

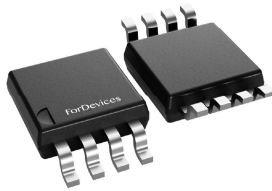
I²C Real-time clock and calendar(RTC) with 56Byte NV RAM Low current consumption

Overview

The FH85163 is a CMOS Real-Time Clock (RTC) and calendar optimized for low power consumption. A programmable clock output, interrupt output, and voltage-low detector are also provided. All addresses and data are transferred serially via a two-line bidirectional IIC-bus. Maximum bus speed is 400kbit/s. The register address is incremented automatically after each written or read data byte.

Applications

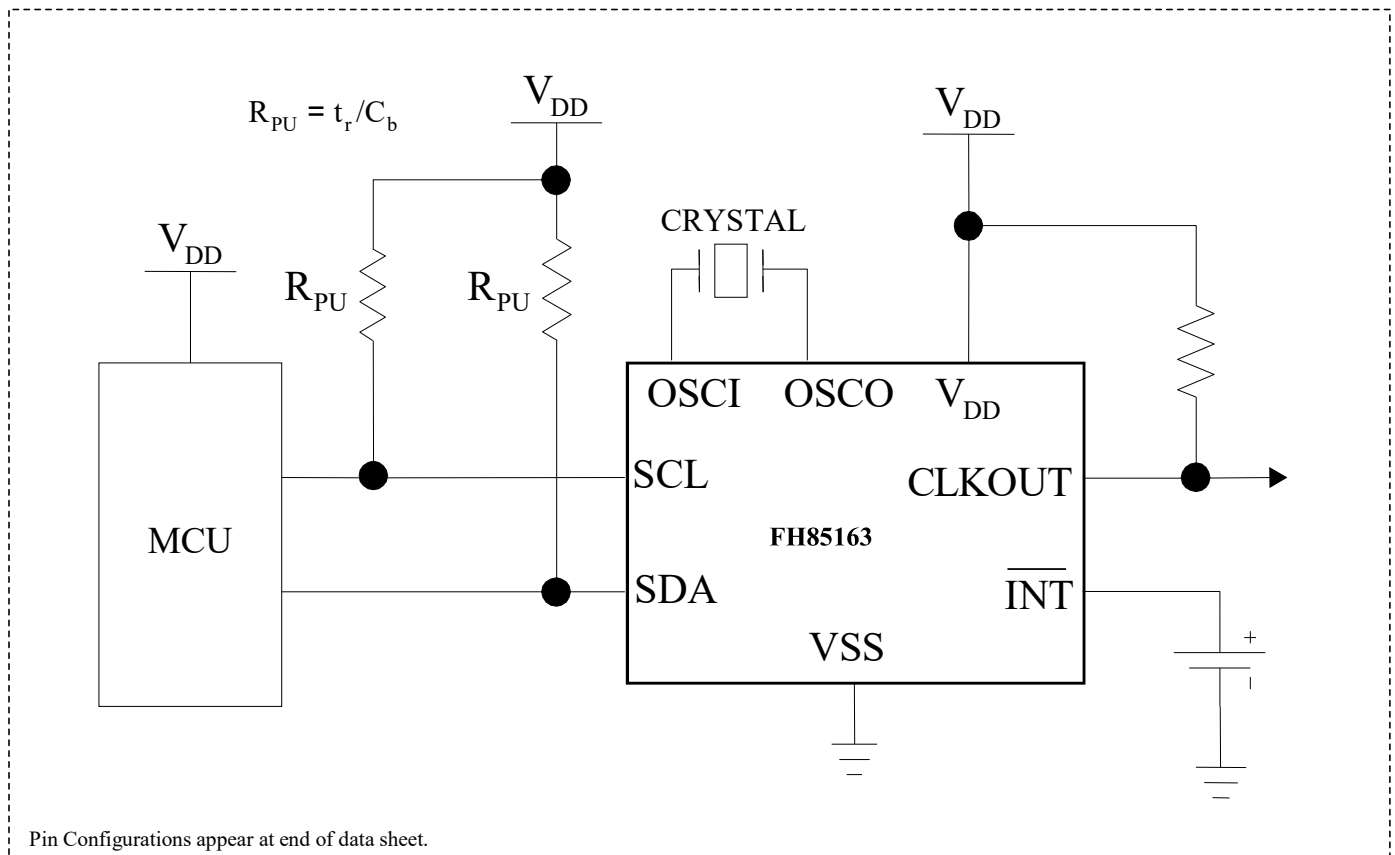
- Mobile telephones
- Portable instruments
- Electronic metering
- Battery powered products



