Epson Toyocom halves the size, consumption of new SAW Oscillators

15 March 2011

Epson Toyocom Corporation, a leader in crystal devices, today announced the development of a new series of differential-output SAW oscillators that offer both excellent stability and high-frequency oscillation, from 100 MHz and up. Measuring just 5.0 mm x 3.2 mm along the edges and only 1.4 mm thick, the SAW oscillators in the new EG-2121/2102CB series are believed to be the smallest of their type in the world. Samples are currently available for evaluation. Commercial development is scheduled for December 2011.

The march toward faster communications and higher capacities has made high frequencies and low jitter even more important characteristics of clock sources used in LAN and SAN equipment attached to high-speed next-generation communications networks such as 8G Fibre Channel and 10Gb Ethernet.

To ensure the stability of communications, LVDS (low voltage differential signaling), LV-PECL (low-voltage positive emitter-coupled logic), and other types of differential signaling are increasingly being used, and reliable oscillators that can provide stable operation over long periods of time are essential.

Meanwhile, the amount of data handled by network devices such as blade servers has skyrocketed, giving rise to a need for higher packaging densities and lower device power consumption. Accordingly, network systems makers increasingly require even smaller chips that use even less power.

Epson Toyocom has for some time been providing unique SAW oscillators that exhibit outstanding stability and the ability to oscillate at a high fundamental frequency for use in high-capacity, high-speed network systems.

To meet strong market demand for smaller products, Epson Toyocom reduced the size of the SAW resonators and oscillation circuits that comprise these oscillators and further refined the precision-packaging technology for which it is known in order to squeeze more components into even less space. The result is that the SAW oscillators in the EG-2121/2102CB series have a 50% smaller footprint than their predecessors yet still boast high frequencies and outstanding stability.
These products, which support 2.5V and 3.3V LVDS and LV-PECL output, consume approximately 50% less current than their predecessors.

The products in the EG-2121/2102CB series oscillate at fundamental frequencies ranging from 100 MHz to 700 MHz. This endows them with both excellent noise immunity and high stability: phase jitter is 0.5 ps, while frequency tolerance is ±50 x 10-6.

These oscillators use a SAW resonator engineered to be resistant to oscillation defects induced by particles and other foreign substances, while a built-in low-noise regulator enables them to withstand fluctuations in the external power supply.

These characteristics of the new SAW oscillators will make them important components in stable, high-capacity, high-speed communications systems.

Epson Toyocom's SAW oscillators, which have an excellent track record for reliability and mass producibility, are a perfect match for systems that require high reliability.

Epson Toyocom is committed to using new technologies to expand and enhance its lineup of SAW oscillators to meet demand in a wide range of areas.

Source: Seiko Epson Corporation