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Edizione	[2nd ed. 2023.]
Descrizione fisica	1 online resource (340 pages)
Collana	Undergraduate Lecture Notes in Physics, , 2192-4805
Disciplina	621.38102453
Soggetti	Electronic circuits Physical chemistry Measurement Measuring instruments Quantum computers Electronic Circuits and Systems Physical Chemistry Measurement Science and Instrumentation Quantum Computing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	The Basics -- Additional Theorems -- Complex Impedances -- More on Capacitors and Inductors -- The Laplace Transform -- Diodes -- FETs -- Bipolar Junction Transistors -- More on Amplifiers -- The Ideal Op-Amp -- Non-linear Uses of Op-Amps -- Digital I -- Digital II -- Calculators and Computers.
Sommario/riassunto	This book provides undergraduate physics majors and students of related sciences with a sound understanding of basic electronics and how it is used in the physical sciences. While today few science students go on to careers that demand an ability to design and build electronic circuits, many will use and rely on electronics. As scientists, they will require an appropriate level of fundamental knowledge that enables them, for example, to understand what electronic equipment is doing, to correctly interpret the measurements obtained, and to appreciate the numerous links between electronics and how it is practiced and other areas of science. Discussing electronics in the

broader context and from the point of view of the scientist, this book is intended for students who are not planning to become electronics specialists but who will use electronics. It has been written in a relatively informal style and includes many detailed examples, as well as some “outside the box” material, including some ideas from quantum computing, to inspire thought and creativity. A selection of relevant exercises is included at the end of each chapter. In the updated second edition, some sections are clarified and end-of-chapter problems are added. It includes an additional chapter on quantum logic/computing.

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