High Voltage High Frequency Devices For Solid State Power

The Law of Electrical Invention
Proceedings for the Second Workshop on Smart Power/Power Integrated Circuits: Technology and Applications

A Compact Power Supply for Dielectric Barrier Discharge Devices

"Power Electronics in Smart Electrical Energy Networks" introduces a new viewpoint on power electronics, re-thinking the basic philosophy governing electricity distribution systems. The proposed concept fully exploits the potential advantages of renewable energy sources and distributed generation (DG), which should not only be connected but also fully integrated into the distribution system in order to increase the efficiency, flexibility, safety, reliability and quality of the electricity and the networks. The transformation of current electricity grids into smart (reliable and interactive) networks necessitates the development, propagation and demonstration of key enabling cost-effective technologies. A must-read for professionals in power engineering and utility industries, and researchers and postgraduates in distributed electrical power systems, this book presents the features, solutions and applications of the power electronics arrangements useful for future smart electrical energy networks.

Steel and Iron

High-Frequency GaN Electronic Devices

International Conference on Thin Film Physics and Applications

This book brings together recent research by scientists and device engineers working on both aggressively-scaled conventional transistors as well as unconventional high-frequency device concepts in the III-N material system. Device concepts for mm-wave to THz operation based on deeply-scaled HEMTs, as well as distributed device designs based on plasma-wave propagation in polarization-induced 2DEG channels, tunneling, and hot-carrier injection are discussed in detail. In addition, advances in the underlying materials science that enable these demonstrations, and advancements in metrology that permit the accurate characterization and evaluation of these emerging device concepts are also included. Targeting readers looking to push the envelope in GaN-based electronics device research, this book provides a current, comprehensive treatment of device concepts and physical phenomenology suitable for applying GaN and related materials to emerging ultra-high-frequency applications. Offers readers an integrated treatment of the state of the art in both conventional (i.e., HEMT) scaling as well as unconventional device architectures suitable for amplification and signal generation in the mm-wave and THz regime using GaN-based devices, written by authors that are active and widely-known experts in the field. Discusses both conventional scaled HEMTs (into the deep mm-wave) as well as unconventional approaches to address the mm-wave and THz regimes; Provides "vertically integrated" coverage, including materials science that enables these recent advances, as well as device physics & design, and metrology techniques; Includes fundamental physics, as well as numerical simulations and experimental realizations.

High-reliability Devices

Power Control with Solid-state Devices

Good No Highlights, No Markup, all pages are intact. Slight Shelfwear, may have the corners slightly dented, may have slight color changes / slightly damaged spine.

Electron Devices Tutorial Symposium

Handbook for Radio Engineering Managers

Electronics

Silicon Carbide, III-nitrides and Related Materials

Lists citations with abstracts for aerospace related reports obtained from world wide sources and announces documents that have recently been entered into the NASA Scientific and Technical Information Database.

Official Gazette of the United States Patent Office

2016 6th Electronic System-Integration Technology Conference (ESTC)

Silicon Carbide and Related Materials 2004

Alternative Energy Systems

New perspectives on using induction generators in alternative energy technologies. Durable and cost-effective, induction power generators have undergone numerous improvements that make them an increasingly attractive option for renewable energy applications, particularly for wind and hydropower generation systems. From fundamental concepts to the latest technologies, Alternative Energy Systems: Design and Analysis with Induction Generators, Second Edition provides detailed and accurate coverage of all aspects related to the design, operation, and overall analysis of such systems. Placing a greater emphasis on providing clear, precise, and succinct explanations, this second edition features new, revised, and updated content as well as figures, tables, equations, and examples. Each chapter introduces a multi-step, chapter-length problem relating the material to a real application. This solution appears at the end of the chapter, along with additional practice problems and references. New Material in This Edition: Updated definitions for generator power and efficiency. Technological advances, such as new applications using doubly-fed induction generators. New methodologies, such as the magnetization curve representation for induction generators. Additional focus on renewable energy applications such as sea, wind, and hydropower systems. Totally re-written and updated chapter covering doubly-fed induction generators Alternative Energy Systems provides the tools and expertise for advanced students and professionals in electrical, mechanical, civil, and environmental engineering involved in the development of power plants.

