



6A Synchronous Step-Down DC/DC Converter with PMBus Interface Enables $\pm 25\%$ Voltage Margining with 0.1% Resolution

MILPITAS, CA – December 17, 2015 – Linear Technology Corporation announces the [LTC3815](#), a high efficiency 6A monolithic synchronous step-down DC/DC converter with an I²C-based PMBus interface. The LTC3815's simplified and intuitive PMBus command set makes it simple to use. The digital interface provides programming and read back of voltage, current, temperature and faults; all supported by [LTpowerPlay™](#) software. This interface allows the output voltage to be margined over a $\pm 25\%$ range with 0.1% resolution. The default output voltage is set with a single external resistor and will power up to this voltage with or without the serial interface.

The LTC3815 builds on our popular line of PSM controllers and multichannel managers by offering a monolithic device for lower current applications. Its input operating supply voltage range is from 2.25V to 5.5V making it suitable for operation from 2.5V, 3.3V or 5V rails or from Lithium-Ion batteries. The output voltage is programmable from 0.4V to 72% of V_{IN} or can be set with an external voltage reference making it ideal for intelligent energy power conversion, ASIC/FPGA power, distributed power and point-of-load applications.

The LTC3815 uses a phase-lockable controlled on-time, current mode architecture providing an extremely fast transient response and enabling operation at the low duty cycles necessary to regulate low output voltages at high switching frequencies. The operating frequency is programmable from 400kHz to 3MHz with an external resistor or for switching noise sensitive applications, it can be synchronized to an external clock over the same range.

An integrated differential amplifier provides true remote output voltage sensing enabling high accuracy regulation, independent of board IR voltage drops. Additional features include a clock output for 2-phase operation, a power good signal, selectable forced continuous or discontinuous mode and a fast 1ms start-up time.

The LTC3815 is available in a 38-lead 4mm x 6mm QFN package with an operating junction temperature range of -40°C to 125°C . The 1,000-piece price starts at \$4.71 each. For more information, visit www.linear.com/product/LTC3815

Photo Caption: 6A PMBus Synchronous Step-Down Regulator


Summary of Features: LTC3815

- PMBus Compliant Serial Interface
- Output Voltage Programming: $\pm 25\%$ with 0.1% Resolution.
- Telemetry Includes V_{IN} , I_{IN} , V_{OUT} , I_{OUT} , Temperature & Fault
- V_{IN} Range: 2.25V to 5.5V
- V_{OUT} Range: 0.4V to 72% of V_{IN}
- Operating Frequency Range of 400kHz to 3MHz
- Synchronizable to an External Clock
- Remote Output Voltage Sense
- Power Good Output Signal
- Fast 1ms Start-Up Time

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, $\mu\text{Module}^{\text{®}}$ subsystems, and wireless sensor network products. For more information, visit www.linear.com

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Press Contacts:

North America / Worldwide

John Hamburger, Director Marketing
Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937