



100V Synchronous Forward Controller Regulates Output Voltage without an Opto-Coupler

MILPITAS, CA – August 20, 2014 – Linear Technology Corporation announces the [LT8310](#), a primary-side synchronous forward controller. The LT8310 operates over an input voltage range of 6V to 100V, is targeted for power levels up to 200W and provides a drive signal for secondary-side synchronous rectification to improve efficiency.

Output voltage regulation of $\pm 8\%$ can be attained without the use of an opto-coupler. When an opto-coupler is used, $\pm 1.5\%$ regulation can be realized. A programmable volt-second clamp provides a safeguard for transformer reset that prevents saturation and protects the MOSFET. This function optimizes the transformer and MOSFET, reducing solution size.

The LT8310 computes the duty cycle required to create a constant V_{OUT} in open loop applications, thereby simplifying the design. In closed loop applications, the LT8310 limits maximum V_{OUT} if the opto-coupler path breaks open.

Additional features include programmable overcurrent protection, adjustable input undervoltage, overvoltage lockout and built-in thermal shutdown. The LT8310 has a programmable 100kHz to 500kHz operating switching frequency and can be synchronized to an external clock, enabling the use of a wide range of output inductor values and transformer sizes.

The LT8310 is available in a TSSOP-20 package with several pins removed for high voltage spacing. The LT8310 E- and I-grade versions operate from a -40°C to 125°C junction temperature. The LT8310 H grade is guaranteed to operate from a -40°C to 150°C operating junction temperature. The LT8310 MP grade is guaranteed to operate from -55°C to 150°C operating junction temperature. The 1,000-piece price starts at \$2.99 each. For more information, visit www.linear.com/product/LT8310

Photo Caption: Active Clamp Synchronous Forward Controller


Summary of Features: LT8310

- Wide V_{IN} Range: 6V to 100V
- Programmable Volt-Second Clamp
- No Opto-Coupler Required
- High Efficiency Synchronous Rectification
- Short-Circuit Protection
- Selectable Fixed Operating Frequency from 100kHz to 500kHz
- Synchronizable to External Clock
- Programmable OVLO & UVLO with Hysteresis
- Extended & Industrial Grades: -40°C to 125°C Operating Junction Temp
- Automotive Temp Grade: -40°C to 150°C Operating Junction Temp
- Military Temp Grade: -55°C to 150°C Operating Junction Temp

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, μ Module[®] 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

UK & Nordic

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

Doug Dickinson, Media Relations Manager
ddickinson@linear.com

Tel: 408-432-1900 ext 2233