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	Autore	Doll Joseph C
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	Nota di contenuto	Introduction -- Piezoresistance fundamentals -- Sensitivity, noise and resolution -- Fabrication and process modeling -- Temperature effects -- Design optimization -- Alternative materials and transduction methods.
	Sommario/riassunto	This book is a comprehensive guide to piezoresistive MEMS sensor design. Piezoresistors transduce mechanical loads into electrical signals via a resistance change, and comprise a substantial portion of the commercial MEMS sensors market. Applications of piezoresistors include strain gauges, accelerometers, pressure sensors, force sensors, chemical sensors and resonators. This book also: · Demonstrates how the latest piezoresistor models and optimization techniques can be integrated for high performance piezoresistor design · Covers in detail piezoresistor sensitivity and noise models, signal conditioning, fabrication processes, low-power design and numerical optimization techniques · Provides an up-to-date discussion of alternative piezoresistive materials and MEMS transduction techniques · Explores in detail the tradeoffs in size, performance and complexity between piezoresistive sensing and popular alternatives (capacitive, piezoelectric and optical transduction) Piezoresistor Design and Applications addresses all aspects of piezoresistor design, fabrication, modeling and optimization and is an ideal book for MEMS

designers, process engineers and researchers.