LTC News for Immediate Release

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An Isolated DC/DC Solution with Buck Circuit Simplicity

MILPITAS, CA – February 27, 2006 – Linear Technology Corporation introduces a family of DC/DC converters that offers the performance and simplicity of a buck (step-down) regulator for the design of isolated power supplies. These primary- and secondary-side ICs introduce PolyPhase® operation for current sharing and paralleling of two circuits to achieve higher output current. Other advantages include self-starting capability, which eliminates the need for an extra transformer winding, no optocoupler design, fast transient response and synchronous rectiflation for high efficiency operation. The chipset supports standard output voltages such as 5V, 12V, 28V and 52V as well as low voltages down to 0.6V. Furthermore, they allow the use of inexpensive and off-the-shelf magnetics and discrete components. An example of an application is an isolated power supply with $36V_{IN}$-$72V_{IN}$ range and $3.3V_{OUT}$ at 30A or $1.2V_{OUT}$ at 100A.

The primary-side controllers, the LTC3705 and LTC3725 are forward drivers. The LTC3705 is a dual switch driver and the LTC3725 is the simpler version with single-switch operation. The secondary-side ICs, the LTC3706 and LTC3726, are current mode synchronous rectifiers with a self-starting architecture. The LTC3706 is suitable for PolyPhase operation whereas the LTC3726 is simpler and ideal for single-phase operation. To further simplify the design, a proprietary technique is used to multiplex gate drive signals and DC bias power across the isolation barrier through a single, tiny pulse transformer.

The flexible design of the chipset enables both standard and custom footprint isolated power supplies. Linear Technology offers design assistance for its customers, providing a schematic, bill-of-materials, simulations, design files and a demo board. In addition to design support, customers can realize substantial cost savings compared to the cost of a DC/DC module.

The 1,000-piece price per unit for the LTC3705, LTC3706, LTC3725, and LTC3726 are $2.63, $3.88, $2.56 $3.19, respectively.

(more...)

Summary of Features: LTC3705/LTC3706/LTC3725/LTC3726

- Chipset Simplifies Design of Isolated Power Supplies
- PolyPhase Operation Allows Easy Paralleling of the Circuit to Achieve Higher Output Power (LTC3706)
- No Optocoupler Needed
- Fast Transient Response
- Synchronous Operation for High Efficiency (up to 94%)

Company Background

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems. For more information, visit www.linear.com

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http://www.linear.com

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