

1. Record Nr.	UNINA9910958983403321
Titolo	Analog Circuit Design : Operational Amplifiers, Analog to Digital Convertors, Analog Computer Aided Design // edited by Johan Huijsing, Rudy J. van der Plassche, Willy M.C. Sansen
Pubbl/distr/stampa	New York, NY : , : Springer US : , : Imprint : Springer, , 1993
ISBN	1-4757-2233-8
Edizione	[1st ed. 1993.]
Descrizione fisica	1 online resource (VIII, 452 p.)
Disciplina	004.0151
Soggetti	Computer science Electronic circuits Computer-aided engineering Electrical engineering Theory of Computation Electronic Circuits and Systems Computer-Aided Engineering (CAD, CAE) and Design Electrical and Electronic Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	New High Speed Amplifier Designs, Design Techniques and Layout Problems -- The Impact of New Architectures on the Ubiquitous Operational Amplifier -- Design of Low-Voltage Bipolar OpAmps -- OpAmp Design towards Maximum Gain-Bandwidth -- The CMOS Gain-Boosting Technique -- CMOS Buffer Amplifiers -- High Speed Sample and Hold and Analog-to-Digital Converter Circuits -- High Speed Folding ADC 's -- Oversampled Analog-to-Digital Converters -- High Speed 1-Bit Sigma Delta Modulators -- Continuous Calibration, Noise shaping D/A Conversion -- Bandpass Sigma Delta A-D Conversion -- A Top-Down Constraint-Driven Design Methodology for Analog Integrated Circuits -- Analog Cell-level Synthesis using a Novel Problem Formulation -- Analog CAD for Consumer ICs -- Tools for Analog Design -- Strategies and Routines in Analog Design -- Open Analog Synthesis System based on Declarative Models.

Sommario/riassunto

Many interesting design trends are shown by the six papers on operational amplifiers (Op Amps). Firstly, there is the line of stand-alone Op Amps using a bipolar IC technology which combines high-frequency and high voltage. This line is represented in papers by Bill Gross and Derek Bowers. Bill Gross shows an improved high-frequency compensation technique of a high quality three stage Op Amp. Derek Bowers improves the gain and frequency behaviour of the stages of a two-stage Op Amp. Both papers also present trends in current-mode feedback Op Amps. Low-voltage bipolar Op Amp design is presented by Ieroen Fonderie. He shows how multipath nested Miller compensation can be applied to turn rail-to-rail input and output stages into high quality low-voltage Op Amps. Two papers on CMOS Op Amps by Michael Steyaert and Klaas Bult show how high speed and high gain VLSI building blocks can be realised. Without departing from a single-stage OT A structure with a folded cascode output, a thorough high frequency design technique and a gain-boosting technique contributed to the high-speed and the high-gain achieved with these Op Amps. Finally, Rinaldo Castello shows us how to provide output power with CMOS buffer amplifiers. The combination of class A and AB stages in a multipath nested Miller structure provides the required linearity and bandwidth.
