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(19) **United States**(12) **Patent Application Publication****PAUL et al.**(10) **Pub. No.: US 2022/0352820 A1**(43) **Pub. Date:****Nov. 3, 2022**(54) **REFERENCE BUFFER**(71) Applicant: **Texas Instruments Incorporated,**
Dallas, TX (US)(72) Inventors: **Sabu PAUL**, Bengaluru (IN); **Raghu Nandan SRINIVASA**, Bengaluru (IN); **Srinivas Bangalore SESHADRI**, Bengaluru (IN); **Saugata DUTTA**, Kolkata (IN)(21) Appl. No.: **17/245,940**(22) Filed: **Apr. 30, 2021****Publication Classification**(51) **Int. Cl.**
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(57)

ABSTRACT

A reference voltage generator comprises a comparator, a digital-to-analog converter (DAC) and a switched capacitor accumulator. The comparator receives a reference voltage input, a feedback input, and a control signal. The DAC is coupled to an output of the comparator, and the switched capacitor accumulator is coupled to an output of the DAC. In some implementations, a digital filter is coupled between the output of the comparator and the input of the DAC. The switched capacitor accumulator can be coupled to a buffer that outputs the feedback input and a reference voltage for an analog-to-digital converter (ADC). In some implementations, the feedback loop includes N one-bit DACs coupled to the output of the comparator and N switched capacitor accumulators, each of which is coupled to a unique one-bit DAC.

