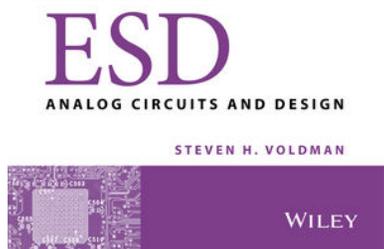




ESD: Analog Circuits and Design

Steven H. Voldman

E-Book	978-1-118-70147-8	January 2015	\$111.99
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DESCRIPTION

A comprehensive and in-depth review of analog circuit layout, schematic architecture, device, power network and ESD design

This book will provide a balanced overview of analog circuit design layout, analog circuit schematic development, architecture of chips, and ESD design. It will start at an introductory level and will bring the reader right up to the state-of-the-art. Two critical design aspects for analog and power integrated circuits are combined. The first design aspect covers analog circuit design techniques to achieve the desired circuit performance. The second and main aspect presents the additional challenges associated with the design of adequate and effective ESD protection elements and schemes. A comprehensive list of practical application examples is used to demonstrate the successful combination of both techniques and any potential design trade-offs.

Chapter One looks at analog design discipline, including layout and analog matching and analog layout design practices. Chapter Two discusses analog design with circuits, examining: single transistor amplifiers; multi-transistor amplifiers; active loads and more. The third chapter covers analog design layout (also MOSFET layout), before Chapters Four and Five discuss analog design synthesis. The next chapters introduce the reader to analog-digital mixed signal design synthesis, analog signal pin ESD networks, and analog ESD power clamps. Chapter Nine, the last chapter, covers ESD design in analog applications.

- Clearly describes analog design fundamentals (circuit fundamentals) as well as outlining the various ESD implications
- Covers a large breadth of subjects and technologies, such as CMOS, LDMOS, BCD, SOI, and thick body SOI

- Establishes an “ESD analog design” discipline that distinguishes itself from the alternative ESD digital design focus
- Focuses on circuit and circuit design applications
- Assessible, with the artwork and tutorial style of the ESD book series
- PowerPoint slides are available for university faculty members

Even in the world of digital circuits, analog and power circuits are two very important but under-addressed topics, especially from the ESD aspect. Dr. Voldman’s new book will serve as an essential and practical guide to the greater IC community. With high practical and academic values this book is a “bible” for professionals, graduate students, device and circuit designers for investigating the physics of ESD and for product designs and testing.

ABOUT THE AUTHOR

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