

1. Record Nr.	UNINA9910969668203321
Autore	Ayers John E.
Titolo	Digital Integrated Circuits : Analysis and Design, Second Edition // John E. Ayers
Pubbl/distr/stampa	Boca Raton, FL : , : CRC Press, , 2011
ISBN	1-000-05506-X 1-315-27535-X 1-4398-9495-7
Edizione	[Second edition.]
Descrizione fisica	1 online resource (xiv, 597 pages) : illustrations
Disciplina	621.3815
Soggetti	Digital integrated circuits - Design and construction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	chapter 1 Introduction -- chapter 2 Fabrication -- chapter 3 Semiconductors and p-n Junctions -- chapter 4 The MOS Transistor -- chapter 5 MOS Gate Circuits -- chapter 6 Static CMOS -- chapter 7 Interconnect -- chapter 8 Dynamic CMOS -- chapter 9 Low-Power CMOS -- chapter 10 Bistable Circuits -- chapter 11 Digital Memories -- chapter 12 Input/Output and Interface Circuits.
Sommario/riassunto	"Exponential improvement in functionality and performance of digital integrated circuits has revolutionized the way we live and work. The continued scaling down of MOS transistors has broadened the scope of use for circuit technology to the point that texts on the topic are generally lacking after a few years. The second edition of Digital Integrated Circuits: Analysis and Design focuses on timeless principles with a modern interdisciplinary view that will serve integrated circuits engineers from all disciplines for years to come. Providing a revised instructional reference for engineers involved with Very Large Scale Integrated Circuit design and fabrication, this book delves into the dramatic advances in the field, including new applications and changes in the physics of operation made possible by relentless miniaturization. This book was conceived in the versatile spirit of the field to bridge a void that had existed between books on transistor electronics and those covering VLSI design and fabrication as a separate topic. Like the first edition, this volume is a crucial link for integrated circuit engineers

and those studying the field, supplying the cross-disciplinary connections they require for guidance in more advanced work. For pedagogical reasons, the author uses SPICE level 1 computer simulation models but introduces BSIM models that are indispensable for VLSI design. This enables users to develop a strong and intuitive sense of device and circuit design by drawing direct connections between the hand analysis and the SPICE models. With four new chapters, more than 200 new illustrations, numerous worked examples, case studies, and support provided on a dynamic website, this text significantly expands concepts presented in the first edition."--Provided by publisher.
