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 μm × 100 μm is estimated as 374 GHz with 0.13-μm Cu-wiring CMOS process.