

Chapter 1 MOSFET Design and Its Optimization for Low-Power Applications  
P. Vimala, M. Karthigai Pandian, and T. S. Arun Samuel

Chapter 2 RF/Analog and Linearity Performance Evaluation of a Step-FinFET under Variation in Temperature  
Rajesh Saha, Brinda Bhowmick, and Srimanta Baishya

Chapter 3 Low-Power Memory Design for IOT-Enabled Systems: Part 1  
Adeeba Sharif, Sayeed Ahmad, and Naushad Alam

Chapter 4 Low-Power Memory Design for IoT-Enabled Systems: Part 2  
Shilpi Birla, Neha Singh, and N. K. Shukla

Chapter 5 Performance Evaluation of a Novel Channel Engineered Junctionless Double-Gate MOSFET for Radiation Sensing and Low-Power Circuit Application  
Dipanjan Sen, Bijoy Goswami, Anup Dey, and Subir Kumar Sarakar

Chapter 6 Technological Challenges and Solutions to Advanced MOSFETs  
S. Bhattacharjee

Chapter 7 Energy Storage Device Fundamentals and Technology  
Himanshu Priyadarshi, Ashish Shrivastava, and Kulwant Singh

Chapter 8 Energy Storage Devices  
M. Karthigai Pandian, K. Saravanakumar, J. Dhanaselvam, and T. Chinnadurai

Chapter 9 A Heuristic Approach for Modelling and Control of an Automatic Voltage Regulator (AVR)  
Rishabh Singhal, Abhimanyu Kumar, and Souvik Ganguli

Chapter 10 Reduced-Order Modelling and Control of a Single-Machine Infinite Bus System with the Grey Wolf Optimizer (GWO)  
Rishabh Singhal, Saumyadip Hazra, Sauhardh Sethi, and Souvik Ganguli

Chapter 11 Internet of Things (IoT) with Energy Sector-Challenges and Development  
Arun Kumar and Sharad Sharma

Chapter 12 Automatic and Efficient IoT-Based Electric Vehicles and Their Battery Management System: A Short Survey and Future Directions  
Parag Nijhawan, Manish Kumar Singla, and Souvik Ganguli

Chapter 13 A Hybrid Approach for Model Order Reduction and Controller Design of Large-Scale Power Systems  
Rishabh Singhal, Yashonidhi Srivastava, Shini Agarwal, Abhimanyu Kumar, and Souvik Ganguli

Chapter 14 Day-Ahead Electricity Price Forecasting for Efficient Utility Operation Using Deep Neural Network Approach  
K. Arya and K.R.M. Vijaya Chandrakala

Chapter 15 MEMS Devices and Thin Film-Based Sensor Applications.....245  
Ashish Tiwary and Shasanka Sekhar Rout

Chapter 16 Structural, Optical, and Dielectric Properties of Ba-Modified SrSnO<sub>3</sub> for Electrical Device Application  
Aditya Kumar, Bushra Khan, Manoj K. Singh, and Upendra Kumar

Chapter 17 Fabrication and Characterization of Nanocrystalline Lead Sulphide (PbS) Thin Films on Fabric for Flexible Photodetector Application  
Kinjal Patel, Jaymin Ray, and Sweetly Panchal

Chapter 18 Effect of Stiffness in Sensitivity Enhancement of MEMS Force Sensor Using Rectangular Spade Cantilever for Micromanipulation Applications  
Monica Lamba, Himanshu Chaudhary, and Kulwant Singh

Chapter 19 Successive Ionic Layer Adsorption and Reaction Deposited ZnS-ZnO Thin Film Characterization  
Sampat G. Deshmukh, Rohan S. Deshmukh, Ashish K. Panchal, and Vipul Kheraj

Chapter 20 State of Art for Virtual Fabrication of Piezoresistive MEMS Pressure Sensor

Samridhi and Parvej Ahmad Alvi

Chapter 21 Role of Aqueous Electrolytes in the Performance of Electrochemical Supercapacitors

Prakash Chand

Chapter 22 Graphene for Flexible Electronic Devices

S. Dwivedi

Chapter 23 Flexible Microfluidics Biosensor Technology