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## A COMMON-MODE NOISE DECREASING FOR BOOST CONVERTERS WITH POWER FACTOR CORRECTION CIRCUITS

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### Abstract

*In this paper, an effective method of common-mode (CM) noise decreasing for boost converters with power factor correction (PFC) circuit is described and analyzed. For this purpose they make an inductor of the PFC circuit to generate a negative capacitance, which will cancel a parasitic capacitance “converters’ power circuits-the ground”. It greatly lowers converter’s CM noise current and, as a consequence, the noise voltage. In the report, the dependence of compensating capacitor’s necessary capacitance on magnetic coupling between windings of the inductor is showed. Simulation with the aid of PSPIICE showed that the investigated method effectively reduces the level of CM noise generated by a boost converter with PFC circuit, and it*

is very easy to implement. References 3, figures 2.

**Key words:** power factor correction converter, common-mode noise.

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