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Tiny Low Frequency Clock Chip Supports Long Duration Timing from 1ms to 9.5hrs

MILPITAS, CA – September 1, 2010 – Linear Technology announces the [LTC6991](#), a simple, accurate low frequency clock specifically designed for long duration timing applications. The LTC6991 is the latest part in the TimerBlox™ family of versatile silicon timing devices, in which an accurate programmable oscillator is combined with precision circuitry and logic. An extremely wide programmable frequency range allows the clock to operate with a period from 1ms to 9.5 hours. This makes the LTC6991 useful for intervalometers, watchdog timers and periodic wake-up timers with minimal components and effort.

The LTC6991 is simply programmed, using 1 to 3 resistors, with a maximum frequency error that is guaranteed to be less than 1.5%. The LTC6991 offers glitch-free, first cycle accurate start-up within 500us of power, and a reset function is available to truncate the output pulse and hold the output in a high or low state. The polarity of the reset input and the output signal can be configured for active-low or active-high operation. In addition, the output frequency of the LTC6991 can be dynamically controlled via a separate control voltage.

TimerBlox devices are solid state and can be operated under high acceleration, vibration and temperature extremes. No timing capacitors, no crystals, no microcontroller and no programming are required. They offer higher accuracy, stability and lower power consumption than typical resistor/capacitor-based oscillators. The 20mA source and sink capability enables direct driving of opto-isolators 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, providing an ideal timer for space-limited applications such as handheld and portable devices.

“With the LTC6991, the designer can forget about big crystals, rows of counters and the headaches of programming,” says Doug LaPorte, design manager for Linear Technology. “The LTC6991 is extremely easy to use.”

The LTC6991 is now available, priced starting at \$1.35 each in 1,000-piece quantities. Other TimerBlox devices will be introduced over the next month. For more information, visit www.linear.com/6991.


Photo Caption: Very Low Frequency Oscillator for 1msec to 9.5hr Period

Summary of Features: LTC6991

- Internal Oscillator
 - No Crystal
 - No Timing Caps
- Simple Setup Using 1 to 3 Resistors
 - Period Range: 1ms to 9.5 Hours
 - <1.5% Max Error
- Square Wave Output with 50% Duty Cycle
- Output Reset Function
- 55uA to 80uA Supply Current
- 500us Start-Up Time
- 2.25V to 5.5V Single Supply Operation
- CMOS Output Driver Sources/Sinks 20mA
- –40°C to 125°C Operating Temperature Range
- Low Profile ThinSOT™ & 2mm x 3mm DFN

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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