Silicon Labs' Si5332 Portfolio Replaces Clocks, Oscillators, Buffers and Complete Clock Trees

-- New "Clock Tree on a Chip" Adds Innovative Multi-Profile Support and Integrated Crystal Option --

AUSTIN, Texas – Aug. 13, 2018 – Silicon Labs (NASDAQ: SLAB) has expanded its Si5332 any-frequency clock portfolio with new versions combining the clock IC and a quartz crystal reference inside the same package, simplifying board layout and design. The all-in-one Si5332 solution guarantees reliable start-up and operation over the lifetime of the product, unlike traditional solutions that source the clock IC and crystal from different suppliers and risk interoperability issues. Silicon Labs is also introducing multi-profile support available across the entire Si5332 family, enabling developers to consolidate multiple clock tree configurations into a single part number.

Traditional clock generators rely on an external, discrete quartz crystal frequency reference. The crystal interface circuit must be carefully designed for capacitive load matching to ensure accurate clock synthesis. To minimize the risk of noise coupling, designers typically do not route high-speed signals near crystals, which limits printed circuit board (PCB) routing flexibility.

The Si5332 clock generator addresses these design limitations by integrating a high-quality crystal reference inside the package. In addition to simplifying design, this approach minimizes the overall PCB footprint and maximizes PCB routing flexibility. The crystal is shielded from external PCB noise, enabling the Si5332 integrated crystal device to offer lower jitter (175 fs RMS 12 kHz to 20 MHz) compared to versions of the Si5332 using an external source (190 fs RMS).

"The Si5332 clock generator offers the industry's highest level of timing integration, enabling complete clock tree consolidation in 10/25/100G data center, communications, industrial and broadcast video applications," said James Wilson, General Manager of timing products at Silicon Labs. "This comprehensive timing solution reduces supply chain complexity since it's sourced from a single supplier, Silicon Labs."

The Si5332 clock leverages Silicon Labs' proven MultiSynth technology to provide any-frequency, any-output clock syntheses with excellent jitter performance. Supporting up to 12 clock outputs, selectable signal formats per output clock (LVDS, LVPECL, HCSL, LVCMOS) and independent 1.8-3.3V VDDO, the Si5332 interfaces to a broad range of FPGAs, ASICs, Ethernet switches/PHYs, processors, SoCs, and high-speed SerDes including PCIe. Collectively, these features enable the Si5332 to consolidate an entire clock tree in a single IC.

The new multi-profile feature takes timing integration to a new level, enabling the consolidation of up to 16 unique clock tree configurations in a single IC. A single Si5332 part number can now replace crystal oscillator (XO) + buffer, clock generator, and clock generator + buffer clock trees. Each unique configuration is pin-selectable using hardware pins, eliminating the need for a serial interface to reconfigure the device to support different frequencies. Rather than sourcing different timing devices to support different combinations of frequencies, the multi-profile feature streamlines device qualification across different platforms and designs with a single part number.

The Si5332 clock generators are supported by Silicon Labs'ClockBuilder Pro (CBPro) software, which simplifies device configuration and customization. With CBPro, customers can tailor a clock solution to their specific requirements and receive samples in as little as two weeks. CBPro generates a custom orderable part number for each device with no minimum order quantity or non-recurring engineering fees or restrictions.

Pricing and Availability

Samples and production quantities of Silicon Labs' Si5332 clock generators are available now in a choice of 32/40/48-pin QFN packages and 6/8/12-output options. Product pricing begins at $4.67 (USD) in 10,000-unit. Silicon Labs provides a wide range of evaluation boards (EVBs) to accelerate device evaluation and development. Clock and oscillator EVB pricing ranges from $149 to $199 (USD MSRP). To learn more about Silicon Labs' Si5332 clocks and to order samples and evaluation boards, visit www.silabs.com/si5332.

Silicon Labs

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