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Descrizione fisica	1 online resource (312 pages)
Collana	Engineering Series
Disciplina	621.381
Soggetti	Microtechnology Microelectromechanical systems Electronics Cooperating objects (Computer systems) Materials Microsystems and MEMS Electronics and Microelectronics, Instrumentation Cyber-Physical Systems Materials Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Tip-based Nanofabrication for MEMS Devices -- 1D-Nanostructured Piezoresistive Microcantilever for Environmental Sensing -- Application of Non-template Special Nanostructure Fabrication Technology in Sensors -- Composite Micro-machining Technology on the Non-silicon MEMS -- Nano-in-Nano Integration for Nanofluidics -- Bionanoscaffolds-enabled Micro/Nanofabrication and Devices -- NEMS Sensors Based on Novel Nanomaterials -- Microfluidic Sensors in Surface Channel Technology -- MOEMS-enabled Miniaturized Biomedical Sensing and Imaging System -- Bio-inspired Flexible Sensors for Flow Field Detection -- Ultrasound MEMS for Biosensing and Biomedical Imaging -- Optofluidic Devices for Bio-analytical Applications.
Sommario/riassunto	This book begins by introducing new and unique fabrication, micromachining, and integration manufacturing methods for MEMS

(Micro-Electro-Mechanical Systems) and NEMS (Nano-Electro-Mechanical Systems) devices, as well as novel nanomaterials for sensor fabrications. The second section focuses on novel sensors based on these emerging MEMS/NEMS fabrication methods, and their related applications in industrial, biomedical, and environmental monitoring fields, which makes up the sensing layer (or perception layer) in IoT architecture. This authoritative guide offers graduate students, postgraduates, researchers, and practicing engineers with state-of-the-art processes and cutting-edge technologies on MEMS /NEMS, micro- and nanomachining, and microsensors, addressing progress in the field and prospects for future development. Presents latest international research on MEMS/NEMS fabrication technologies and novel micro/nano sensors; Covers a broad spectrum of sensor applications; Written by leading experts in the field.
