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150V Synchronous Buck-Boost Controller Eliminates Surge Protection Devices & Delivers Up to 99% Efficiency

MILPITAS, CA & NORWOOD, MA – September 5, 2017 – Analog Devices, Inc., which recently acquired Linear Technology Corporation, announces the [LTC3779](#), a high efficiency (up to 99%) 4-switch single inductor synchronous buck-boost DC/DC controller that operates from input voltages above, below or equal to the regulated output voltage. Its 4.5V to 150V input voltage range is designed to operate from a high input voltage source or from an input that has high voltage surges, eliminating the need for external surge suppression devices, ideal for transportation, industrial and military applications.

The output voltage can be set from 1.2V to 150V at output currents up to 10s of amps, depending on the choice of external components. The LTC3779's powerful 1.3Ω N-channel MOSFET gate drivers can be adjusted from 6V to 10V, enabling the use of logic-level or standard threshold MOSFETs. To prevent high on-chip power dissipation in high input voltage applications, the LTC3779 includes an NDRV pin which drives the gate of an optional external N-channel MOSFET acting as a low dropout linear regulator to supply IC bias power. The EXTVcc pin permits the LTC3779 to be powered from the output or other available source up to 36V, reducing power dissipation and improving efficiency.

Output power up to 500W can be delivered with a single device. Higher power can be achieved when multiple circuits are configured in parallel. The operating frequency is selectable between 50kHz and 600kHz, and can be synchronized to an external clock over the same range. The LTC3779 employs a proprietary current mode control architecture for constant-frequency operation in buck or boost mode. The user can select either forced continuous mode or discontinuous mode to maximize light load efficiency.

Additional features include input or output average current limit, a power good output voltage monitor, adjustable soft-start and input overvoltage lockout and output voltage disconnect during shutdown. The LTC3779 is available in a 38-lead TSSOP package with additional pin spacing for high voltage operation. Two operating junction temperature grades are available, with extended and industrial versions from –40 to 125°C and a high temperature

automotive version from -40°C to 150°C . Pricing starts at \$5.95 each in 1,000-piece quantities.

For more information, visit www.linear.com/product/LTC3779.

Photo Caption: 150V Synchronous Buck-Boost DC/DC Controller

Summary of Features: LTC3779

- 4-Switch Single Inductor Synchronous Buck-Boost Architecture
- Operation with Input Voltages Above, Below or Equal to the Output Voltage
- 4.5V to 150V Input Voltage Range
- 1.2V to 150V Output Voltage Range
- Up to 99% Efficiency
- Onboard LDO or External NMOS LDO for DRV_{CC}
- 36V EXTV_{CC} LDO Powers Drivers
- Input or Output Average Current Limit
- Adjustable 6V to 10V MOSFET Gate Drivers
- Compatible with Logic-Level or Standard Threshold NMOS
- 500 Watts Output Power Capable with a Single Device
- Fixed Synchronizable Operating Frequency from 50kHz to 600kHz
- Output Voltage Disconnect in Shutdown
- Adjustable Soft-Start
- $\pm 1\%$ Reference Voltage Accuracy over -40°C to 150°C
- TSSOP-38 Package with Additional Pin Spacing

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

Analog Devices just got more Powerful. On March 10, Analog Devices acquired Linear Technology, creating the premier high-performance analog company. More info at <http://lt.linear.com/07c>

About Analog Devices

Analog Devices (NASDAQ: ADI) is the leading global high-performance analog technology company dedicated to solving the toughest engineering challenges. We enable our customers to interpret the world around us by intelligently bridging the physical and digital with unmatched technologies that sense, measure, power, connect and interpret. Visit <http://www.analog.com>

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Press Contacts:

North America / Worldwide

John Hamburger, Director Marketing
Communications

john.hamburger@analog.com

Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager

douglas.dickinson@analog.com

Tel: 408-432-1900 ext 2233

UK & Nordic

Alan Timmins

a.timmins@ntlworld.com

Tel: +44-1-252-629937