
Altium Tutorial

Introduction to Wireless Systems
SystemVerilog For Design
A Practical Handbook on High Speed PCB and System Design
Hands-on in More Than 50 Projects
Nucleo Boards Programming with the STM32CubeIDE
High-speed Digital Design
Flexible Circuit Technology
Simplified
Build connected IoT devices with Arduino and MQ Telemetry Transport (MQTT)
A Handbook for Engineers and Researchers
Hands-On Internet of Things with MQTT
Altium Designer: проектирование функциональных узлов РЭС на печатных платах. 2 изд
CAN System Engineering
Signal Integrity
Constraining Designs for Synthesis and Timing Analysis
The Circuit Designer's Companion
From Theory to Practical Applications
Jitter, Noise, and Signal Integrity at High-Speed
Basic Linear Design
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The LTSpice IV Simulator
Principles of Power Integrity for PDN Design--Simplified
Practical Electronics for Inventors 2/E
A Handbook of Black Magic
Right the First Time
Design Reference
Transformer and Inductor Design Handbook, Third Edition

NOVAK DILLON

Introduction to Wireless Systems Springer Science & Business Media

Explains the design, fabrication and assembly of flexible circuits, and how, when and why they are best used. The second edition is expanded with new ways flexible circuits are being used to solve complex electronic packaging problems. Annotation c. Book News, Inc., Portland, OR (booknews.com).

SystemVerilog For Design Prentice Hall

This textbook introduces the "Fundamentals of Multimedia", addressing real issues commonly faced in the workplace. The essential concepts are explained in a practical way to enable students to apply their existing skills to address problems in multimedia. Fully revised and updated, this new edition now includes coverage of such topics as 3D TV, social networks, high-efficiency video compression and conferencing, wireless and mobile networks, and their attendant technologies. Features: presents an overview of the key concepts in multimedia, including color science; reviews lossless and lossy compression methods for image, video and audio data; examines the demands placed by multimedia communications on wired and wireless networks; discusses the impact of social media and cloud computing on information sharing and on multimedia content search and retrieval; includes study exercises at the end of each chapter; provides supplementary resources for both students and instructors at an associated website.

A Practical Handbook on High Speed PCB and System Design John Wiley & Sons

The packaging of electronic devices and systems represents a significant challenge for product designers and managers. Performance, efficiency, cost considerations, dealing with the newer IC packaging technologies, and EMI/RFI issues all come into play. Thermal considerations at both the device and the systems level are also necessary. The Electronic Packaging Handbook, a new volume in the Electrical Engineering Handbook Series, provides essential factual information on the design,

manufacturing, and testing of electronic devices and systems. Co-published with the IEEE, this is an ideal resource for engineers and technicians involved in any aspect of design, production, testing or packaging of electronic products, regardless of whether they are commercial or industrial in nature. Topics addressed include design automation, new IC packaging technologies, materials, testing, and safety. Electronics packaging continues to include expanding and evolving topics and technologies, as the demand for smaller, faster, and lighter products continues without signs of abatement. These demands mean that individuals in each of the specialty areas involved in electronics packaging-such as electronic, mechanical, and thermal designers, and manufacturing and test engineers-are all interdependent on each others knowledge. The Electronic Packaging Handbook elucidates these specialty areas and helps individuals broaden their knowledge base in this ever-growing field.

Hands-on in More Than 50 Projects CRC Press

Tim Williams' Circuit Designer's Companion provides a unique masterclass in practical electronic design that draws on his considerable experience as a consultant and design engineer. As well as introducing key areas of design with insider's knowledge, Tim focuses on the art of designing circuits so that every production model will perform its specified function - and no other unwanted function - reliably over its lifetime. The combination of design alchemy and awareness of commercial and manufacturing factors makes this an essential companion for the professional electronics designer. Topics covered include analog and digital circuits, component types, power supplies and printed circuit board design. The second edition includes new material on microcontrollers, surface mount processes, power semiconductors and interfaces, bringing this classic work up to date for a new generation of designers. · A unique masterclass in the design of optimized, reliable electronic circuits · Beyond the lab - a guide to electronic design for production, where cost-effective design is imperative · Tips and know-how provide a whole education for the novice, with something to offer the most seasoned professional

Nucleo Boards Programming with the STM32CubeIDE БХВ-Петербург

This thorough review of the fundamental principles associated

with signal integrity provides engineering principles behind signal integrity effects, and applies this understanding to solving problems.

