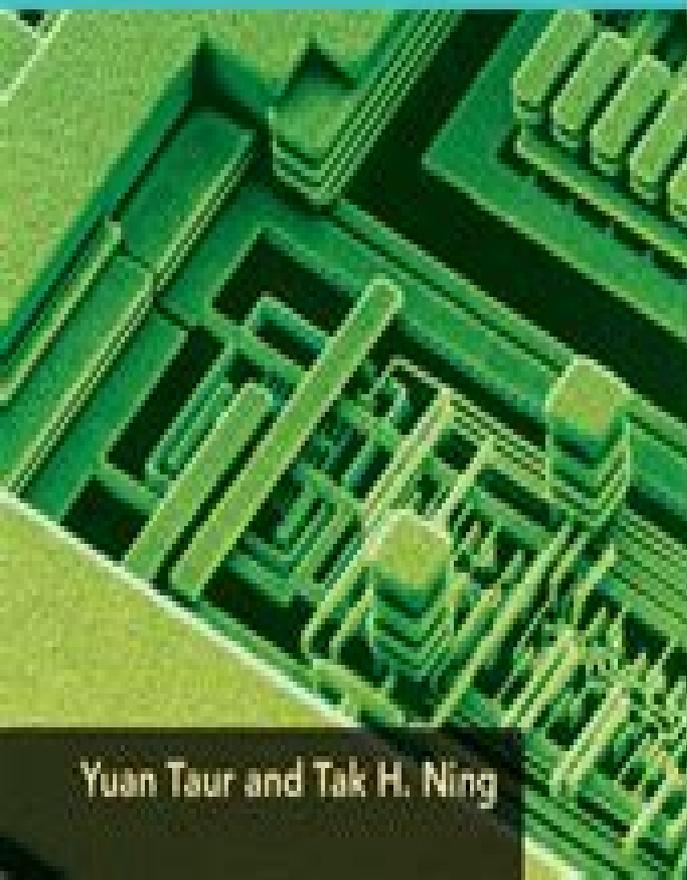


THIRD EDITION

Fundamentals of  
**Modern  
VLSI Devices**



Yuan Taur and Tak H. Ning

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Journal of Nano Research Vol. 41 Efstathios I. Meletis, 2016-05-04 Special topic volume with invited peer-reviewed papers only **IEEE Circuits & Devices**, 2006 *Theory of Modern Electronic Semiconductor Devices* Kevin F. Brennan, April S. Brown, 2002-03-07 A thorough examination of the present and future of semiconductor device technology. Engineers continue to develop new electronic semiconductor devices that are almost exponentially smaller, faster, and more efficient than their immediate predecessors. *Theory of Modern Electronic Semiconductor Devices* endeavors to provide an up-to-date, extended discussion of the most important emerging devices and trends in semiconductor technology, setting the pace for the next generation of the discipline's literature. Kevin Brennan and April Brown focus on three increasingly important areas: telecommunications, quantum structures, and challenges and alternatives to CMOS technology. Specifically, the text examines the behavior of heterostructure devices for communications systems, quantum phenomena that appear in miniaturized structures, and new nanoelectronic device types that exploit these effects. The challenges faced by continued miniaturization of CMOS devices and futuristic alternatives, device structures on the commercial and research levels, are analyzed in detail. Heterostructure field-effect transistors, bipolar and CMOS transistors, resonant tunneling diodes, real-space transfer transistors, quantum-dot cellular automata, single-electron transistors. The book contains many homework exercises at the end of each chapter, and a solution manual can be obtained for instructors. Emphasizing the development of new technology, *Theory of Modern Electronic Semiconductor Devices* is an ideal companion to electrical and computer engineering graduate-level courses and an essential reference for semiconductor device engineers. *IEICE Transactions on Electronics*, 2005

JJAP, 2010 *Single-chip Bluetooth Solutions* Sudepto Chakraborty, 2001 **Design of Microdisplays Based on the Liquid Crystal on Silicon Technology** Jae Young Ko, 2001 **Conference Digest**, 2004 *Digest*, 2004

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