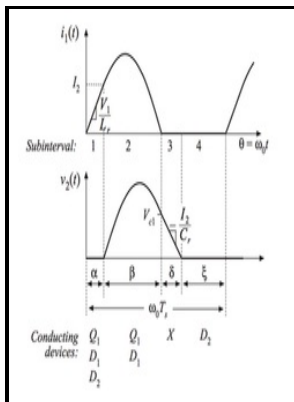


Control and modelling of quasi-resonant converters.

- - Circuit Design Guide for DC/DC Converters(1/10)



Description: -

-Control and modelling of quasi-resonant converters.

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CCM flyback transformers are designed based upon the ripple current, or ramp portion, of the wave form, which is considerably less than the ripples seen in DCM flybacks.

Using quasi

Freely browse and use OCW materials at your own pace. The primary inductance value is lowest out of all the flybacks, which may result in a smaller transformer. Figure 4 shows the current flow when the FET is turned off.

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This principle is known as zero-voltage switching ZVS. Converter's power capability variations with the mains voltage are compensated by line voltage feedforward.

PWM Controllers and Resonant Controllers

This dead-time, where the transformer is completely demagnetized and no current is being conducted, is why this operating mode is called discontinuous, or DCM.

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I hope this presentation was useful and helped to clarify the basic terminology used to describe flyback modes of operation. The converter and the controller are designed, simulated and actually built.

Figure 1 shows a step-up circuit and Figure 2 shows a step-down circuit. Also, CCM flybacks require a larger inductance, which may require a larger magnetic component. If forward transformer is used, a large power source can be easily retrieved.

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