

Current Distribution In Parallel Led Strings

Power Supplies for LED Driving Single-Inductor Multiple-Output Converters High Brightness Light Emitting Diodes *Control of Power Electronic Converters and Systems* Wideband Continuous-time ?? ADCs, Automotive Electronics, and Power Management From LED to Solid State Lighting **Practical Lighting Design with LEDs** **Proceedings of International Ethical Hacking Conference 2018** **About Christmas Prognostics and Health Management of Electronics** **Building Your Own Electronics Lab** **Official Gazette of the United States Patent and Trademark Office** **The IGBT Device Guide to State-of-the-Art Electron Devices** **Advanced Computer and Communication Engineering Technology** **Renewable Power for Sustainable Growth** *Fundamentals of Solid-State Lighting* **101 Spy Gadgets for the Evil Genius** **BeLight Vol. 04 Reliability and Failure Analysis of High-Power LED Packaging** *Fashioning Technology Electronics World* The Complete Idiot's Guide to String Theory **The Formation and Evolution of Cosmic Strings** *Pedagogical Content Knowledge in STEM* **A Parallel Light-emitting Diode String Driver with High Dimming Ratio Dynamics and Control of Switched Electronic Systems** **Tools and Techniques for Transputer Applications** Power from the Sun Southcon Conference Record A First Course in String Theory **Planning and Operation of Hybrid Renewable Energy**

Systems Valve-Regulated Lead-Acid Batteries EDN, Electrical Design News Cyclopaedia of Useful Arts, Mechanical and Chemical, Manufactures, Mining and Engineering: Lac to Zirconium **Official Gazette of the United States Patent Office**
51 High-Tech Practical Jokes for the Evil Genius Machine Design *The Hidden Reality Communications and Information Processing*

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You may not be perplexed to enjoy all books collections **Current Distribution In Parallel Led Strings** that we will unquestionably offer. It is not roughly speaking the costs. Its virtually what you obsession currently. This **Current Distribution In Parallel Led Strings**, as one of the most full of life sellers here will entirely be in the midst of the best options to review.

The Hidden Reality Jul 29 2019 The bestselling author of *The Elegant Universe* and *The Fabric of the Cosmos* tackles perhaps the most mind-bending question in modern physics and cosmology: Is our universe the only universe? There was a time when "universe" meant all there is. Everything. Yet, a number of theories are converging on the possibility that our universe may be but one among many parallel universes populating a vast

multiverse. Here, Briane Greene, one of our foremost physicists and science writers, takes us on a breathtaking journey to a multiverse comprising an endless series of big bangs, a multiverse with duplicates of every one of us, a multiverse populated by vast sheets of spacetime, a multiverse in which all we consider real are holographic illusions, and even a multiverse made purely of math--and reveals the reality hidden within each. Using his trademark wit and precision, Greene presents a thrilling survey of cutting-edge physics and confronts the inevitable question: How can fundamental science progress if great swaths of reality lie beyond our reach? *The Hidden Reality* is a remarkable adventure through a world more vast and strange than anything we could have imagined.

Official Gazette of the United States Patent Office Oct 31 2019

Communications and Information Processing Jun 27 2019 The two volume set, CCIS 288 and 289, constitutes the thoroughly refereed post-conference proceedings of the First International Conference on Communications and Information Processing, ICCIP 2012, held in Aveiro, Portugal, in March 2012. The 168 revised full papers of both volumes were carefully reviewed and selected from numerous submissions. The papers present the state-of-the-art in communications and information processing and feature current research on the theory, analysis, design, test and deployment related to communications and information processing systems.

Fashioning Technology Feb 13 2021 Provides instructions for creating a variety of home accents, accessories, and toys that combine crafting and technology.

Building Your Own Electronics Lab Dec 26 2021 What should an electronics hackerspace look like? Is it in your bedroom, garage, a classroom, or even a suitcase? And where do

you start? What parts are essential, and which are just nice to have? And how do you organize it all? Dale Wheat, the author of *Arduino Internals*, will show you how to build your own electronics lab complete with tools, parts, and power sources. You'll learn how to create a portable lab, a small lab to save space, and even a lab for small groups and classrooms. You'll learn which parts and tools are indispensable no matter what type projects you're working on: which soldering irons are best, which tools, cables, and testing equipment you'll need. You'll also learn about different chips, boards, sensors, power sources, and which ones you'll want to keep on hand. Finally, you'll learn how to assemble everything for the type of lab best suited to your needs. If you need to carry everything to your local makerspace, you can build the Portable Lab. If you plan to tinker at home or in the garage, there is the Corner Lab. If you're going to run your own local makerspace or you need to set up a lab to teach others, there is the Small-Group Lab. No matter what your gadgeteering needs may be, *Building Your Own Electronics Lab* will show you exactly how to put it all together so you have what you need to get started.

