

## Smart watches and fitness bands benefit from the ultra-small date/time chip from STMicroelectronics

STMicroelectronics' **M41T62LC6F** ultra-small and low-power real-time clock IC addresses all electronic applications that need to retain date and time, such as alarm clocks, digital cameras, medical instruments and many others.



It is however especially suited for devices requiring a small form factor and long battery life, such as fitness bands and other wearable devices.

New wrist-worn devices are designed to be used permanently to help users maintain an active lifestyle. They can count steps and calories spent, helping to avoid long periods of inactivity such as when sitting at a desk. Typically users can also sync their data with cloud services so as to record their activities, set targets, compare their activities and results with friends, and take part in challenges.

While real-time clocks embedded in a microcontroller require more of the system to stay awake, thereby consuming more power, this standalone RTC ensures that the correct time is kept continuously, even when other electronic systems are sleeping. So whenever the device wakes, its all-important event-recording and time-of-day functions are perfectly synchronized and ready for action.

Moreover, it can also be connected directly to a Li-ion battery, saving the need for voltage-regulator circuitry. Its wide operating range allows continuous timekeeping even with a fully discharged battery or when using capacitors as energy storage.

With ultra-low power consumption, drawing just 350 nanoamps (0.35  $\mu\text{A}$ ), the M41T62LC6F can help designers of all kinds of battery-powered equipment to manage a tight energy budget.

While other standalone real-time clock (RTC) chips are available, ST's M41T62LC6F is the smallest of its kind making it the best space-saving solution. Measuring a miniscule 1.5 x 3.2 mm including its high-accuracy built-in timing crystal, it has a footprint of less than 5 mm<sup>2</sup>.

The M41T62LC6F not only helps wearable manufacturers make the most of the space inside its device, but provides an extremely area-efficient RTC solution for almost any mobile or wearable solution needing an accurate time signal with minimum size and weight.