Lecture 4: Cuk Converter Example; Ripple in second-order filters

ECE 481: Power Electronics

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Fall 2015

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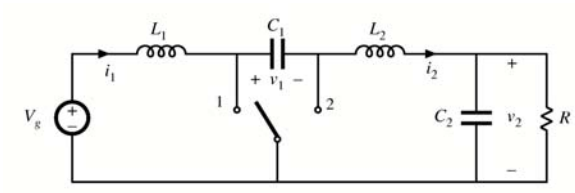
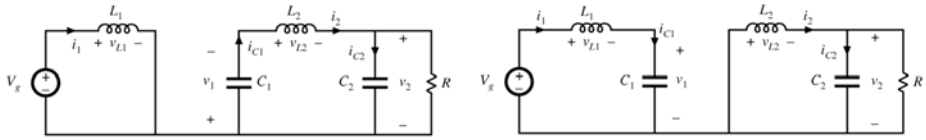
Cuk Converter



Cuk Equivalent Circuits



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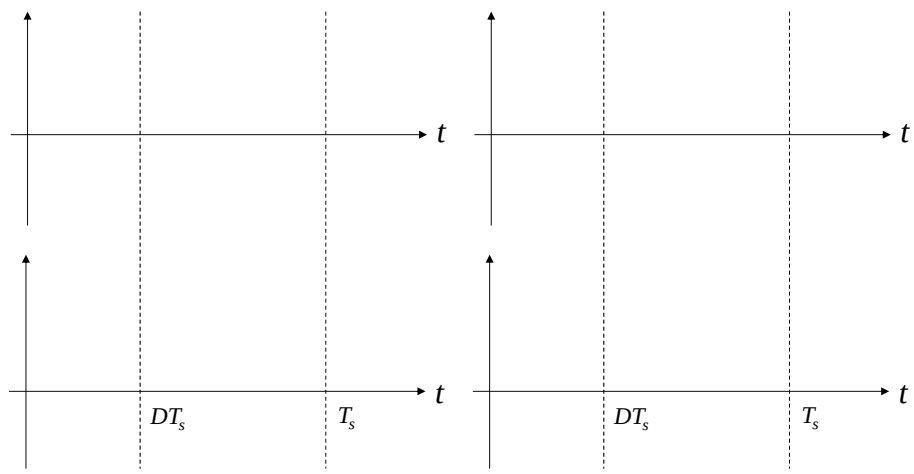
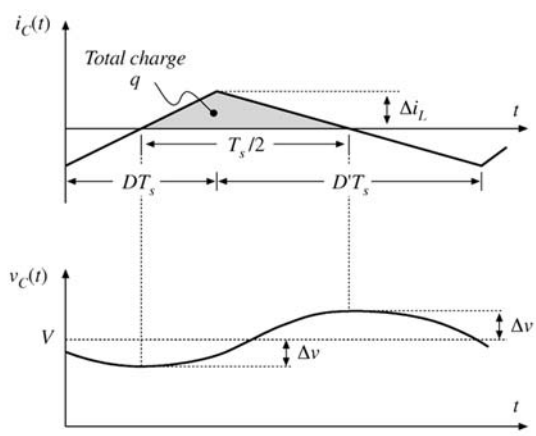


Ripple in Second Order Filters



Steady-State Equivalent Circuit Modeling

3.1. The dc transformer model

3.2. Inclusion of inductor copper loss

3.3. Construction of equivalent circuit model

3.4. How to obtain the input port of the model

3.5. Example: inclusion of semiconductor conduction losses in the boost converter model

3.6. Summary of key points

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Ideal Transformer Model

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Simplifying Circuits with Ideal XF

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Simplifying Circuits with Ideal XF

The DC Transformer Model