

Re: 100VDC to 13.5VDC simple switcher

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Rich Grise wrote:

Pardon my ignorance, but what exactly is the advantage of using a boost converter to go from 30~100VDC to 13.5VDC?

I thought "boost" meant to increase the voltage above the input voltage.
Or does the choice of topology have something to do with line regulation/input voltage range/something like that?

The boost configuration is one that stores energy in an inductor's magnetic field and then dumps it to the output. If the inductor is also a transformer or autotransformer, the output may have a higher or lower voltage than the source. One reason you might use a boost (flyback) configuration rather than a buck converter to step a voltage down, is that the step down transformer can also provide input to output isolation. And the turns ratio of the transformer/inductor gives you a degree of freedom you don't have with a simple buck converter.

However, I seldom find that the boost configuration is the overall best (all warts considered), except for low power applications. The peak currents are at least 4 times the average current.

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