

## Bending-Comb Capacitor with a Small Parasitic Inductance

Akira Imamura, Minoru Fujishima\*, and Koichiro Hoh\*

School of Engineering, the University of Tokyo

\*School of Frontier Sciences, the University of Tokyo

7-3-1 Hongo, Bunkyo-Ku, Tokyo, 113-8656 Japan

A new metal-metal capacitor with a small parasitic inductance, named to a bending-comb capacitor (BCC), is proposed based on a standard digital CMOS technology. The BCC is applicable to high frequency circuits due to its high self-resonance frequency. An analytical evaluation of the capacitance from the geometry size is also presented. The self-resonance frequency of the BCC of 0.85 pF with the size of  $10\ \mu\text{m} \times 100\ \mu\text{m}$  is estimated as 374 GHz with 0.13- $\mu\text{m}$  Cu-wiring CMOS process.