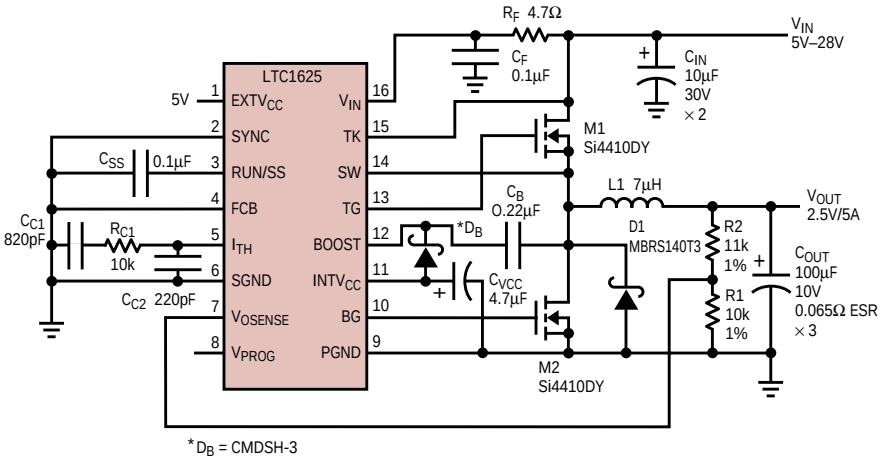
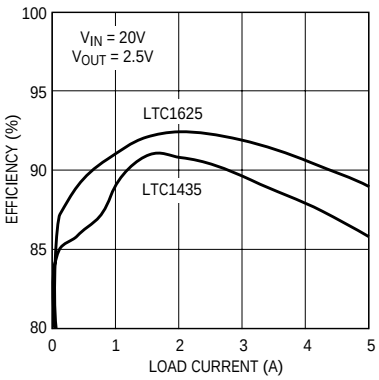
No R_{SENSE}™ Controller Delivers Highest Efficiency for Portable Applications

This DC/DC converter circuit implements current mode control without a current sense resistor by having the external MOSFETs do double duty as current sensing elements. The circuit produces a 2.5V output from a 5V to 28V input with over 90% efficiency at V_{IN} = 20V. With an external resistive divider at the output, the LTC1625 is capable of regulating an output voltage anywhere between the input voltage and the 1.19V internal reference.

Start-up and shutdown of the LTC1625 is controlled via the RUN/SS pin which is connected to an external capacitor and charged from an internal 3µA current source. The controller will be shut down if this pin is held below 1.4V. After the pin is released, the part stays shut down while the capacitor is charged, permitting a controlled delay for sequencing the power supply start-up.



Efficiency vs Load Current



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www.linear-tech.com/notebook.html