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High Efficiency PSE Controller Addresses New IEEE 802.3at PoE+ Standard

MILPITAS, CA – November 11, 2009 – Linear Technology Corporation introduces the LTC4274, a single-channel Power over Ethernet (PoE) controller for power sourcing equipment (PSE) required to provide IEEE 802.3at (25.5W) or proprietary higher power levels.

Next-generation PoE applications call for more power to support demanding features, while increasing power efficiency in an effort to be more “green” and reduce costs. The LTC4274 provides up to 100W over 4-pair Ethernet cabling and is fully compliant with the new IEEE 802.3at PoE+ standard and backward compatible with the prior IEEE 802.3af PoE standard. To help conserve power, the LTC4274 delivers the lowest-in-industry heat dissipation by using low $R_{DS(ON)}$ MOSFETs and 0.25Ohm sense resistors, eliminating the need for expensive heat sinks and providing a more robust PSE solution.

The LTC4274 is suitable for a wide variety of PSE applications, including next-generation single-port switches, cameras and electronic message boards. Users will appreciate the extremely low power dissipation of the LTC4274, which makes thermal design significantly easier than designing with PSEs that integrate more fragile, normally higher $R_{DS(ON)}$ MOSFETs. IEEE 802.3at powered devices (PDs) can request up to 25.5W of power, responding to 2-event classification from the LTC4274 and confirming that the PD is indeed a high power device. PD discovery is accomplished using a proprietary dual-mode, 4-point detection mechanism that ensures the best immunity from false detection. Advanced power

management also includes prioritized fast shutdown, 14.5-bit voltage and current readback, 8-bit programmable current limits and 7-bit programmable overload current limits. A 1MHz I²C interface allows a host controller to digitally configure the IC or query port readings.

The LTC4274 is offered in commercial and industrial temperature grades, and is available in a RoHS-compliant 5mm x 7mm QFN-38 package. The LTC4274 is priced starting at \$4.95 each in 1,000 piece quantities and is available today in production quantities. The LTC4274 provides an upgrade path from the IEEE 802.3af compliant LTC4263/-1, and is supported with years of technical experience in PoE circuit design for a smooth transition to the new PoE+ standard. Please visit www.linear.com for more product information.


Photo Caption: PoE+ PSE with 0.34Ohm Total Channel Resistance

Summary of Features: LTC4274

- Compliant with IEEE 802.3at Type 1 and 2
- Supports Proprietary Very High Power Up to 100W
- 0.34Ohm Total Channel Resistance
 - 130mW at 600mA
- Advanced Power Management
 - 8-Bit Programmable Current Limit (ILIM)
 - 7-Bit Programmable Overload Current Limit (ICUT)
 - Fast Shutdown
 - 14.5-Bit Port Current/Voltage Monitoring
 - 2-Event Classification
- Very High Reliability 4 Point PD Detection:
 - 2-Point Forced Voltage
 - 2-Point Forced Current
- High Capacitance Legacy Device Detection
- LTC4259A-1 & LTC4266 Software-Compatible
- Supports 2-Pair & 4-Pair Output Power
- 1 MHz I²C Compatible Serial Control Interface
- Midspan Backoff Timer
- Available in 38-Pin 5mm x 7mm QFN Package

About Linear Technology

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, uModule[®] products, 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.

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