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Abstract

In this paper, a high efficiency, high step up DC-DC converter fed from a single (250W) photovoltaic panel, through a maximum power point tracker (MPPT), is simulated and implemented using simple topology. This is done by duplicating the output voltage of the flyback converter using a series resonant circuit in its transformer secondary during the "ON" period. It will be shown that this topology leads to increase the power capability of the converter as compared with the conventional one. This source designed to prepare a DC bus voltage for a three-phase inverter. Such a source is quite compatible with a 3-phase stand alone or a grid connected solar systems. The adopted simulation program is LTspice (Linear Technology spice). The prototype of a (250W, 600V) results agrees with that of the simulation.

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Index Terms

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Keywords

Flyback DC-DC Converter, Photovoltaic Panel, MPPT, Microcontroller