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SOELL et al.(10) **Pub. No.: US 2022/0385252 A1**(43) **Pub. Date: Dec. 1, 2022**(54) **OPERATIONAL AMPLIFIER FOR USE IN COULOMB COUNTER CIRCUIT**(52) **U.S. Cl.**CPC *H03F 3/45475* (2013.01); *H03M 1/66* (2013.01); *H03F 2200/459* (2013.01); *H03F 2200/165* (2013.01)(71) Applicant: **Cirrus Logic International Semiconductor Ltd.**, Edinburgh (GB)(72) Inventors: **Sven SOELL**, Edinburgh (GB); **Paul WILSON**, Linlithgow (GB); **James T. DEAS**, Edinburgh (GB); **Axel THOMSEN**, Austin, TX (US)

(57)

ABSTRACT

A circuit may include a two-stage feedforward compensated operational transconductance integrated amplifier, and the two-stage feedforward compensated operational transconductance integrated amplifier may include an input terminal, an output terminal, a signal path between the input terminal and the output terminal, the signal path comprising a first signal path gain stage and a second signal path gain stage, and ripple rejection circuitry coupled between the input terminal and an intermediate node of the signal path located between the first signal path gain stage and the second signal path gain stage. The ripple rejection circuitry may include a first ripple rejection circuitry gain stage coupled at its input to the input terminal and coupled at its output to an input terminal of a chopper circuit, a notch filter coupled at its input to an output terminal of the chopper circuit, and a second ripple rejection circuitry gain stage coupled at its input to an output terminal of the notch filter and coupled at its output to the intermediate node.

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