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(54) **ACTIVELY TRACKING SWITCHING SPEED CONTROL AND REGULATING SWITCHING SPEED OF A POWER TRANSISTOR DURING TURN-ON**

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(57) **ABSTRACT**

A gate driver system includes a gate driver circuit coupled to a gate terminal of a transistor and configured to generate an on-current during a plurality of turn-on switching events to turn on the transistor, wherein the gate driver circuit includes a first driver configured to source a first portion of the on-current to the gate terminal to charge a first portion of the gate voltage and a second driver configured to, during a first boost interval, source a second portion of the on-current to the gate terminal to charge a second portion of the gate voltage; a measurement circuit configured to measure a transistor parameter indicative of an oscillation of a load current for a turn-on switching event; and a controller configured to receive the measured transistor parameter and regulate a length of the first boost interval based on the measured transistor parameter.