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Simple, Accurate & Tiny PWM Clock Covers 3.81Hz to 1MHz

MILPITAS, CA – September 23, 2010 – Linear Technology announces the [LTC6992](#) silicon oscillator, the latest member of the TimerBlox™ family of silicon timing devices. The LTC6992 offers simple and accurate pulse width modulation (PWM) capability for output frequencies from 3.81Hz to 1MHz. The device's frequency is programmed using 1 to 3 resistors, with guaranteed frequency error less than 1.7%. In addition, the frequency can be dynamically controlled via a separate control voltage. The output pulse width (duty cycle) is simply controlled with an analog signal from 0 to 1V. The LTC6992 offers glitch-free, first cycle accurate startup within 500us of power on.

Four versions of the LTC6992 are available, each offering a unique combination of minimum/maximum duty cycle limits. The minimum duty cycle can be 0% or 5%, and the maximum duty cycle limit can be 95% or 100%. The 5% and 95% duty cycle limits ensure that the output will continue to toggle, irrespective of the control voltage, for applications unable to tolerate a DC control signal. The LTC6992 is well suited for heater control, PWM servo loops, LED dimming, signal isolation and other duty cycle control applications.

The LTC6992 is part of the TimerBlox family of versatile silicon timing devices in which an accurate programmable oscillator is combined with precision circuitry and logic. No capacitors, no crystals, no microcontroller and no programming are required. TimerBlox devices are solid state and can be operated under high acceleration, vibration and temperature extremes. They offer higher accuracy, stability and lower power consumption than typical resistor/capacitor-based oscillators. The 20mA source and sink capability enables direct drive of opto-isolators and transformers for electrical

isolation. Fully specified over the temperature range of -40°C to 125°C, the TimerBlox parts are suitable for demanding automotive and industrial environments where many oscillators and microcontrollers are unable to operate. The small SOT23 footprint allows each timing device to be placed at the point of use, without routing signals over long distances, and provides an ideal timer for space-limited applications such as handheld and portable devices.

“With the LTC6992, generating a PWM signal is extremely easy,” says Doug LaPorte, Design Manager for Linear Technology. “No microcontroller and no programming is necessary.”

The LTC6992 is now available, priced starting at \$1.55 each in 1,000-piece quantities. For more information, visit www.linear.com/6992.


Photo Caption: LTC6992 Simple & Accurate Pulse Width Modulation (PWM)

Summary of Features: LTC6992

- Internal Oscillator
 - No Crystal
 - No Timing Caps
- Simple Set-up Using 1 to 3 Resistors
 - Frequency Range: 3.81Hz to 1MHz
 - <1.7% Max Frequency Error
- Four Available Options Define Duty Cycle Limits
 - Minimum Duty Cycle at 0% or 5%
 - Maximum Duty Cycle at 95% or 100%
- PWM Duty Cycle Error < 3.7% Maximum
- Frequency Modulation (VCO) Capability
- 2.25V to 5.5V Single Supply Operation
- 115uA Supply Current at 100kHz
- CMOS Output Driver Sources/Sinks 20mA
- -40°C to 125°C Operating Temperature Range
- Low Profile ThinSOT™ & 2mm × 3mm DFN Packaging Available

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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