High-speed Digital Design Altium Designer: проектирование функциональных узлов РЭС на печатных платах. 2 изд

Based on familiar circuit theory and basic physics, this book serves as an invaluable reference for both analog and digital engineers alike. For those who work with analog RF, this book is a must-have resource. With computers and networking equipment of the 21st century running at such high frequencies, it is now crucial for digital designers to understand electromagnetic fields, radiation and transmission lines. This knowledge is necessary for maintaining signal integrity and achieving EMC compliance. Since many digital designers are lacking in analog design skills, let alone electromagnetics, an easy-to-read but informative book on electromagnetic topics should be considered a welcome addition to their professional libraries. Covers topics using conceptual explanations and over 150 lucid figures, in place of complex mathematics Demystifies antennas, waveguides, and transmission line phenomena Provides the foundation necessary to thoroughly understand signal integrity issues associated with high-speed digital design

Flexible Circuit Technology John Wiley & Sons

SystemVerilog is a rich set of extensions to the IEEE 1364-2001 Verilog Hardware Description Language (Verilog HDL). These extensions address two major aspects of HDL based design. First, modeling very large designs with concise, accurate, and intuitive code. Second, writing high-level test programs to efficiently and effectively verify these large designs. This book, SystemVerilog for Design, addresses the first aspect of the SystemVerilog extensions to Verilog. Important modeling features are presented, such as two-state data types, enumerated types, user-defined types, structures, unions, and interfaces. Emphasis is placed on the proper usage of these enhancements for simulation and synthesis. A companion to this book, SystemVerilog for Verification, covers the second aspect of SystemVerilog.

Simplified БХВ-Петербург

Книга посвящена проектированию радиоэлектронных функциональных узлов в среде Altium Designer. Описан

состав, настройка и основные приемы работы в среде Altium Designer. Подробно освещены вопросы формирования и редактирования электрической схемы, разработки печатной платы, а также трассировки печатного монтажа. Отдельно рассмотрены особенности реализации проекта на основе микросхем ПЛИС, включая программирование и отладку логики ПЛИС на отладочном стенде NanoBoard. Значительное внимание уделено схемотехническому моделированию. Приведены необходимые сведения о работе с библиотеками, взаимодействии с внешними базами данных, системе контроля версий, а также экспорте результатов. Во втором издании расширен и обновлен материал, касающийся формирования схемных документов, интерактивной трассировки печатного монтажа, формирования многоканальных и многовариантных проектов, освещаются основы скрипт-программирования в среде Altium Designer, описаны новые функции Altium Designer - проектирование гибко-жестких печатных плат и размещение скрытых компонентов на внутренних слоях печатной платы. Особенность книги - изложение материала с позиций сквозного проектирования изделия, начиная от создания нового проекта и заканчивая выпуском конструкторской документации по ЕСКД и формированием управляющей информации для автоматизированного производственного оборудования.

Build connected IoT devices with Arduino and MQ Telemetry Transport (MQTT) Pearson Education

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.

A Handbook for Engineers and Researchers Penguin Random House LLC (No Starch)

This handbook gives comprehensive coverage of all kinds of industrial control systems to help engineers and researchers correctly and efficiently implement their projects. It is an indispensable guide and references for anyone involved in control, automation, computer networks and robotics in industry and academia alike. Whether you are part of the manufacturing sector, large-scale infrastructure systems, or processing technologies, this book is the key to learning and implementing real time and distributed control applications. It covers working at the device and machine level as well as the wider environments of plant and enterprise. It includes information on sensors and actuators; computer hardware; system interfaces; digital controllers that perform programs and protocols; the embedded applications software; data communications in distributed control systems; and the system routines that make control systems

more user-friendly and safe to operate. This handbook is a single source reference in an industry with highly disparate information from myriad sources. * Helps engineers and researchers correctly and efficiently implement their projects. * An indispensable guide and references for anyone involved in control, automation, computer networks and robotics. * Equally suitable for industry and academia

Hands-On Internet of Things with MQTT Springer Science & Business Media

Provides step-by-step instructions on basic hacking techniques and reverse engineering skills along with information on Xbox security, hardware, and software.

Altium Designer: проектирование функциональных узлов РЭС на печатных платах. 2 изд IET

This book addresses the various challenges and open questions relating to CAN communication networks. Opening with a short introduction into the fundamentals of CAN, the book then examines the problems and solutions for the physical layout of networks, including EMC issues and topology layout. Additionally, a discussion of quality issues with a particular focus on test techniques is presented. Each chapter features a collection of illuminating insights and detailed technical information supplied by a selection of internationally-regarded experts from industry and academia. Features: presents thorough coverage of architectures, implementations and application of CAN transceiver, data link layer and so-called higher layer software; explains CAN EMC characteristics and countermeasures, as well as how to design CAN networks; demonstrates how to practically apply and test CAN systems; includes examples of real networks from diverse applications in automotive engineering, avionics, and home heating technology.

