encountered in an automobile were for lighting and the starter motor. Today, demands on performance, safety, emissions, comfort, convenience, entertainment, and communications have seen the working-in of seemingly innumerable advanced electronic devices. Consequently, vehicle electric systems require larger capacities and more complex configurations to deal with these demands. Covering applications in conventional, hybrid-electric, and electric vehicles, the Handbook of Automotive Power Electronics and Motor Drives provides a comprehensive reference for automotive electrical systems. This authoritative handbook features contributions from an outstanding international panel of experts from industry and academia, highlighting existing and emerging technologies. Divided into five parts, the Handbook of Automotive Power Electronics and Motor Drives offers an overview of automotive power systems, discusses semiconductor devices, sensors, and other components, explains different power electronic converters, examines electric machines and associated drives, and details various advanced electrical loads as well as battery technology for automobile applications. As we seek to answer the call for safer, more efficient, and lower-emission vehicles from regulators and consumer insistence on better performance, comfort, and entertainment, the technologies outlined in this book are vital for engineering advanced vehicles that will satisfy these criteria.

Power Converter Circuits - William Shepherd 2004-03-12

This text reveals all key components of rectification, inversion, cycloconversion, and conversion circuits. It authoritatively describes switching, voltage and current relationships, and converter properties, operation, control, and performance as utilized in most practical applications. Authored jointly by a veteran scholar and an accomplished researcher in the field Power Converter Circuits highlights methods grounded in classical mathematics and includes an abundance of numerical worked examples. Features hundreds of chapter-specific problems, with solutions provided separately at the end of the book

IEEE Conference Record of 1984 Sixteenth Power Modulator Symposium - 1984