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(54) **ENVELOPE TRACKING INTEGRATED CIRCUIT FOR REDUCING IN-RUSH BATTERY CURRENT**

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(57) **ABSTRACT**

An envelope tracking (ET) integrated circuit (ETIC) for reducing in-rush battery current is provided. The ETIC includes an ET voltage circuit configured to generate a time-variant ET voltage, which includes an offset voltage, in multiple time intervals based on a supply voltage. In some cases, the offset voltage and the supply voltage may both need to be increased or decreased as the time-variant ET voltage increases or decreases. As the offset voltage and the supply voltage increase or decrease, an excessive in-rush battery current may be generated in the ETIC to result in a reduced battery life. Hence, the ETIC is configured to avoid increasing or decreasing the offset voltage and the supply voltage in a same one of the time intervals. As a result, it is possible to reduce the in-rush battery current in the ETIC while still allowing the time-variant ET voltage to change in a timely manner.