1. Record Nr. UNINA9910720089103321

Autore	Gimenez Salvador Pinillos <1962->
Titolo	Differentiated layout styles for MOSFETs : electrical behavior in harsh environments / / Salvador Pinillos Gimenez and Egon Henrique Salerno Galembeck
Pubbl/distr/stampa	Cham, Switzerland : , : Springer Nature Switzerland AG, , [2023] ©2023
ISBN	9783031290862 9783031290855
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (216 pages)
Disciplina	621.3815284
Soggetti	Metal oxide semiconductor field-effect transistors
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Basic concepts of the semiconductor physics -- Chapter 3. The electrical characteristics of the semiconductor at high temperatures -- Chapter 4. The MOSFET -- Chapter 5. The First Generation of the Unconventional Layout Styles for MOSFETs -- Chapter 6. The Ionizing Radiations Effects in Electrical Parameters and Figures of Merit of MOSFETs -- Chapter 7. The Ionizing Radiations Effects in Electrical Parameters and Figures of Merit of MOSFETs -- Chapter 8. The High Temperature Effects in Electrical Parameters of Mosfets and the Results Obtained of the First and Second Generation.
Sommario/riassunto	This book describes in detail the semiconductor physics and the effects of the high temperatures and ionizing radiations in the electrical behavior of the Metal-OxideSemiconductor Field Effect Transistors (MOSFETs), implemented with the first and second generations of the differentiated layout styles. The authors demonstrate a variety of innovative layout styles for MOSFETs, enabling readers to design analog and RF MOSFETs that operate in a high-temperature wide range and an ionizing radiation environment with high electrical performance and reduced die area. Enables improved electrical performance, frequency response, energy efficiency, and die area usage of analog and RF CMOS ICs; Describes innovative layout styles for MOSFETs that don’t entail an

additional cost in manufacturing; Discusses the design of analog and RF MOSFETs that operate effectively in a high-temperature wide range and an ionizing radiation environment.