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Titolo	Intuitive analog circuit design : a problem-solving approach using design case studies / / by Marc T. Thompson
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Edizione	[1st ed.]
Descrizione fisica	1 online resource (494 p.)
Disciplina	621.3815
Soggetti	Electronic circuit design
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction and motivation -- Review of signal-processing basics -- Review of diode physics and the ideal (and later, nonideal) diode -- Bipolar transistor models -- Basic bipolar transistor amplifiers and biasing -- Bandwidth estimation techniques and the method of open-circuit time constants -- Advanced transistor amplifier techniques -- High-gain bipolar amplifiers and BJT current mirrors -- Introduction to MOSFET devices and basic MOS amplifiers -- Bipolar transistor switching and the charge control model -- Review of feedback systems -- Basic operational amplifier topologies and a case study -- Review of current feedback operational amplifiers -- Analog low-pass filters -- Review of passive components and a case study in PC board layout -- Other useful design techniques and loose-ends.
Sommario/riassunto	This book reflects Marc Thompson's twenty years of experience designing and teaching analog circuit design. He describes intuitive and "back of the envelope? techniques for designing and analyzing analog circuits, including transistor amplifiers (CMOS and bipolar), transistor switching, thermal circuit design, magnetic circuit design, control systems, and the like. The application of some simple rules-of-thumb and design techniques is the first step in developing an intuitive

understanding of the behavior of complex electrical systems. This book outlines some ways of thinking about analog circ