Silicon Labs Newsroom

Silicon Labs Launches Industry's Lowest Jitter Any-Frequency Crystal Oscillators

-- New Si54x Ultra Series™ XO Family Gives Designers More Performance, Reliability and Peace of Mind for Demanding Timing Applications --

AUSTIN, Texas, June 28, 2017 /PRNewswire/ -- Silicon Labs (NASDAQ: SLAB) has introduced a new family of high-performance crystal oscillators (XOs) offering the industry's lowest jitter frequency-flexible solution. The Si54x Ultra Series™ XOs deliver ultra-low jitter performance down to 80 femtoseconds (fs) for both integer and fractional frequencies across the entire operating range. These XOs provide best-in-class frequency flexibility and excellent jitter margin for demanding applications including 100G/200G/400G line cards and optical modules, hyperscale data centers, broadband, wireless infrastructure, broadcast video, industrial, test and measurement, and military/aerospace. Si54x Ultra Series XOs are available with single, dual and quad frequency options in an industry-standard 3.2 mm x 5 mm package, enabling simple, drop-in compatibility with traditional XOs while providing super-fast lead times and high reliability.

Increasing demand for network bandwidth and faster data rates continue to drive the need for lower jitter reference clocks. Timing jitter defines the purity of a clock signal, and since an XO functions as the system's local heartbeat, a clean, low-jitter output means less noise in the system. Ultra-low jitter XOs (< 200 fs RMS) are necessary in applications where high clock noise would result in unacceptably high bit error rates (BER), lost traffic or loss of system communication. The safest approach for high-performance systems is to use an ultra-low jitter clock source like the Si54x XO that delivers excellent jitter margin.

"Today's optical networks, hyperscale data centers and mobile fronthaul/backhaul networks are moving to higher speeds, driving the need for ultra-low jitter timing solutions," said James Wilson, Senior Marketing Director for Silicon Labs' timing products. "By choosing Silicon Labs' Si54x Ultra Series oscillators, system designers will have peace of mind knowing that they are using the industry's most frequency flexible XO while still enjoying excellent jitter design margin and extremely short product lead times for their application."

Silicon Labs' PLL-based approach to oscillators enables efficient manufacturing flows and simplified factory programming, eliminating long lead times and supply chain headaches associated with custom oscillators. Typical XO orders from other timing suppliers may take 10 to 15 weeks to build. In contrast, Silicon Labs keeps pre-screened XO stock on hand. When an order arrives, the appropriate stock is programmed to the exact frequency, and each device undergoes 100 percent electrical testing prior to shipment. This optimized supply chain enables Silicon Labs to ship samples of any frequency XO in 1-2 weeks and production quantities in four weeks – the shortest lead times in the high-performance frequency control industry.

To help simplify product selection and customization, Silicon Labs offers an array of free web-based tools:

- An online part number configuration utility enables designers to specify the oscillator they need and get an orderable part number in minutes.
- An online oscillator phase noise look-up tool provides instant access to thousands of phase noise measurements collected for Silicon Labs oscillators, making it easy to view device phase noise and jitter performance across a wide number of operating frequencies, even from a smartphone or tablet.
- An online cross-reference search utility helps customers find Silicon Labs second-source options for high-performance oscillators.

Si54x oscillators use Silicon Labs' advanced fourth-generation DSPLL® technology to provide an ultra-low-jitter clock source at any output frequency. The device is factory-programmed to any frequency from 200 kHz to 1.5 GHz with < 1 ppb resolution. On-chip power supply regulation provides power supply noise rejection, enabling consistent, reliable low-jitter operation in noisy environments often found in high-speed networking and data centers. Si54x XOs also provide flexible, reliable drop-in replacements for low-jitter surface acoustic wave (SAW)-based oscillators while offering superior frequency tolerance and temperature stability. Si54x oscillators support all popular output formats including LVDS, LVPECL, HCSL, CML, CMOS and Dual CMOS.

Pricing and Availability
Samples and production quantities of the Si54x Ultra Series oscillators are available now. Silicon Labs offers two pricing levels for the Si54x family depending on the designer's jitter requirements. Pricing in 10,000 unit quantities begins at $5.21 (USD) for Si545/6/7 XOs (80 fs RMS jitter) and at $4.17 (USD) for Si540/1/2 XOs (125 fs RMS jitter). Silicon Labs' new Si5xxUC-EVB universal evaluation board, priced at $95 (USD MSRP), provides

flexible, easy XO device evaluation. For more information about the Si54x Ultra Series family or to order samples and evaluation boards, visit www.silabs.com/ultra-series.

Silicon Labs
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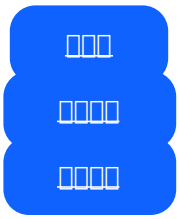

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