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(54) **HIGH-VOLTAGE TO LOW-VOLTAGE INTERFACE IN POWER CONVERTER CIRCUIT**

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(57) **ABSTRACT**

A UHV-LV interface circuit that is capable of the following, among other things: 1) starting up a primary controller of a power converter circuit with a precisely controlled startup charging profile; 2) performing pulse-based line-voltage sensing with reduced power and improved sensing accuracy; and 3) discharging a capacitor, e.g., class-X2 capacitor, with a stable supply voltage for the controller. The UHV-LV interface circuit can use a single UHV device, such as a single depletion-mode transistor, e.g., field-effect transistor (FET).