A First Course in String Theory Apr 05 2020 Publisher
Description

Proceedings of International Ethical Hacking Conference

2018 Mar 29 2022 This book discusses the implications of new technologies for a secured society. As such, it reflects the main focus of the International Conference on Ethical Hacking, eHaCon 2018, which is essentially in evaluating the security of computer systems using penetration testing techniques.

Showcasing the most outstanding research papers presented at the conference, the book shares new findings on computer network attacks and defenses, commercial security solutions, and hands-on, real-world security experience. The respective

sections include network security, ethical hacking, cryptography, digital forensics, cloud security, information security, mobile communications security, and cyber security.

Machine Design Aug 29 2019

A Parallel Light-emitting Diode String Driver with High Dimming Ratio Sep 10 2020

Light-emitting diodes (LEDs) have become a good alternative to traditional cold cathode fluorescent lamps (CCFLs) for backlighting sources in liquid crystal displays (LCDs). LED backlighting provides a number of benefits over CCFLs, such as greater efficiency, better brightness, longer lifetime, higher dimming ratios, and lower drive circuitry voltage [1]. One application where a higher dimming ratio is desired is in aerospace cockpit LCD modules, which need to provide both high brightness for sunlight readability and also a high dimming ratio for very low brightness during nighttime operation. Two methods commonly used to dim LEDs are constant current reduction (CCR) and pulse width modulation (PWM) dimming. The downside to using CCR is the limited dimming ratio and nonlinearities in light output that occur from variations in luminous efficacy over the dimming range [2]. To obtain a high dimming ratio using PWM dimming, the LED current rise time must be sufficiently faster than the minimum PWM. This ensures that there will be no nonlinearities in the light output, which could result in visible flicker when operating at low-brightness settings. To provide higher system efficiency, a method for soft starting the LED regulator is presented. This method allows for reduced head room operation by ramping the LED current during turn-on, which results in a reduced voltage dip on the LED power supply. Finally, a method for head room adjustment that allows for adjustment of the LED supply voltage for variations in forward voltage over temperature and time is presented.

Renewable Power for Sustainable Growth Jul 21 2021 This book is a collection of papers presented at the International Conference on Renewable Power (ICRP 2020), held during 13–14 July 2020 in Rajouri, Jammu, India. The book covers different topics of renewable energy sources in modern power systems. The book focusses on smart grid technologies and applications, renewable power systems including solar PV, solar thermal, wind, power generation, transmission and distribution, transportation electrification and automotive technologies, power electronics and applications in renewable power system, energy management and control system, energy storage in modern power system, active distribution network, artificial intelligence in renewable power systems, and cyber-physical systems and Internet of things in smart grid and renewable power.

From LED to Solid State Lighting May 31 2022 FROM LED TO SOLID STATE LIGHTING A comprehensive and practical reference complete with hands-on exercises and experimental data In From LED to Solid State Lighting: Principles, Materials, Packaging, Characterization, and Applications, accomplished mechanical engineers Shi-Wei Ricky Lee, Jeffery C. C. Lo, Mian Tao, and Huaiyu Ye deliver a practical overview of the design and construction of LED lighting modules, from the fabrication of the LED chip to the LED modules incorporated in complete LED lighting fixtures. The distinguished authors discuss the major advantages of solid-state lighting, including energy savings, environmental friendliness, and lengthy operational life, as well as the contributions offered by the packaging of light-emitting diodes in the pursuit of these features. Readers will discover presentations of the technical issues that arise in packaging LED components, like interconnection, phosphor deposition, and encapsulation. They'll

also find insightful elaborations on optical design, analysis, and characterization. Discussions of LED applications, technology roadmaps, and IP issues round out the included material. This important book also includes: Thorough introductions to lighting, photometry, and colorimetry, the fundamentals of light-emitting diodes, and the fabrication of LED wafers and chips Practical discussions of the packaging of LED chips, wafer-level packaging of LED arrays, and optical and electrical characterization Comprehensive explorations of board-level assembly and LED modules and optical and electrical characterization In-depth examinations of thermal management, reliability engineering for LED packaging, and applications for general lighting Perfect for post-graduate students and practicing engineers studying or working in the field of LED manufacturing for solid state lighting applications, From LED to Solid State Lighting: Principles, Materials, Packaging, Characterization, and Applications is also an indispensable resource for managers and technicians seeking a one-stop guide to the subject.