CAN System Engineering William Andrew

New, updated and expanded topics in the fourth edition include: EBCDIC, Grey code, practical applications of flip-flops, linear and shaft encoders, memory elements and FPGAs. The section on fault-finding has been expanded. A new chapter is dedicated to the interface between digital components and analog voltages. *A highly accessible, comprehensive and fully up to date digital systems text *A well known and respected text now revamped for current courses *Part of the Newnes suite of texts for HND/1st year modules

Signal Integrity Packt Publishing Ltd

Altium Designer: проектирование функциональных узлов ПЭС на печатных платах. 2 издБХВ-Петербург

McGraw Hill Professional

Whether you are a student, a newly-minted engineer entering the field of power electronics, a salesperson needing to understand a customer's needs, or a seasoned power supply designer desiring to track down a forgotten equation, this book will be a significant aid. Beginning with the basic definition of a power supply, we will traverse through voltage regulation techniques and the components necessary for their implementation, and then move on to the myriad of circuit topologies and control algorithms prevalent in modern-day design solutions. Separate chapters on feedback-loop compensation and magnetic design principles will build on this foundation, along with in-depth descriptions for dealing with regulations for electromagnetic compatibility, human safety, and energy efficiency issues. Additional chapters will describe the value proposition for digital control and the practical aspects power supply construction.

Constraining Designs for Synthesis and Timing Analysis Newnes

This domain derives from such diverse disciplines as electronics, mechanical engineering, fluid dynamics, thermodynamics, chemistry, physics, metallurgy and optics. The author, with nearly four decades of experience in R&D, technology development, and education and training, provides a practical and hand-on approach to the subject, by covering the latest technological developments and covering all the vital aspects of PCB, i.e. design, fabrication, assembly, testing, including reliability and quality. With this coverage, the book will be useful to designers, manufacturers, and students of electrical and electronic engineering.

The Circuit Designer's Companion Artech House

The bestselling beginner Arduino guide, updated with new projects! Exploring Arduino makes electrical engineering and embedded software accessible. Learn step by step everything you need to know about electrical engineering, programming, and human-computer interaction through a series of increasingly

complex projects. Arduino guru Jeremy Blum walks you through each build, providing code snippets and schematics that will remain useful for future projects. Projects are accompanied by downloadable source code, tips and tricks, and video tutorials to help you master Arduino. You'll gain the skills you need to develop your own microcontroller projects! This new 2nd edition has been updated to cover the rapidly-expanding Arduino ecosystem, and includes new full-color graphics for easier reference. Servo motors and stepper motors are covered in richer detail, and you'll find more excerpts about technical details behind the topics covered in the book. Wireless connectivity and the Internet-of-Things are now more prominently featured in the advanced projects to reflect Arduino's growing capabilities. You'll learn how Arduino compares to its competition, and how to determine which board is right for your project. If you're ready to start creating, this book is your ultimate guide! Get up to date on the evolving Arduino hardware, software, and capabilities Build projects that interface with other devices—wirelessly! Learn the basics of electrical engineering and programming Access downloadable materials and source code for every project Whether you're a first-timer just starting out in electronics, or a pro looking to mock-up more complex builds, Arduino is a fantastic tool for building a variety of devices. This book offers a comprehensive tour of the hardware itself, plus in-depth introduction to the various peripherals, tools, and techniques used to turn your little Arduino device into something useful, artistic, and educational. Exploring Arduino is your roadmap to adventure—start your journey today!

From Theory to Practical Applications Elsevier

This book serves as a hands-on guide to timing constraints in integrated circuit design. Readers will learn to maximize performance of their IC designs, by specifying timing requirements correctly. Coverage includes key aspects of the design flow impacted by timing constraints, including synthesis, static timing analysis and placement and routing. Concepts needed for specifying timing requirements are explained in detail and then applied to specific stages in the design flow, all within

the context of Synopsys Design Constraints (SDC), the industry-leading format for specifying constraints.

Jitter, Noise, and Signal Integrity at High-Speed Springer Science & Business Media

This book provides instruction on how to use the OrCAD design suite to design and manufacture printed circuit boards. The primary goal is to show the reader how to design a PCB using OrCAD Capture and OrCAD Editor. Capture is used to build the schematic diagram of the circuit, and Editor is used to design the circuit board so that it can be manufactured. The book is written for both students and practicing engineers who need in-depth instruction on how to use the software, and who need background knowledge of the PCB design process. Beginning to end coverage of the printed circuit board design process. Information is presented in the exact order a circuit and PCB are designed Over 400 full color illustrations, including extensive use of screen shots from the software, allow readers to learn features of the product in the most realistic manner possible Straightforward, realistic examples present the how and why the designs work, providing a comprehensive toolset for understanding the OrCAD software Introduces and follows IEEE, IPC, and JEDEC industry standards for PCB design. Unique chapter on Design for Manufacture covers padstack and footprint design, and component placement, for the design of manufacturable PCB's FREE CD containing the OrCAD demo version and design files

Basic Linear Design Elsevier

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.

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