Page 1/3
RF Power Devices

Government Reports Announcements & Index

Advanced Electric Power Technology in Japan - 1981

Official Gazette of the United States Patent and Trademark Office

Conference Record

1998 High-Temperature Electronic Materials, Devices and Sensors Conference

Advanced High Voltage Power Device Concepts

The devices described in "Advanced MOS-Gated Thyristor Concepts" are utilized in microelectronics production equipment, in power transmission equipment, and for very high power motor control in electric trains, steel-mills, etc. Advanced concepts that enable improving the performance of power thyristors are discussed here, along with devices with blocking voltage capabilities of 5,000 V, 10,000 V, and 15,000 V. Throughout the book, analytical models are generated to achieve a simple analysis of the structures and to obtain insight into the underlying physics. The results of two-dimensional simulations are provided to corroborate the analytical models and give greater insight into the device operation.

Namibia E-access & Usage Index Survey, 2004

Protection

Medical Device Register

1996 IEEE MTT-S International Microwave Symposium Digest

Silicon Carbide (SiC), Gallium Nitride (GaN) and Diamond are examples of wide-bandgap semiconductors having chemical, electrical and optical properties which make them very attractive for the fabrication of high-power and high-frequency electronic devices, as well as for light-emitters and sensors which have to operate under harsh conditions. The book compiles the proceedings of the 5th edition of the European Conference on Silicon Carbide and Related Materials, held from the 31st August to the 4th September 2004 in Bologna, Italy. This conference series has continued its tradition of being the main European forum for exchanging results, and discussing progress, between university and industry researchers who are most active in the fields of SiC and related materials. Attendees at the conference highlighted the progress made in material growth technology, characterization of material properties and technological processing for electronic equipments. Many electronics devices were presented, including high-voltage, high-power-density and high-temperature components, as well as microwave components. Radiation-hard sensors were also presented. These proceedings fully document the latest experimental and theoretical understanding of the growth of bulk and epitaxial layers, the properties of the resultant materials, the development of suitable processes and of electronic devices that can best exploit and benefit from the outstanding physical properties that are offered by wide-bandgap materials.

Design and Optimization of High Power, High Frequency FET's Using Pseudomorphic Layers

Contains a list of all manufacturers and other specified processors of medical devices registered with the Food and Drug Administration, and permitted to do business in the U.S., with addresses and telephone numbers. Organized by FDA medical device name, in alphabetical order. Keyword Index to FDA established standard names of medical devices.

Conference Record of the 2001 IEEE Industry Applications Conference

Scientific and Technical Aerospace Reports

Power Electronics in Smart Electrical Energy Networks

Plasma generation by dielectric barrier discharge (DBD) devices has recently become a topic of interest for researchers due to the growing number of industrial applications. Some applications of note include: generation of ozone gas for disinfecting and cleaning, aerodynamic flow control over an airfoil, light emission for plasma displays and CO2 lasers, and others. The emergence of these new applications, specifically aerodynamic flow control for aerospatial applications, has created significant need for adaptable, compact and lightweight power supplies. The majority of the required high-voltage and high-frequency AC supplies employed by DBD devices have been based on resonant-type power electronic converters (PEC's). Nonetheless, resonant PEC's are neither small nor lightweight, which makes them less desirable for supplying DBD devices in aerospatial applications. In addition, resonant PEC's are generally not adaptable as their AC outputs are produced over a narrow frequency range, and their operation requires complicated control schemes. In this work, the size and weight requirements of a DBD device for aerospatial applications will be achieved using multi-stage and multi-level switch mode PEC's. The multi-stage structure will consist of multiple DC-DC step-up PEC's supplied from batteries. These DC-DC PEC's will feed a multi-level DC-AC PEC, which will be operated to produce high voltages over a wide range of high frequencies. The DC-DC and DC-AC PEC's will be operated using switching signals generated by digital signal processing (DSP) platform in order to ensure high-quality AC outputs. Moreover, desired switching signals will be generated to facilitate adjusting the magnitude and the frequency of the output AC voltage. Such adjustments will allow manipulation of the DBD body for achieving plasma velocity, which alters the thrust and/or the boundary layer separation. This work focuses on the design, construction, performance testing, and optimization of the
size and weight of a power supply for a DBD device for aeronautical applications. Modeling and simulation tests have been conducted for various operating conditions. An experimental prototype was constructed for performance evaluation of the multi-stage and multi-level power supply, test results are reported and compared to the predictions.

Electronic Design

Proceedings of the International Symposium on Microelectronics

Science Fair Projects

IBM Technical Disclosure Bulletin

This volume addresses topics including: SiC materials and devices; novel materials and technologies; SiC and SOI technologies; packaging, and metallization.

Proceedings of the Symposium on High Voltage and Smart Power Devices