

An Elegant Technique to Achieve ZCS in a Boost Converter Incorporating Complete Energy Transfer

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Abstract : Soft switching has attracted the interest of various researchers constantly. Many techniques are in vogue to achieve soft switching (ZVS and/or ZCS) in Boost converters. These techniques utilize an auxiliary switch to incorporate the ZCS/ZVS. Such schemes require additional control circuit and induce complexity in design. This paper proposes an elegant fly back approach which guarantees zero current switching of the main Switch without the need for any additional active device. A simple flyback transformer scheme is implemented which absorbs the initial turn ON energy (or the Reverse recovery energy of Boost diode) and delivers to the output.

Keywords : boost converter, complete energy transfer, flyback, zero current switching

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