

## NXP RTC PCF85063

# Miniaturized, state-of-the-art RTC

Housed in a tiny leadless package and available with a mix of advanced options, this energy-efficient RTC lets you put full-featured timing functions in a very small space.

### KEY FEATURES

- ▶ Tiny leadless package with 0.5 mm pitch and 0.5 mm height
- ▶ Time and date from seconds to years
- ▶ Electronic frequency tuning
- ▶ Supports interrupts every 30 or 60 seconds
- ▶ General-purpose RAM byte
- ▶ Clock out from 1 Hz to 32.768 kHz
- ▶ Oscillator for low power quartz (CL = 7 pF)
- ▶ Large voltage operating range  $V_{DD} = 0.9$  to 5.5 V
- ▶ Ideal for battery-powered operation  $I_{DD} = \sim 0.2 \mu A$

### APPLICATIONS

- ▶ Ink and laser printers
- ▶ Self-care medical devices
- ▶ Digital still cameras
- ▶ Digital video cameras
- ▶ Hand held and mobile devices
- ▶ Gaming, toys
- ▶ Industrial equipment
- ▶ Home automation
- ▶ Alarm systems

### ▶ Eco-friendly heating control

The NXP PCF85063 offers precise timing in a small, low-power format. It is well suited for a wide range of applications. Aside from acting as a reference timer or tracking the actual time and date, the device can be used for power management, where the device wakes the microcontroller from hibernation mode, or as a system reference clock for a PLL input. It can serve as a watchdog or countdown timer, and can be used as an activation timer to start measurements or initiate other functions.

The device is available in three versions. The TP version tracks time and date and has an I<sup>2</sup>C Fast-mode interface. It offers electronic tuning and can be configured for a frequency output and an interrupt every 30 or 60 seconds. It is housed in a HWSON8 that measures only 2 x 3 x 0.8 mm.

The -ATL and -BTL versions add an alarm facility, a countdown timer, and a clock-out enable pin. The -ATL version is equipped with an I<sup>2</sup>C Fast-mode interface, while the -BTL has a 3-line SPI interface. Both devices are housed in an HXSON10 package that measures just 2.6 x 2.6 x 0.5 mm.

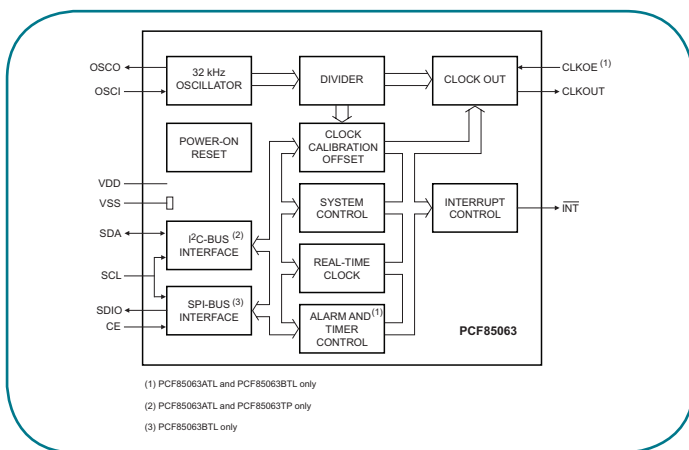


Two demo boards are available for the PCF85063 devices. The OM11059 board supports the -BTL version and is equipped with an SPI bus. The OM11059A board supports the -TP and -ATL versions and is equipped with an I<sup>2</sup>C-bus.

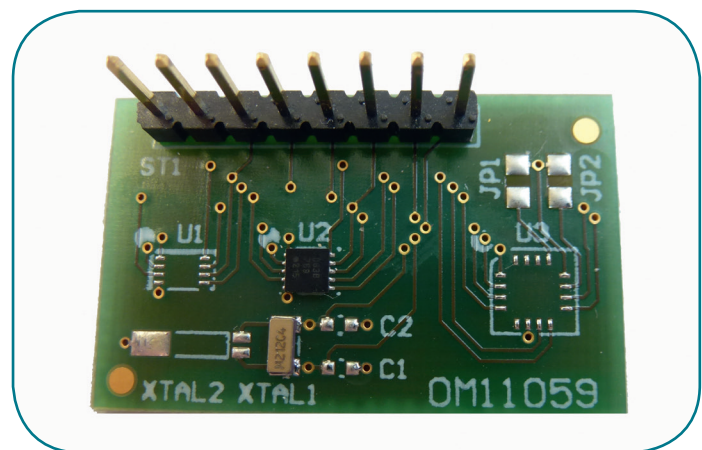
Both boards are shipped ready to use, with a quartz, so all the designer needs to do to begin work is supply power and initiate communications using the serial interface.

### Selection guide

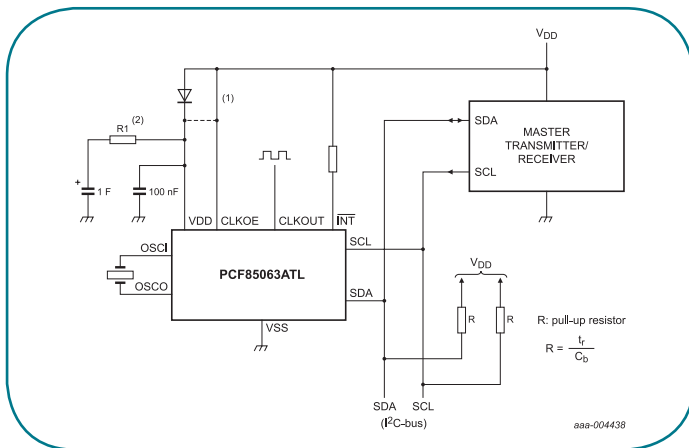
Product number	PCF85063TP	PCF85063ATL	PCF85063BTL
Alarm (seconds, minutes, days, weeks)	-	X	X
Countdown timer	-	X	X
Clock-out enable	via command	via command or pin	via command or pin
I <sup>2</sup> C-bus (Fast-mode up to 400 kHz)	X	X	-
SPI bus (3 lines, up to 8 Mbps)	-	-	X
8-pin HWSON (2 x 3 x 0.8 mm)	X	-	-
10-pin HXSON (2.6 x 2.6 x 0.5 mm)	-	X	X



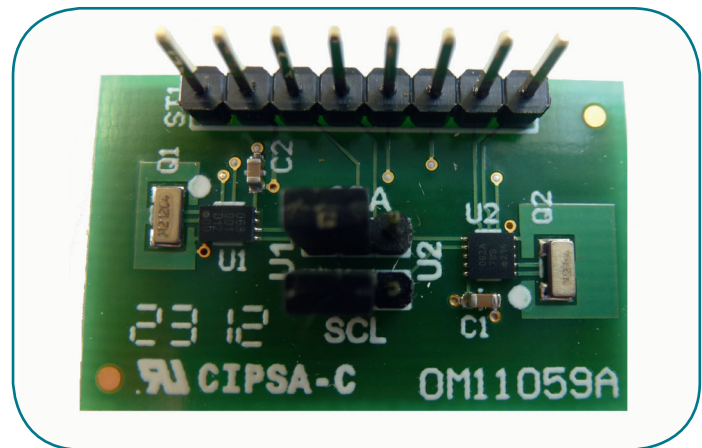
PCF85063 block diagram



PCF85063BTL demo board (OM11059)



PCF85063 application



PCF85063TP and PCF85063ATL demo board (OM11059A)