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(54) **SUCCESSIVE-APPROXIMATION ANALOG-TO-DIGITAL CONVERTERS**

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(57) **ABSTRACT**

A successive-approximation analog-to-digital converter includes a sampling circuit for sampling an analog input signal to acquire a sampled voltage, and a regenerative comparator for comparing the sampled voltage with a succession of reference voltages to generate, for each reference voltage, a decision bit indicating the comparison result. The converter also includes a digital-to-analog converter which is adapted to generate the succession of reference voltages, in dependence on successive comparison results in the comparator, to progressively approximate the sampled voltage. The regenerative comparator comprises an integration circuit for generating output signals defining the decision bits, and a plurality of regeneration circuits for receiving these output signals. The regeneration circuits are operable, in response to respective control signals, to store respective decision bits defined by successive output signals from the integration circuit.