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(54) **STATE MACHINE BASED DC/DC CONVERTER**

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(57) **ABSTRACT**

A buck-boost converter includes a converter, for converting an input voltage into an output voltage, the converter including a plurality of switches and an inductor, and a controller for controlling the plurality of switches. The operation of the controller is driven by a finite state machine configured to receive as input state change signals and to provide as output state signals for driving the controller. The state change signals are generated by a comparator based on a comparison of a replica signal and an error signal, wherein the error signal is computed on the basis of a signal representative of a difference between a characteristic of the converter and a predetermined reference signal, and wherein the replica signal is representative of the current flowing through the inductor.