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Low Noise, 1mV Output Ripple, 5A Step-Down μ Module Regulator for Data Converters & High Speed Transceivers

MILPITAS, CA – April 30, 2013 – Linear Technology Corporation introduces the [LTM8028](#), a 1mV output ripple μ Module[®] (micromodule) regulator designed to power data converters and high speed transceivers. The low output ripple minimizes random jitter in high speed data transceivers for superior bit error rate (BER) performance. When powering an analog-to-digital converter (ADC), tests showed a 13dB improvement in spurious free dynamic range (SFDR) with the LTM8028 compared to a typical step-down regulator. The μ Module regulator combines a 36V synchronous step-down switcher, powering a 5A linear post-regulator in a compact 15mm x 15mm x 4.92mm BGA package. To minimize power dissipation and voltage drop across the linear regulator, the linear regulator automatically adjusts the output voltage of the internal synchronous regulator.

A tri-state digital interface determines the LTM8028's output voltage, which is adjustable from 0.8V to 1.8V in 50mV increments. Output voltage regulation is $\pm 1.5\%$ accurate over temperature. Output noise is just $40\mu\text{V}_{\text{RMS}}$ over the 10Hz to 100kHz frequency range. The step-down regulator features a user-adjustable current limit accurate within $\pm 10\%$, and adjustable switching frequency between 200kHz to 1MHz, with the option to synchronize to an external clock in the same range.

The LTM8028 is guaranteed to operate over the -40°C to $+125^{\circ}\text{C}$ and -55°C to $+125^{\circ}\text{C}$ internal temperature range. The LTM8028 is available for immediate delivery from stock, with priced starting at \$14.20 each for 1,000 piece quantities. For more information, visit www.linear.com/product/LTM8028.


Photo Caption: 1mV Output Ripple, 5A Step-Down μ Module Regulator Reduces Error Rate in High Speed Transceiver & Data Converter Applications

Summary of Features: LTM8028

- Low Noise Step-Down Module
 - 13dB Better SFDR (Spurious Free Dynamic Range) Compared to Typical Switcher
 - <1mV Output Ripple
- 6V to 36V V_{IN} Range
- Internally Linked Switcher & LDO V_{OUT}
- 3-Pin Tri-State I/F Sets V_{OUT} from 0.8V to 1.8V in 50mV Increments
 - $\pm 1.5\%$ Accuracy Over Temperature
- Parallelable up to 10A

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 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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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