February 21, 2006

Epson Toyocom Develops 2.5 x 2.0-mm High-Sensitivity AT Crystal Unit for Mobile Handset Reference Clocks

Epson Toyocom Corporation, the leader in quartz crystal devices, has announced the development of the FA-20H, a 2.5 x 2.0 mm, high-stability, high-sensitivity AT crystal unit.

A microminiature surface-mount crystal unit whose small size was enabled by Epson Toyocom's proprietary microprocessing technology for miniature crystal chips, the FA-20H nevertheless features a low CI (equivalent series impedance) value in the low frequency band. It also boasts more than sufficient stability and sensitivity to enable its use in reference clock applications for mobile handsets.
Epson Toyocom intends to expand sales by positioning the FA-20H as its flagship crystal unit in the 2.5 x 2.0 mm size range.

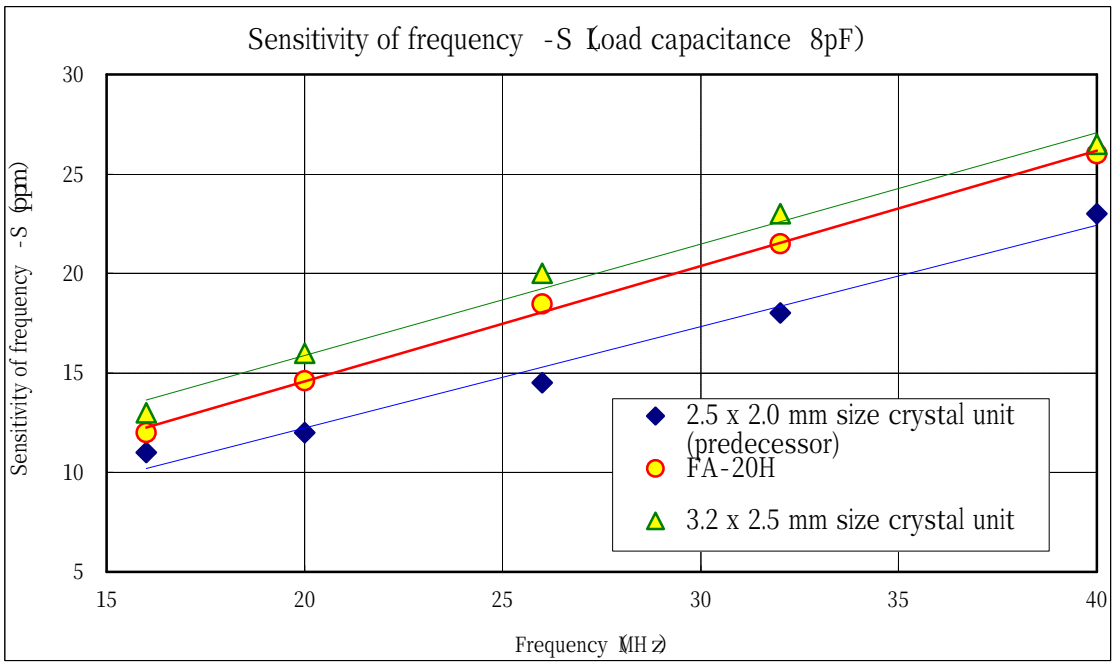
The new device is designed primarily for applications including mobile handset reference clocks, as well as a variety of clock applications for Bluetooth and terrestrial digital TV modules, wireless-LAN, UWB, and more.

Shipping will begin in May 2006.

Product specifications

Item	Specifications
External dimensions	$2.5 \times 2.0 \times 0.55$ mm
Nominal frequency range	16 MHz - 44 MHz
Frequency tolerance (standard)	Support from $\pm 10.0 \times 10^{-6}$
Frequency versus temperature characteristics (standard)	$\pm 10.0 \times 10^{-6}$ (-20 to +75°C)
Motional resistance (ESR)	16.000 - 25 MHz 80Ω Max. 25.001 - 30 MHz 60Ω Max. 30.001 - 40 MHz 50Ω Max.
Level of drive	100 μW Max.

Figure 1



Glossary

- Sensitivity: When a crystal unit is integrated with an oscillation circuit, a higher sensitivity enables a wider variable range of frequency. Ordinarily, sensitivity declines as crystal unit size decreases, but Epson Toyocom has succeeded in applying new technology that raises sensitivity even as size is reduced.

- CI value: Abbreviation of Crystal Impedance. This corresponds to the vibration loss where there is equivalent resistance within the crystal unit. This is a measure of how easily a product oscillates. It is also called series resistance.