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Altri autori (Persone)	ChakrabartyKrishnendu
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Cross-Contamination Avoidance for Droplet Routing -- Synchronization of Concurrently-Implemented Fluidic Operations in Pin-Constrained Biochips -- Optimization of Droplet Routing and Control-Pin Mapping to Electrodes -- Built-In Self Test and Diagnosis -- On-Line Testing and Test Generation -- Integrated Control-Path Design and Error Recovery -- Conclusions.
Sommario/riassunto	This book provides a comprehensive methodology for automated design, test and diagnosis, and use of robust, low-cost, and manufacturable digital microfluidic systems. It focuses on the development of a comprehensive CAD optimization framework for digital microfluidic biochips that unifies different design problems. With the increase in system complexity and integration levels, biochip designers can utilize the design methods described in this book to evaluate different design alternatives, and carry out design-space exploration to obtain the best design point. Describes practical design automation tools that address different design problems (e.g., synthesis, droplet routing, control-pin mapping, testing and diagnosis, and error recovery) in a unified manner; Applies test pattern generation and error-recovery techniques for digital microfluidics-based biochips; Uses real bioassays as evaluation examples, e.g., multiplexed in vitro

human physiological fluids diagnostics, PCR, protein crystallization. .