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Autore	Thompson Marc T
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look at a diode datasheet; Some quick comments on Schottky diodes; Further reading; Chapter 4 - Bipolar Transistor Models; A little bit of history; Basic NPN transistor; Transistor models in different operating regions
Low-frequency incremental bipolar transistor modelHigh-frequency incremental model; Reading a transistor datasheet; Limitations of the hybrid-pi model; 2N3904 datasheet excerpts22; Further reading; Chapter 5 - Basic Bipolar Transistor Amplifiers and Biasing; The issue of transistor biasing; Some transistor amplifiers; Further reading; Chapter 6 - Amplifier Bandwidth Estimation Techniques; Introduction to open-circuit time constants; Transistor amplifier examples; Short-circuit time constants; Further reading; Chapter 7 - Advanced Amplifier Topics and Design Examples
Note on cascaded gain stages and the effects of loadingWorst-case open-circuit time constants calculations; High-frequency output and input impedance of emitter follower buffers; Bootstrapping; Pole splitting; Further reading; Chapter 8 - BJT High-Gain Amplifiers and Current Mirrors; The need to augment the hybrid-pi model; Base-width modulation and the extended hybrid-pi model; Calculating small-signal parameters using a transistor datasheet; Building blocks; Further reading; Chapter 9 - Introduction to Field-Effect Transistors (FETs) and Amplifiers; Early history of field-effect transistors
Qualitative discussion of the basic signal MOSFET

Sommario/riassunto

Intuitive Analog Circuit Design outlines ways of thinking about analog circuits and systems that let you develop a feel for what a good, working analog circuit design should be. This book reflects author Marc Thompson's 30 years of experience designing analog and power electronics circuits and teaching graduate-level analog circuit design, and is the ideal reference for anyone who needs a straightforward introduction to the subject. In this book, Dr. Thompson describes intuitive and ""back-of-the-envelope"" techniques for designing and analyzing analog circuits, including tran