Precise Real Time Clock Module

For cost-sensitive, high-volume applications that require an ultra-miniature Real Time Clock, Micro Crystal has introduced the world smallest integrated Real Time Clock Module, the RV-4162-C7. It is ideal for compact battery-powered devices, where its wide 1.3 to 4.4V operating range provides added flexibility. Timekeeping will function down to 1.0V with a current consumption of only 270nA typical. Communications with other circuitry is simplified by an I2C Bus.
The 8-pin ceramic package contains a 32.768 kHz crystal, matched with a CMOS-based oscillator and real-time-clock circuitry. At room temperature, frequency and time keeping is within +/-20ppm with an operating temperature range of – 40 to +85°C. Aging rate is a maximum of +3ppm for the first year.

The clock function tracks tenths/hundredths of seconds, seconds, minutes and hours. The calendar function tracks date, month, year and century, with automatic leap year compensation. Programmable clock-out frequencies, alarm settings and a watchdog function increase flexibility using this device.

Because it is entirely self-contained, the RV-4162-C7 is a simple solution that can save engineering, procurement and inventory costs. External dimensions of the standard ceramic package are extremely small: 3.2x1.5x0.8mm, which represents a board space of only 4.8mm2. Like all Micro Crystal products, it is RoHS compliant and 100% lead free.

Potential applications are widespread, including battery powered handheld devices, portable point-of-sale terminals, GPS, digital still cameras, glucose meters, security systems, appliances, factory automation and programmable logic control and data loggers

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