The Complete Idiot's Guide to String Theory Dec 14 2020

Everything is connected... We're living in the midst of a scientific revolution that's captured the general public's attention and imagination. The aim of this new revolution is to develop a "theory of everything" -- a set of laws of physics that will explain all that can be explained, ranging from the tiniest subatomic particle to the universe as a whole. Here, readers will learn the ideas behind the theories, and their effects upon our world, our civilization, and ourselves.

Pedagogical Content Knowledge in STEM Oct 12 2020 This volume represents both recent research in pedagogical content knowledge (PCK) in science, technology, engineering and math (STEM), as well as emerging innovations in how PCK is applied

in practice. The notion of “research to practice” is critical to validating how effectively PCK works within the clinic and how it can be used to improve STEM learning. As the need for more effective educational approaches in STEM grows, the importance of developing, identifying, and validating effective practices and practitioner competencies are needed. This book covers a wide range of topics in PCK in different school levels (middle school, college teacher training, teacher professional development), and different environments (museums, rural). The contributors believe that vital to successful STEM education practice is recognition that STEM domains require both specialized domain knowledge as well as specialized pedagogical approaches. The authors of this work were chosen because of their extensive fieldwork in PCK research and practice, making this volume valuable to furthering how PCK is used to enlighten the understanding of learning, as well as providing practical instruction. This text helps STEM practitioners, researchers, and decision-makers further their interest in more effective STEM education practice, and raises new questions about STEM learning.

BeLight Vol. 04 Apr 17 2021

Planning and Operation of Hybrid Renewable Energy Systems Mar 05 2020

Dynamics and Control of Switched Electronic Systems Aug 10 2020 The increased efficiency and quality constraints imposed on electrical energy systems have inspired a renewed research interest in the study of formal approaches to the analysis and control of power electronics converters. Switched systems represent a useful framework for modeling these converters and the peculiarities of their operating conditions and control goals justify the specific classification of “switched electronic systems”. Indeed, idealized switched models of power

converters introduce problems not commonly encountered when analyzing generic switched models or non-switched electrical networks. In that sense the analysis of switched electronic systems represents a source for new ideas and benchmarks for switched and hybrid systems generally. *Dynamics and Control of Switched Electronic Systems* draws on the expertise of an international group of expert contributors to give an overview of recent advances in the modeling, simulation and control of switched electronic systems. The reader is provided with a well-organized source of references and a mathematically-based report of the state of the art in analysis and design techniques for switched power converters. Intuitive language, realistic illustrative examples and numerical simulations help the reader to come to grips with the rigorous presentation of many promising directions of research such as: converter topologies and modulation techniques; continuous-time, discrete-time and hybrid models; modern control strategies for power converters; and challenges in numerical simulation. The guidance and information imparted in this text will be appreciated by engineers, and applied mathematicians working on system and circuit theory, control systems development, and electronic and energy conversion systems design.

Power from the Sun Jun 07 2020 From the author of *The Homeowner's Guide to Renewable Energy*, an easy guide to solar electricity—everything you need to power your home or small business. Written for the individual or business layman, this is the fully revised and updated guide for generating solar electricity. Practical and accessible, it provides a basic understanding of electricity, wiring, and solar energy. The book guides the reader through assessing your solar electricity site and determining the type of solar system needed for to generate solar electricity, providing you with a solid understanding of grid-tied

and off-grid systems, along with important guidelines on installation. *Power from the Sun*, 2nd Edition, discusses types of photovoltaic and photovoltaic solar energy systems, and includes comprehensive information on recent changes and improvements in PV modules, charge controllers, inverters, batteries, generators, and net metering policies. It offers an excellent overview of the many options available as a guide for generating solar electricity, allowing you to make the best choices for your individual situation during the design, installation, and operation of a solar energy system. This is the definitive layman's guide for homeowners, business owners, installers, architects, and just about anyone interested in generating solar electricity to lower energy bills and achieve greater independence through solar energy. "Dan Chiras is as reliable as a Swiss watch—once again he's created a text that's as accessible as it is informative."—Ann Edminster, author of *Energy Free: Homes for a Small Planet* "Chiras makes it as easy as possible for you to affect your own transition away from fossil fuel dependence."—Bruce King, PE Director, Ecological Building Network, and author of *The New Carbon Architecture*