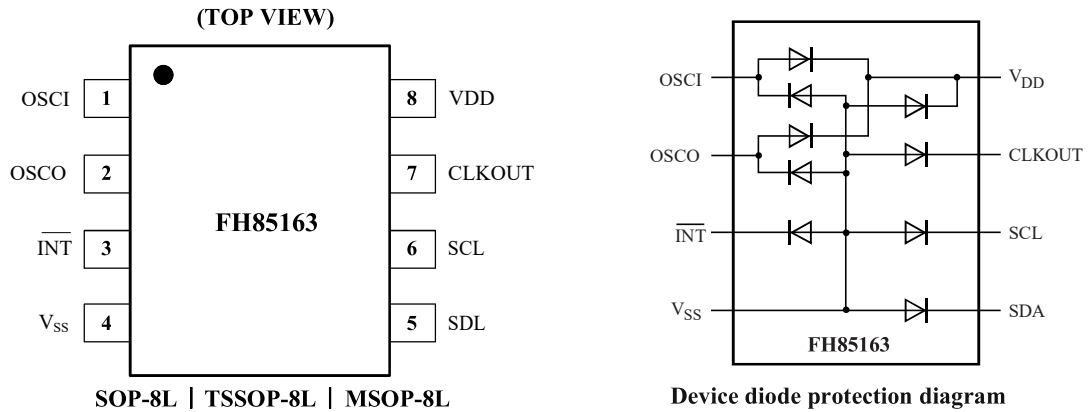
Features

- Provides year, month, day, weekday, hours, minutes, and seconds based on a 32.768kHz quartz crystal
- Century flag
- Clock operating voltage: 1.0V to 5.5V
- Low backup current; typical 0.25uA at V_{DD} = 3.0V and T_A = 25°C
- 400kHz two-line I²C-bus interface (at V_{DD} = 1.8V to 5.5V)
- Programmable clock output for peripheral devices (32.768kHz, 1.024kHz, 32.0Hz, and 1.0Hz)
- Alarm and timer functions
- Internal Power-On Reset (POR)
- IIC-bus slave address: read A3h and write A2h
- Open-drain interrupt pin

Typical Operating Circuit



Pin Configurations



Pin Description

Symbol	Pin Name		Description
	SOP-8L (FH85163)	TSSOP-8L (FH85163TS)	
OSCI	1	1	oscillator input
OSCO	2	2	oscillator output
INT	3	3	interrupt output (open-drain; active LOW)
V _{SS}	4	4	ground supply voltage
SDA	5	5	serial data input and output
SCL	6	6	serial clock input
CLKOUT	7	7	clock output (open-drain)
V _{DD}	8	8	supply voltage

Block diagram

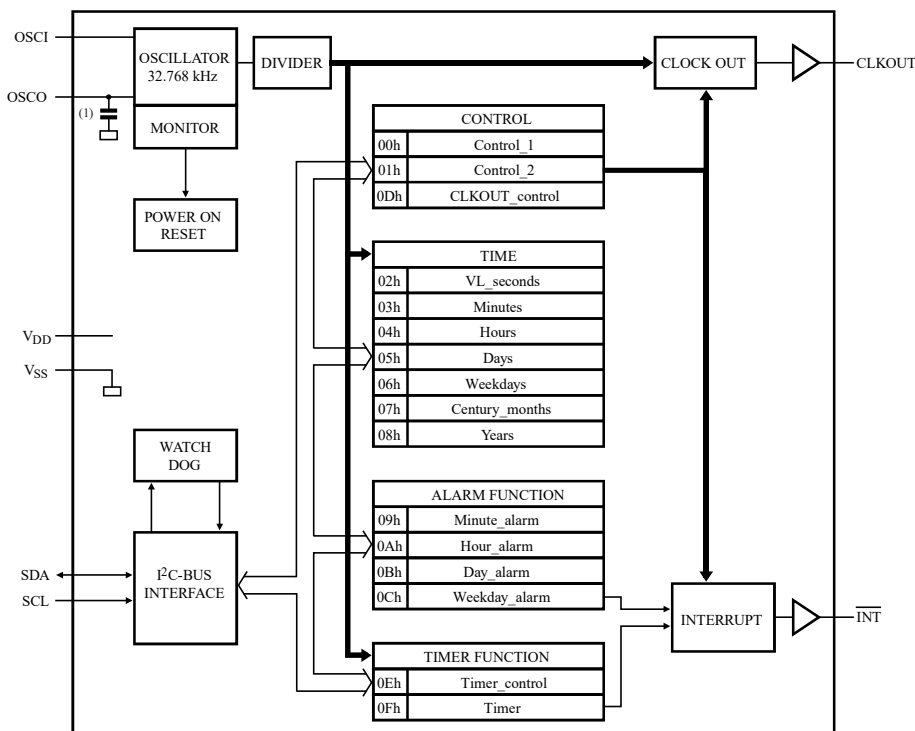


Fig 1. Block diagram of FH85163

ORDERING INFORMATION

Part Number	Voltage Range	Features	Operating Temperature	Package Type	Top Mark	SPQ
FH85163S8	1.0V ~ 5.5V	<ul style="list-style-type: none"> • CMOS Real-Time Clock(RTC) • 400kbit/s bus speed 	-45°C to 85°C	SOP-8L	FH8563 <u>YY MM LL</u>	2500PCS/Reel
FH85163TS8	1.0V ~ 5.5V	<ul style="list-style-type: none"> • 400kHz I²C-bus Interface • Century flag 	-45°C to 85°C	TSSOP-8L	FH8563T <u>YY MM LL</u>	3000PCS/Reel
FH85163MS8	1.0V ~ 5.5V	<ul style="list-style-type: none"> • Backup current: 0.25uA(Typ.) • Clock output: 32.768kHz, 1.024kHz, 32.0Hz, 1.0Hz 	-45°C to 85°C	MSOP-8L	FH8563M <u>YY MM LL</u>	3000PCS/Reel

Note:

- **FH85163/FH85163T/FH85163M** devices are Pb-free and RoHs compliant.
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▲ Update by Jul.2020