

April 1, 2008

**Epson Toyocom Announces Commercial Development of Real Time Clock Module
with the World's Lowest Current Consumption**

Epson Toyocom Corporation (“Epson Toyocom”), the leader in crystal devices, has developed the RX-8571 series real time clock module(*1), which has the world's lowest current consumption(*).

This product leverages the low leakage current of an integrated IC based on the CMOS process and the advantages of a monolithic crystal structure in an optimized combination of crystal unit and oscillator circuit to achieve a current consumption of 200 nA (typical), about 30% lower than conventional products.

Sample shipping will begin in April 2008.

The RX-8571 series achieves ultra-low current consumption with an extensive suite of functions. In addition to a calendar function with alarm, it comes with 128-bit RAM, a 65,000-hour timer, low power detection, and output enabled 32.768 kHz output. The embedded tuning-fork crystal unit developed with QMEMS(*2) technology ensures ultra-low current consumption in a compact size. Three types are available, the LC package (3.6 × 2.8 × 1.2t mm), NB (6.3 × 5.0 × 1.3t mm), and SA (10.1 × 7.4 × 3.2t mm).

This product will contribute to extending the life of products with built-in batteries, and to increasing efficiency and making products smaller by reducing the capacitor and battery capacity required for power supply backup.

* With an embedded crystal structure. As of April 1, 2008. Based on Epson Toyocom research.

Main Specifications

Item	RX-8571LC	RX-8571NB	RX-8571SA
Clock power supply voltage	1.3 V ~ 5.5 V		
Standby current consumption	220 nA (Typ.) / 3V	200 nA (Typ.) / 3V	
Frequency tolerance	$5 \pm 23 \times 10^{-6}$		
Interface	I ² C-BUS(*3)		
External dimensions	3.6×2.8×1.2t mm	6.3×5.0×1.3t mm	10.1×7.4×3.2t mm

- Automatic leap year correction, full calendar and clock functions
- Day, hour, and minute alarms
- 32.768-kHz output enable (CMOS output)
- User RAM: 128 bit
- Long-running timer: 65,000 hours

Glossary

(*1) Real-time clock (RTC) module

A product that integrates in a single package an IC with clock and calendar functions and a 32,768-kHz crystal unit. They are used in computers, fax machines and other electronic equipment that requires time management. RTC modules not only benefit users by eliminating the need to design oscillator circuits and adjust clock accuracy, they also offer more efficient use of the limited space available on circuit board.

(*2) QMEMS

QMEMS is a combination of “Quartz,” a crystalline material with excellent characteristics such as high stability and high precision, and “MEMS” (micro electro mechanical system). QMEMS quartz devices are created using quartz material instead of the semiconductors used by MEMS. We perform precision microfabrication on the quartz material to offer high performance in a compact package.

QMEMS is a registered trademark of Epson Toyocom.

(*3) I²C-bus is a trademark of NXP Semiconductors.