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(54) **ON-BOARD CHARGER SYSTEM WITH
INTEGRATED AUXILIARY POWER SUPPLY**

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ABSTRACT

A charger including a charging interface and a converter coupled to the charging interface. The converter includes a first plurality of switching transistors coupled to the charging interface and a transformer including a primary winding, a secondary winding, and an auxiliary winding. The primary winding is coupled to the first plurality of switching transistors. A second plurality of switching transistors is coupled between the secondary winding and a battery interface. An auxiliary system interface is coupled to the auxiliary winding. A controller is configured to control the first plurality of switching transistors and the second plurality of switching transistors to generate a first signal at the battery interface and a second signal at the auxiliary system interface.

