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(54) **Circuits and methods to reduce or eliminate signal-dependent modulation of a reference bias**

(57) Circuits and methods that improve the performance of voltage reference driver circuits and associated analog to digital converters are provided. A voltage reference driver circuit that maintains a substantially constant output voltage when a load current is modulated by an input signal is provided. The voltage reference driver circuit synchronously decouples a voltage regulation cir-

cuit from the load circuit when modulating events such as pulses caused by the load circuit during a switching interval are generated, preventing disturbance of the regulation circuitry and keeping its output voltage substantially constant.

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