101 Spy Gadgets for the Evil Genius May 19 2021 101 projects that appeal to the spy in you Utilizing inexpensive, easily obtainable components, you can build the same information gathering, covert sleuthing devices used by your favorite film secret agent. Projects range from simple to sophisticated and come complete with a list of required parts and tools, numerous illustrations, and step-by-step assembly instructions. Projects include: scanners and radios, night vision devices, telephone devices, computer monitoring, audio eavesdropping, hidden cameras, video transmitters, and more

Official Gazette of the United States Patent and Trademark Office Nov 24 2021

Control of Power Electronic Converters and Systems Aug 02 2022 *Control of Power Electronic Converters and Systems*, Volume 3, explores emerging topics in the control of power electronics and converters, including the theory behind control, and the practical operation, modeling, and control of basic power system models. This book introduces the most important controller design methods, including both analog and digital procedures. This reference explains the dynamic characterization of terminal behavior for converters, as well as preserving the stability and power quality of modern power systems. Useful for engineers in emerging applications of power electronic converters and those combining control design methods into different applications in power electronics technology. Addressing controller interactions - in light of increasing renewable energy integration and related challenges with stability and power quality - is becoming more frequent in power converters and passive components. Discusses different applications and their control in integrated renewable energy systems Introduces the most important controller design methods, both in analog and digital Describes different important applications to be used in future industrial products Explains the dynamic characterization of terminal behavior for converters

Practical Lighting Design with LEDs Apr 29 2022 The essential how-to guide to designing and building LED systems, revised and updated The second edition of *Practical Lighting Design with LEDs* has been revised and updated to provide the most current information for developing light-emitting diodes products. The authors, noted authorities in the field, offer a review of the most relevant topics including optical performance, materials, thermal design and modeling and measurement. Comprehensive in scope, the text covers all the

information needed to design LEDs into end products. The user-friendly text also contains numerous drawings and schematics that show how things such as measurements are actually made, and show how circuits actually work. Designed to be practical, the text includes myriad notes and illustrative examples that give pointers and how-to guides on many of the book's topics. In addition, the book's equations are used only for practical calculations, and are kept at the level of high-school algebra. This thoroughly expanded second edition offers: New chapters on the design of an LED flashlight, USB light, automotive taillight, and LED light bulbs A practical and user-friendly guide with dozens of new illustrations The nitty-gritty, day-to-day engineering and systems used to design and build complete LED systems An essential resource on the cutting-edge technology of Light-Emitting Diodes Practical Lighting Design with LEDs helps engineers and managers meet the demand for the surge in usage for products using light-emitting diodes with a practical guide that takes them through the relevant fields of light, electronic and thermal design.

Wideband Continuous-time ?? ADCs, Automotive Electronics, and Power Management Jul 01 2022 This book is based on the 18 tutorials presented during the 25th workshop on Advances in Analog Circuit Design. Expert designers present readers with information about a variety of topics at the frontier of analog circuit design, including low-power and energy-efficient analog electronics, with specific contributions focusing on the design of continuous-time sigma-delta modulators, automotive electronics, and power management. This book serves as a valuable reference to the state-of-the-art, for anyone involved in analog circuit research and development.

Reliability and Failure Analysis of High-Power LED

Packaging Mar 17 2021 Reliability and Failure Analysis of

High-Power LED Packaging provides fundamental understanding of the reliability and failure analysis of materials for high-power LED packaging, with the ultimate goal of enabling new packaging materials. This book describes the limitations of the present reliability standards in determining the lifetime of high-power LEDs due to the lack of deep understanding of the packaging materials and their interaction with each other. Many new failure mechanisms are investigated and presented with consideration of the different stresses imposed by varying environmental conditions. The detailed failure mechanisms are unique to this book and will provide insights for readers regarding the possible failure mechanisms in high-power LEDs. The authors also show the importance of simulation in understanding the hidden failure mechanisms in LEDs. Along with simulation, the use of various destructive and non-destructive tools such as C-SAM, SEM, FTIR, Optical Microscopy, etc. in investigation of the causes of LED failures are reviewed. The advancement of LEDs in the last two decades has opened vast new applications for LEDs which also has led to harsher stress conditions for high-power LEDs. Thus, existing standards and reliability tests need to be revised to meet the new demands for high-power LEDs. Introduces the failure mechanisms of high-power LEDs under varying environmental conditions and methods of how to test, simulate, and predict them Describes the chemistry underlying the material degradation and its impact on LEDs Discusses future directions of new packaging materials for improved performance and reliability of high-power LEDs

