

Recent Advances High Gain DC-DC Boost Converter Topologies

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Abstract: *With the shortage of the energy and ever increasing of the oil price, research on the renewable and green energy sources, especially the solar arrays and the fuel cells, becomes more and more important. How to achieve high step-up and high efficiency DC/DC converters is the major consideration in the renewable grid-connected power applications due to the low voltage of PV arrays and fuel cells. The topology study with high step-up conversion is concentrated and most topologies recently proposed in these applications are covered and classified. The advantages and disadvantages of these converters are discussed and the major challenges of high step-up converters in renewable energy applications are summarized. This paper would like to make a clear picture on the general law and framework for the next generation non-isolated high step-up DC/DC converters.*

Keywords: Coupled Inductors (CL), Double Dual Boost (DDB), Voltage Source Inverter (VSI), Three Winding Coupled-Inductor (TWCI), etc..

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