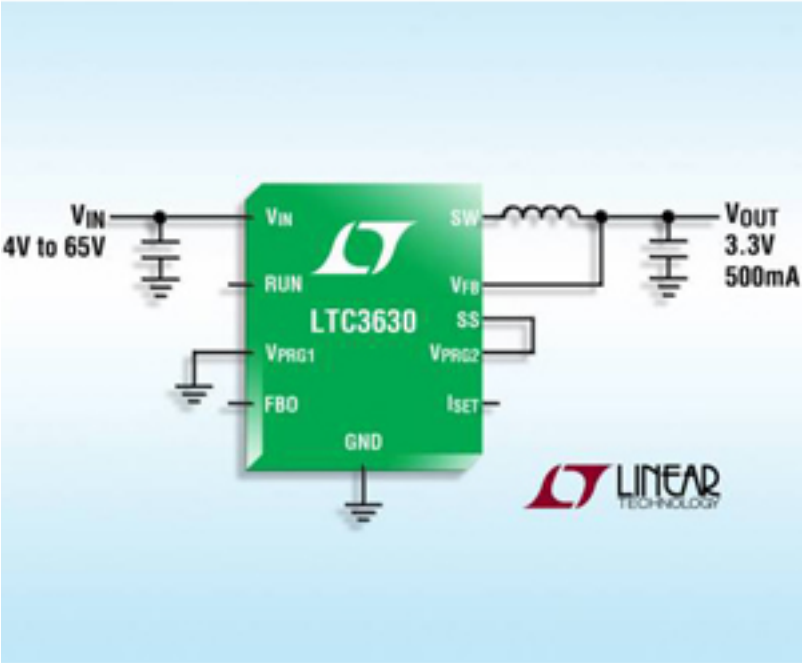
Synchronous buck converter delivers 90% efficiency & requires only 12µA quiescent current



Linear Technology announces the LTC3630 [1], a 65V input-capable synchronous buck converter, which delivers up to 500mA of continuous output current from a 16-lead thermally enhanced 3mm x 5mm DFN or MSOP package. Its internal synchronous rectification topology delivers efficiencies as high as 90% and its Burst Mode operation requires only 12µA of quiescent current (at no load), maximizing battery run time. The LTC3630 operates from an input voltage range of 4V to 65V, making it suitable for a wide range of applications, including automotive, industrial, medical and avionics.

The LTC3630's internal synchronous rectification and its programmable peak current limit design optimize efficiency while minimizing output ripple and external component size. Furthermore, output current can be programmed between 50mA and 500mA with a single resistor. The LTC3630's output voltage can be adjusted with an external resistor divider to voltages from 0.8V to VIN, or it can be easily programmed to deliver a fixed 1.8V, 3.3V or 5V output with 1% accuracy. The combination of its 3mm x 5mm DFN package or thermally enhanced MSOP-16E and only three tiny externals offers a highly compact solution footprint for a wide array of general purpose applications.

The LTC3630 utilizes internal high side and low side power MOSFETs to ensure high efficiency in a very compact footprint. Additionally, the LTC3630 offers a precise run threshold and soft-start feature to ensure that system start-up is well controlled in any environment. Furthermore, a feedback comparator output enables multiple

LTC3630s to be paralleled for higher current applications. Due to the inherent stability of the converter, no external compensation is required, thereby minimizing the solution footprint.

Pricing for the LTC3630EDHC and the LTC3630EMSE starts at $3.20 each. Industrial grade versions, the LTC3630IDHC and LTC3630IMSE, are tested and guaranteed to operate over a -40°C to 125°C operating junction temperature range and are priced at $3.55 each. Automotive grade versions, the LTC3630HDHC and LTC3630HMSE, are tested and guaranteed to operate from -40°C to 150°C operating junction temperature and are priced at $3.80 each. Military Plastic grade versions, the LTC3630MPDHC and LTC3630MPMSE, are tested and guaranteed to operate over a -55°C to 150°C operating junction temperature range and are priced at $10.72 each. All pricing is for 1,000-piece quantities and all versions are available from stock. For more information, visit www.linear.com/product/LTC3630 [1].

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Links:
[1] http://r20.rs6.net/tn.jsp?e=001v9w9iSTym0mDwVkRfPkdwEn-m5yeasEl1kr3tYGaSHVwhW2G1PtcSmlg4wcR81VDncGjN6ywcKT_hj9Vsc77T5XJqEcMpObWTPdj_vrnGDoLri2s6_-7qAVtLFgNE0YxhsTrwzvrOOM=