Tools and Techniques for Transputer Applications Jul 09
2020

Southcon Conference Record May 07 2020

Prognostics and Health Management of Electronics Jan 27 2022

An indispensable guide for engineers and data scientists in design, testing, operation, manufacturing, and maintenance. A road map to the current challenges and available opportunities for the research and development of Prognostics and Health Management (PHM), this important work covers all areas of electronics and explains how to: assess methods for damage estimation of components and systems due to field loading conditions; assess the cost and benefits of prognostic implementations; develop novel methods for in situ monitoring of products and systems in actual life-cycle conditions; enable condition-based (predictive) maintenance; increase system availability through an extension of maintenance cycles and/or timely repair actions; obtain knowledge of load history for future design, qualification, and root cause analysis; reduce the occurrence of no fault found (NFF); subtract life-cycle costs of equipment from reduction in inspection costs, downtime, and inventory. Prognostics and Health Management of Electronics also explains how to understand statistical techniques and machine learning methods used for diagnostics and prognostics. Using this valuable resource, electrical engineers, data scientists, and design engineers will be able to fully grasp the synergy between IoT, machine learning, and risk assessment.

High Brightness Light Emitting Diodes Sep 03 2022 Volume 48 in the Semiconductors and Semimetals series discusses the physics and chemistry of electronic materials, a subject of growing practical importance in the semiconductor devices industry. The contributors discuss the current state of knowledge and provide insight into future developments of this important field.

Single-Inductor Multiple-Output Converters Oct 04 2022 The book provides a comprehensive overview of Single-Inductor Multiple-Output Converters from both theoretical and practical

perspectives. Based on the authors' in-depth research, the volume covers not only conventional SIMO DC-DC converters but also the new generations of SIMO such as SIMO AC-DC converters, SIMO DC-AC converters (or SIMO inverters), and the latest SIMO hybrid converters. This book offers a holistic and systematic presentation of all types of SIMO converters, encompassing the derivation of the circuit topologies, the definition of key concepts, detailed discussion of theoretical underpinnings, design methodology and control schemes, as well as design considerations and techniques that enable practical implementation. Specific examples of real-world applications of SIMO converters are also provided. The volume offers a comprehensive overview and systematic classification of the traditional and modern topologies of SIMO converters in terms of system architecture, circuit analysis, operating principles, control methods, design considerations and practical implementation. Specifically, the book presents the mathematical models and design principles necessary for analyzing the behavior of each kind of SIMO converter, and building upon that, introduces and imparts new approaches and techniques when designing such converters, guiding engineering students and power engineers towards achieving low-cost, compact and energy efficient SIMO converters. offers the design considerations and optimization as well as describing the key applications of SIMO converters. The book fills a significant niche in the power electronics literature and provides a complete perspective on SIMO converters that hopefully can inspire appreciation and better understanding of the subject matter. It can be directly adopted in undergraduate or graduate coursework as well as postgraduate research programs.

Electronics World Jan 15 2021

The IGBT Device Oct 24 2021 *The IGBT Device: Physics,*

Design and Applications of the Insulated Gate Bipolar Transistor, Second Edition provides the essential information needed by applications engineers to design new products using the device in sectors including consumer, industrial, lighting, transportation, medical and renewable energy. The IGBT device has proven to be a highly important Power Semiconductor, providing the basis for adjustable speed motor drives (used in air conditioning and refrigeration and railway locomotives), electronic ignition systems for gasoline powered motor vehicles and energy-saving compact fluorescent light bulbs. The book presents recent applications in plasma displays (flat-screen TVs) and electric power transmission systems, alternative energy systems and energy storage, but it is also used in all renewable energy generation systems, including solar and wind power. This book is the first available on the applications of the IGBT. It will unlock IGBT for a new generation of engineering applications, making it essential reading for a wide audience of electrical and design engineers, as well as an important publication for semiconductor specialists. Presents essential design information for applications engineers utilizing IGBTs in the consumer, industrial, lighting, transportation, medical and renewable energy sectors Teaches the methodology for the design of IGBT chips, including edge terminations, cell topologies, gate layouts, and integrated current sensors Covers applications of the IGBT, a device manufactured around the world by more than a dozen companies with sales exceeding \$5 Billion Written by the inventor of the device, this is the first book to highlight the key role of the IGBT in enabling electric vehicles and renewable energy systems with global impacts on climate change

