



## **Simple and Small One-Shot Pulse Generator Offers Accurate Timing for 1 $\mu$ s to 33.6s**

MILPITAS, CA – September 8, 2010 – Linear Technology announces the [LTC6993](#), an accurate and tiny “one-shot” pulse generator, the latest member of the TimerBlox™ family of timing devices. The one-shot function, also known as a monostable multivibrator, is useful for accurate event timing, edge detection, and frequency discrimination. The LTC6993 makes implementation simple, since it is programmed using only a few resistors. The programmability range allows the LTC6993 to operate from 1 $\mu$ s to 33.6 seconds, spanning 25 octaves.

Four versions of the LTC6993 are available, providing a choice of rising and falling-edge trigger polarities, as well as retrigger capability. With retriggering, an output pulse is extended by multiple input triggers. Without retriggering, the output pulse ignores multiple input triggers and can only be initiated when the output is not active. Each LTC6993 can be configured to generate logic high or low output pulses. In sum, the LTC6993 family covers a total of eight logic functions to ensure flexibility and ease-of-use. In addition, the output pulse-width of the LTC6993 can be dynamically adjusted via a separate control voltage.

The LTC6993 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 allows for directly driving 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.

“The LTC6993 was designed to be flexible and simple.” says Doug LaPorte, design manager for Linear Technology. “This allows an accurate one-shot to be added to nearly any circuit with ease.”

The LTC6993 is now available, priced starting at \$1.35 each in 1,000-piece quantities. For more information, visit [www.linear.com/6993](http://www.linear.com/6993).


**Photo Caption:** One-Shot Pulse Generator is Programmable for 1us to 34s

### Summary of Features: LTC6993

- Pulse Width Range: 1us to 33.6s
- Simple Setup Using 1 to 3 Resistors
- Pulse Width Max Error:
  - <2.3% for Pulse Width > 512us
  - <3.4% for Pulse Widths of 8us – 512us
  - <4.9% for Pulse Widths of 1us – 8us
- Four LTC6993 Options Available:
  - Rising-Edge or Falling-Edge Trigger
  - Retriggerable or Non-Retriggerable
- Configurable for Positive or Negative Output Pulse
- Fast Recovery Time
- 55uA to 125uA Supply Current
- 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<sup>®</sup> 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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### Press Contacts:

#### North America / Worldwide

John Hamburger, Director Marketing  
Communications  
[jhamburger@linear.com](mailto:jhamburger@linear.com)  
Tel 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager  
[ddickinson@linear.com](mailto:ddickinson@linear.com)  
408-432-1900 ext 2233

#### UK & Nordic

Alan Timmins  
[alan@ezwire.com](mailto:alan@ezwire.com)  
Tel: +44-1-252-629937