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the Number of Islands; 2.4.2 Influence of the Size of the Islands; 2.4.3 Influence of the Distance Between Islands; 2.4.4 Variation of the Size of the N Well

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3.1.3 Electrical Phenomena of an NMOS Varactor in Depletion Mode 3.2 NMOS Varactors; 3.2.1 Operating Ranges of the NMOS Varactor; 3.3 Influence of the Operating Mode on an NMOS Varactor; 3.4 Influence of Bias Voltage on the Behaviour of an NMOS Accumulation Varactor; 3.5 Influence of Geometric Parameters on the Behaviour of an NMOS Varactor; 3.5.1 Influence of the Variation of the Varactor Size; 3.5.2 Influence of the Varactor Gate Length on its Performance; 3.5.3 Influence of the Varactor Gate Width on its Performance; 3.6 Influence of the Working Frequency on the Results; References

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4.7.1 Error Introduced by Positioning the Test Probes on the Pads

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## Sommario/riassunto

Varactors are passive semiconductor devices used in electronic circuits, as a voltage-controlled way of storing energy in order to boost the amount of electric charge produced. In the past, the use of low-cost fabrication processes such as complementary metal oxide semiconductor (CMOS) and silicon germanium (SiGe) were kept for integrated circuits working in frequency ranges below the GHz. Now, the increased working frequency of radio frequency integrated circuits (RF ICs) for communication devices, and the trend of system-on-chip technology, has pushed the requirements of varactors to the lim

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