ANALOG DESIGN ESSENTIALS

by

Willy M. C. Sansen

Catholic University, Leuven, Belgium



Contents

Chapter #1	Comparison of MOST and bipolar transistors	1
Chapter #2	Amplifiers, source followers and cascodes	51
Chapter #3	Differential voltage and current amplifiers	89
Chapter #4	Noise performance of elementary transistor stages	117
Chapter #5	Stability of operational amplifiers	149
Chapter #6	Systematic design of operational amplifiers	181
Chapter #7	Important opamp configurations	211
Chapter #8	Fully-differential amplifiers	239
Chapter #9	Design of multistage operational amplifiers	263
Chapter #10	Current-input operational amplifiers	291
Chapter #11	Rail-to-rail input and output amplifiers	301
Chapter #12	Class AB and driver amplifiers	337
Chapter #13	Feedback voltage and transconductance amplifiers	363
Chapter #14	Feedback transimpedance and current amplifiers	389
Chapter #15	Offset and CMRR: random and systematic	421
Chapter #16	Bandgap and current reference circuits	457
Chapter #17	Switched-capacitor filters	485
Chapter #18	Distortion in elementary transistor circuits	519
Chapter #19	Continuous-time filters	567
Chapter #20	CMOS ADC and DAC principles	603
Chapter #21	Low-power sigma-delta AD converters	637
Chapter #22	Design of crystal oscillators	677
Chapter #23	Low-noise amplifiers	711
Chapter #24	Coupling effects in mixed analog-digital ICs	743
Index of subjects		773