Cyclopaedia of Useful Arts, Mechanical and Chemical, Manufactures, Mining and Engineering: Lac to Zirconium Dec

02 2019

Guide to State-of-the-Art Electron Devices Sep 22 2021

Winner, 2013 PROSE Award, Engineering and Technology Concise, high quality and comparative overview of state-of-the-art electron device development, manufacturing technologies and applications Guide to State-of-the-Art Electron Devices marks the 60th anniversary of the IRE electron devices committee and the 35th anniversary of the IEEE Electron Devices Society, as such it defines the state-of-the-art of electron devices, as well as future directions across the entire field. Spans full range of electron device types such as photovoltaic devices, semiconductor manufacturing and VLSI technology and circuits, covered by IEEE Electron and Devices Society Contributed by internationally respected members of the electron devices community A timely desk reference with fully-integrated colour and a unique lay-out with sidebars to highlight the key terms Discusses the historical developments and speculates on future trends to give a more rounded picture of the topics covered A valuable resource R&D managers; engineers in the semiconductor industry; applied scientists; circuit designers; Masters students in power electronics; and members of the IEEE Electron Device Society.

EDN, Electrical Design News Jan 03 2020

Valve-Regulated Lead-Acid Batteries Feb 02 2020 For many decades, the lead-acid battery has been the most widely used energy-storage device for medium- and large-scale applications (approximately 100Wh and above). In recent years, the traditional, flooded design of the battery has begun to be replaced by an alternative design. This version - the valve-regulated lead-acid (VRLA) battery - requires no replenishment of the water content of the electrolyte solution, does not spill liquids, and can be used in any desired orientation. Since the

VRLA battery operates in a somewhat different manner from its flooded counterpart, considerable technological development has been necessary to meet the exacting performance requirements of the full range of applications in which rechargeable batteries are used. The valve-regulated design is now well established in the industrial battery sector, and also appears set to be adopted widely for automotive duty. This book provides a comprehensive account of VRLA technology and its uses. In the future, all industrial processes - including the manufacture of batteries - will be required to conform to the conventions of sustainability. Accordingly, the crucial areas of the environmental impact associated with the production and use of VRLA batteries and the recycling of spent units are also treated thoroughly. Valve-Regulated Lead-Acid Batteries gives an essential insight into the science that underlies the development and operation of VRLA batteries and is a comprehensive reference source for those involved in the practical use of the technology in key energy-storage applications. Covers all major advances in the field Provides a comprehensive account of VRLA technology and its uses First book dedicated to this technology

Power Supplies for LED Driving Nov 05 2022 Power Supplies for LED Driving, Second Edition explores the wide use of light-emitting diodes due to their efficient use of power. The applications for power LEDs include traffic lights, street lamps, automotive lighting, architectural lights, theatre lighting, household light replacements, signage lighting (replacing neon strip lights and fluorescent tubes), LCD display backlighting, and many more. Powering (driving) these LED's is not always simple. Linear driving is inefficient and generates far too much heat. With a switching supply, the main issues are EMI, efficiency, and of course cost. This book covers the design

trade-offs involved in LED driving applications, from low-power, to UB-LEDs and beyond. Provides a practical, hands-on approach to power supply design for LED drivers Contains detailed examples of what works throughout the design process Presents commentary on how the calculated component value compares with the actual value used, including a description of why the choice was made

About Christmas Feb 25 2022 Christmas characters and food, Christmas-linked holidays and music, Santa Claus and traditions. Related to Annunciation, Incarnation; Crucifixion; Advent, the four weeks preceding Christmas; and the period between the day after Thanksgiving and the Sunday after New Year's Day, the American holiday season. Christmas or Christmas Day is a holiday celebrating the birth of Jesus, the central figure of Christianity. Aspects of celebration may include gift-giving, Christmas trees, display of Nativity sets, church attendance, the Father Christmas/Santa Claus myth, and family gatherings. Users of the Gregorian calendar observe the holiday on December 25. Some Eastern Orthodox Churches celebrate on December 25 by the Julian calendar, which currently corresponds to January 7 on the Gregorian calendar. These dates are merely traditional; the great majority of scholars agree that the actual birthdate of Jesus is unknown. In Western culture, the holiday is characterized by the exchange of gifts among friends and family members, some of the gifts being attributed to Santa Claus (also known as Father Christmas, Saint Nicholas, Saint Basil and Father Frost). However, various local and regional Christmas traditions are still practiced, despite the widespread influence of American, British and Australian Christmas motifs disseminated by film, popular literature, television, and other media.

