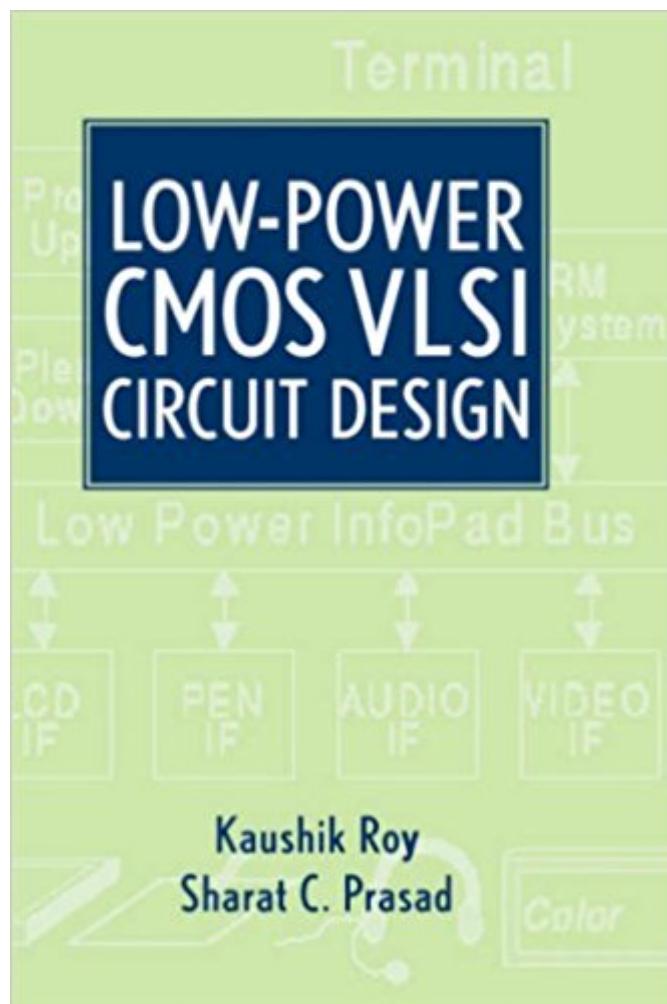


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# Low-Power CMOS VLSI Circuit Design



## **Synopsis**

A comprehensive look at the rapidly growing field of low-power VLSI design. Low-power VLSI circuit design is a dynamic research area driven by the growing reliance on battery-powered portable computing and wireless communications products. In addition, it has become critical to the continued progress of high-performance and reliable microelectronic systems. This self-contained volume clearly introduces each topic, incorporates dozens of illustrations, and concludes chapters with summaries and references. VLSI circuit and CAD engineers as well as researchers in universities and industry will find ample information on tools and techniques for design and optimization of low-power electronic systems. Topics include:

- \* Fundamentals of power dissipation in microelectronic devices
- \* Estimation of power dissipation due to switching, short circuit, subthreshold leakage, and diode leakage currents
- \* Design and test of low-voltage CMOS circuits
- \* Power-conscious logic and high-level synthesis
- \* Low-power static RAM architecture
- \* Energy recovery techniques
- \* Software power estimation and optimization

## **Book Information**

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## **Customer Reviews**

"This is a highly recommended book for all academic engineering libraries." (E-Streams, Vol. 4, No. 8, August 2001)

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design is a dynamic research area driven by the growing reliance on battery-powered portable computing and wireless communications products. In addition, it has become critical to the continued progress of high-performance and reliable microelectronic systems. This self-contained volume clearly introduces each topic, incorporates dozens of illustrations, and concludes chapters with summaries and references. VLSI circuit and CAD engineers as well as researchers in universities and industry will find ample information on tools and techniques for design and optimization of low-power electronic systems. Topics include: Fundamentals of power dissipation in microelectronic devices Estimation of power dissipation due to switching, short circuit, subthreshold leakage, and diode leakage currents Design and test of low-voltage CMOS circuits Power-conscious logic and high-level synthesis Low-power static RAM architecture Energy recovery techniques Software power estimation and optimization

The most upto date book on low-power design methods. Some information is redundant and can be eliminated from the book. The chapter on the physics of a transistor is excellent. THERE ARE A LOT OF TYPOS IN THE BOOK!

This book was very helpful for me to understand about modern low-power chip design,also made me save my times to search the papers about this topic. Great book.

It is the most comprehensive book in the low power CMOS design area, which covers the low power methods in different levels.

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