DESCRIPTION

The 2nd Edition of *Analog Integrated Circuit Design* focuses on more coverage about several types of circuits that have increased in importance in the past decade. Furthermore, the text is enhanced with material on CMOS IC device modeling, updated processing layout and expanded coverage to reflect technical innovations. CMOS devices and circuits have more influence in this edition as well as a reduced amount of text on BiCMOS and bipolar information. New chapters include topics on frequency response of analog ICs and basic theory of feedback amplifiers.

ABOUT THE AUTHOR

*Tony Chan Carusone* completed the B.A.Sc. and Ph.D. degrees at the University of Toronto in 1997 and 2002 respectively, during which time he received the Governor-General's Silver Medal. Since 2001, he has been with the Department of Electrical and Computer Engineering at the University of Toronto where he is currently an Associate Professor. From 2002 to 2007 he held the Canada Research Chair in Integrated Systems and in 2008 was a visiting researcher at the University of Pavia. He is also an occasional consultant to industry, having worked for Snowbush Inc., Gennum Corp., and Intel Corp., all in the area of high-speed links. Tony was a co-author of the best student papers at both the 2007 and 2008 Custom Integrated Circuits Conference and the best paper at the 2005 Compound Semiconductor Integrated Circuits Symposium. He is an appointed member of the Administrative Committee of the IEEE Solid-State Circuits Society, a member and past chair of the Analog Signal Processing Technical Committee for the IEEE Circuits and Systems Society, and a past member and chair of the Wireline Communications
subcommitee of the Custom Integrated Circuits Conference. He has served as a guest editor for both the IEEE Journal of Solid-State Circuits and the IEEE Transactions on Circuits and Systems I: Regular Papers, and served on the editorial board of the IEEE Transactions on Circuits and Systems II: Express Briefs from 2006 until 2009 when he was Editor-in-Chief.

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NEW TO EDITION

• New chapters make the text accessible to new analog circuit designers:

• Frequency response

• Feedback analysis

• New examples and problems based upon more modern process technologies

• Low voltage design topics including:

• Subthreshold MOS operation

• Low-voltage opamp design

• Low-voltage bandgap reference

• New topics to support the teaching of design in deep submicron CMOS technologies including:

• MOS parameter extraction

• Mismatch & variability

• Proximity effects

• Consolidation of introductory CMOS and bipolar material to facilitate teaching either independently

• Linear voltage regulators
- Noise in sampled circuits
- 1.5-bit per stage pipelined converter and other new A/D converter architectures
- Complex signal processing
- All-new modern coverage of phase locked loops including phase noise and jitter analysis
- Key points are highlighted and summarized for each chapter
- Online spice models and examples at the companion website: analogicdesign.com

FEATURES

Thorough coverage of contemporary topics, such as digital error correction, tuning and calibration, both oversampled and Nyquist-rate data converters, and integrated phase-locked loops. An intuitive approach and emphasis on practical design and analysis make it the reference for both students and practicing analog designers alike.

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