

عنوان مقاله:

A Fully CMOS Low Voltage Bandgap Reference without Resistors

محل انتشار:

بیست و یکمین کنفرانس مهندسی برق ایران (سال: 1392)

تعداد صفحات اصل مقاله: 4

نویسنده:

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خلاصه مقاله:

A new method to generate a reference voltage is introduced. A fraction of the forward voltage of a pn-junction implemented by a PMOS transistor with negative temperature coefficient (TC) is combined with a voltage produced by a CMOS floating proportional to absolute temperature (PTAT) voltage source. The combined output voltage will be a reference voltage with minimum variation with temperature while no resistance has been used in the circuit. The circuit is designed and simulated in a 0.18 μm CMOS technology which simulation results show the circuit is able to generate an output voltage of 695.6 mV with TC of 18 ppm/ in the temperature range of -20 to +120 . Monte Carlo analysis considering both mismatch and process variations gives $\sigma/\mu=1.08\%$. The total power consumption of the circuit is about 8.9 μW at the supply voltage of 1.5V

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/208928>

