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(54) **SPLIT INVERTER, CAPACITOR DIGITAL-TO-ANALOG CONVERTER AND ANALOG-TO-DIGITAL CONVERTER OF SUCCESSIVE APPROXIMATION REGISTER TYPE INCLUDING SAME**

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(57) **ABSTRACT**

An analog-to-digital converter of successive approximation register (SAR) type includes a comparator, a SAR logic circuit, and a capacitor digital-to-analog converter. The capacitor digital-to-analog converter includes a plurality of drivers. Each driver includes a capacitor and a split inverter. A first capacitor node of the capacitor is connected to one of comparison input terminals. The split inverter includes a pull-up unit connected to a first reference voltage and a pull-down unit connected to a second reference voltage. The split inverter drives a second capacitor node of the capacitor by selectively turning on one of the pull-up unit and the pull-down unit. A first one of the pull-up unit and the pull-down unit includes a full transistor, and a second one of the pull-up unit and the pull-down unit includes a first split transistor and a second split transistor. A short current is reduced using the split inverter.