

Discera Ships World's Highest Performance MEMS Oscillators with Femtosecond Jitter

SAN JOSE, Calif. -- (BUSINESS WIRE) -- Discera, Inc., a leading provider of silicon timing technology announced the volume availability of the world's highest performance MEMS oscillators for Networking, Server, Storage, and Video applications. The DSC11XX silicon oscillators are available at accuracies up to 10 ppm, and temperature ranges up to 125 degrees Celsius. The DSC11XX are the highest performance silicon-based oscillators to enter production, with 300 femtosecond RMS phase jitter in CMOS, LVPECL, LVDS, and HCSL output versions.

"Silicon processes enable a great deal of programmability and flexibility, but until today, they did not provide the highest level of jitter performance, frequency stability, and noise immunity necessary for high speed communications," said Bruce Diamond, CEO of Discera.

Independent system-level testing has for the first time validated these Silicon MEMS oscillators as exceeding the performance of crystal oscillators for storage and networking applications. GRL testing of the LVPECL DSC1122 found that it surpassed 6G SAS compliance requirements with 59% lower transmitter jitter than the SAS 2.1 specification. UNH Interoperability Labs testing of the DSC1122 found that it surpassed 10 Gigabit Ethernet conformance requirements by delivering transmitter timing jitter 45% lower than the 10GBASE-T specification.

"In our testing of the same production 6G SAS HBA design with both the DSC1122 Silicon MEMS oscillator and a 3rd overtone crystal oscillator, we found that the use of the DSC1122 resulted in equivalent system performance with a bit lower measured transmitter random jitter and total jitter," said Mike Engbretson, Chief Technology Engineer of Granite River Labs. "The results showed the necessity of system-level compliance testing since the crystal oscillator had an even lower RMS phase jitter specification on a component level."

Using Discera's proven silicon MEMS technology, the DSC11XX provide excellent jitter while consuming less power and delivering higher frequency stability over a wider temperature ranges than crystal oscillator products. By eliminating the need for quartz crystal or SAW technology, silicon oscillators significantly enhance reliability and accelerate product development. With femtosecond jitter and 10ppm frequency accuracy, DSC11XX oscillators meet the performance demands of high-speed protocols including DisplayPort, Ethernet, Fibre Channel, PON, SAS, and Wi-Gig for signaling rates of 10 Gbps and beyond.

Key Features of the DSC11XX include:

- * Ultra-low phase jitter of 300 femtosecond RMS at 156.25 MHz (integrated 200 kHz to 20 MHz)

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Published on Wireless Design & Development (<http://www.wirelessdesignmag.com>)

- * Industry-leading frequency accuracy up to 10 ppm across temperature
- * Widest available temperature ranges from -20° to 70° C up to -55° to 125°C
- * Low operating power ranging from 25 to 55 mA
- * Industry standard footprints of 3.2 x 2.5, 5.0 x 3.2, and 7.0 x 5.0 mm as drop-in replacement for crystal oscillators
- * Production leadtime of 2 weeks.

Source URL (retrieved on 12/27/2014 - 11:13am):

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