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Descrizione fisica	1 online resource (XXVII, 548 p. 506 illus., 287 illus. in color.)
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Soggetti	Electronic circuits Electronics Microelectronics Signal processing Image processing Speech processing systems Circuits and Systems Electronics and Microelectronics, Instrumentation Signal, Image and Speech Processing
Lingua di pubblicazione	Inglese
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Nota di contenuto	Introduction -- Sampling -- Sample-and-hold -- Quantization -- Accuracy -- Reference Circuits -- Digital-to-analog conversion -- Nyquist analog-to-digital conversion -- Time interleaving -- Sigma-delta modulation -- Characterization and specification.-.
Sommario/riassunto	This textbook is appropriate for use in graduate-level curricula in analog-to-digital conversion, as well as for practicing engineers in need of a state-of-the-art reference on data converters. It discusses various analog-to-digital conversion principles, including sampling, quantization, reference generation, nyquist architectures and sigma-delta modulation. This book presents an overview of the state of the art in this field and focuses on issues of optimizing accuracy and speed, while reducing the power level. This new, third edition emphasizes novel calibration concepts, the specific requirements of new systems, the consequences of 22-nm technology and the need for a more

statistical approach to accuracy. Pedagogical enhancements to this edition include additional, new exercises, solved examples to introduce all key, new concepts and warnings, remarks and hints, from a practitioner's perspective, wherever appropriate. Considerable background information and practical tips, from designing a PCB, to lay-out aspects, to trade-offs on system level, complement the discussion of basic principles, making this book a valuable reference for the experienced engineer. · Covers the most relevant developments in analog-to-digital conversion, in a pedagogical framework suited for both graduate-level courses and professionals; · Updates the second edition of this book to address recent technology developments, includes a new chapter on time-interleaved conversion, as well as a chapter on lay-out and other practical aspects; · Includes new exercises, as well as solved, step-by-step examples to help introduce each new concept. .