Fundamentals of Solid-State Lighting Jun 19 2021 Compared to

traditional electrical filaments, arc lamps, and fluorescent lamps, solid-state lighting offers higher efficiency, reliability, and environmentally friendly technology. LED / solid-state lighting is poised to take over conventional lighting due to cost savings—there is pretty much no debate about this. In response to the recent activity in this field, *Fundamentals of Solid-State Lighting: LEDs, OLEDs, and Their Applications in Illumination and Displays* covers a range of solid-state devices, technologies, and materials used for lighting and displays. It also examines auxiliary but critical requirements of efficient applications, such as modeling, thermal management, reliability, and smart lighting. The book discusses performance metrics of LEDs such as efficiency, efficacy, current–voltage characteristics, optical parameters like spectral distribution, color temperature, and beam angle before moving on to luminescence theory, injection luminescence, radiative and non-radiative recombination mechanisms, recombination rates, carrier lifetimes, and related topics. This lays down the groundwork for understanding LED operation. The book then discusses energy gaps, light emission, semiconductor material, special equipment, and laboratory facilities. It also covers production and applications of high-brightness LEDs (HBLEDs) and organic LEDs (OLEDs). LEDs represent the landmark development in lighting since the invention of electric lighting, allowing us to create unique, low-energy lighting solutions, not to talk about their minor maintenance expenses. The rapid strides of LED lighting technology over the last few years have changed the dynamics of the global lighting market, and LEDs are expected to be the mainstream light source in the near future. In a nutshell, the book traces the advances in LEDs, OLEDs, and their applications, and presents an up-to-date and analytical perspective of the scenario for audiences of different

backgrounds and interests.

Advanced Computer and Communication Engineering

Technology Aug 22 2021 This book covers diverse aspects of advanced computer and communication engineering, focusing specifically on industrial and manufacturing theory and applications of electronics, communications, computing and information technology. Experts in research, industry, and academia present the latest developments in technology, describe applications involving cutting-edge communication and computer systems, and explore likely future trends. In addition, a wealth of new algorithms that assist in solving computer and communication engineering problems are presented. The book is based on presentations given at ICOCOE 2015, the 2nd International Conference on Communication and Computer Engineering. It will appeal to a wide range of professionals in the field, including telecommunication engineers, computer engineers and scientists, researchers, academics and students.

The Formation and Evolution of Cosmic Strings Nov 12 2020

51 High-Tech Practical Jokes for the Evil Genius Sep 30

2019 ENGAGE YOUR WARPED SENSE OF HUMOR WITH HUNDREDS OF PRACTICAL GAG DEVICES YOU BUILD YOURSELF! Give your friends and family the shock of their lives! 51 High-Tech Practical Jokes for the Evil Genius has everything you need to pull devastatingly funny (and safe!) technical pranks. From the “evasive beeping thing” to “rats in the walls” to the “rigged lie detector,” you’ll find a plethora of pranks that will feed your inner hacker while you create a state of utter confusion around you! Using easy-to-find parts and tools that all Evil Geniuses can get their hands on, these well-played yet harmless pranks will confound your unsuspecting targets every time. Plus, every gadget can be mixed and matched, allowing you to create hundreds of larger, even more twisted

evil prank devices! 51 High-Tech Practical Jokes for the Evil Genius gives you: Instructions and plans for 51 simple-to-advanced projects, complete with 200 how-to illustrations that let you build each device visually Frustration-factor removal—all the needed parts are listed, along with sources Video links to many of the practical jokes on YouTube.com 51 High-Tech Practical Jokes for the Evil Genius provides you with all the instructions, parts lists, and sources you need to pull hilarious pranks, such as: Evasive random beeping things Dripping faucet simulator Hungry garbage can critter Humungous dropping spider Horrible computer failure TV remote control jammer Possessed animatronic doll Flying Ouija board Voices from the grave The barbecue box Ultrasimple pulse shocker Disposable camera taser Ghost door knocker Radio station blocker And many more!