Abstracts

A study of MIMIM on-chip capacitor using Cu/SiO/sub 2/ interconnect technology

Chen Zhen, Guo Lihui, Yu Mingbin and Zhang Yi. "A study of MIMIM on-chip capacitor using Cu/SiO/sub 2/ interconnect technology." 2002 Microwave and Wireless Components Letters 12.7 (Jul. 2002 [MWCL]): 246-248.

In this work, a new metal-insulator-metal-insulator-metal (MIMIM) on-chip capacitor is fabricated using Cu/SiO/sub 2/ backend technology. A capacitance density of 1.7 fF//spl mu/m/sup 2/ has been achieved with satisfactory dc and RF characteristics. Compared with conventional metal-insulator-metal (MIM) capacitors, the MIMIM doubles the capacitance density without weakening quality in either dc or RF characteristics. Also, its yield is predictable. Therefore, it has been shown to be a convenient and reliable method to improve capacitance density for on-chip standard Cu/SiO/sub 2/ backend technology.

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